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# THE NEW INTERNATIONAL YEAR BOOK



A COMPENDIUM OF THE WORLD'S  
PROGRESS

FOR THE YEAR

1932

EDITOR

FRANK H. VIZETELLY, LITT.D., LL.D.,

Managing Editor of "Funk & Wagnalls New Standard Dictionary  
of the English Language"; Author of "How to  
Use English," etc.



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# PREFACE

THE varying aspects of a trying year will be found summarized in THE NEW INTERNATIONAL YEAR BOOK for 1932 which, although it is issued under different editorial supervision, is based on the same policy and follows the same plans as preceding volumes. The same able collaboration has been secured, and the services of Experts and Specialists of high standing in their profession, who have contributed to these pages, are ample guarantee of the excellence and reliability of the contents of the present work.

The new volume is the 31st in the Series. Practically, it constitutes a record of the eventful year 1932 and contains an unusual wealth of material of great value to the reading and writing public, and to the educational world at large. Librarians will find the volume a succinct guide to the history of the year.

Outstanding achievements in all fields of human activity, from the Science of ARCHITECTURE to that of ZOOLOGY, are passed in review, and a colorful panoramic picture of the events of the year is presented in the pages that follow. The individuality of collaborators has been preserved by allowing each contributor to state the facts affecting his particular branch of learning, domain of science, or field of art and letters, not only in his own language but also in his own way, and so the work of the expert is inseparably associated with that of the scholar. The language of sport and of the open spaces, picturesque and pointed in racy character, appears side by side with the more formal and precise expression of the scholar and scientist.

Being due to the relations of cause to effect, the positions of the civilized nations of the world to-day are the result of a chain of events which, although apparently not connected with any one thing, are actually connected in common with many things. One event follows on another with such rapidity as to speedily crowd the first out of sight, but not before it has revealed its part in a well-plotted, colorful panorama in which the great poet's every "unforgiving minute" is filled "with sixty seconds worth of distance run."

In the field of INTERNATIONAL RELATIONS and POLITICS the following developments were of special interest in 1932:

1. *The Manchurian situation.* The establishment of Manchoukuo, the Lytton Report, the proclamation of the Stimson Doctrine, the estrangement of Japan from the League of Nations. Also the warfare at Shanghai in China proper.

2. *Reparations and War Debts.* The Lausanne Conference which ended the Young Plan and made a definitive settlement of the reparation problem. The negotiations between the United States and European countries over war debts, ending in the default of France, Belgium, Poland, Greece, and Estonia.

3. *The return to power in Germany of the Conservative Landowning and Military Classes.* The reelection of Hindenburg, the German success in virtually ending the reparation and disarmament clauses of the Versailles Treaty and the development of the movement for revision of the territorial clauses, with Italian support.

4. *The French General Elections.* The success of the Left parties, followed by the establishment of the Herriot cabinet and a reorientation of French foreign policy in which the conclusion of the Franco-British Accord at Lausanne and the non-aggression pact with the Soviet Union served as a counterweight to the development of the Hitler movement in Germany.

5. *The Ottawa Conference.* The permanent abandonment of free trade by Great Britain and the establishment of a protective tariff with preferential rates for Empire products.

6. *The Geneva Disarmament Conference.* The Hoover Plan for a one-third reduction in armaments.

7. *War between Bolivia and Paraguay in the Chaco.* Efforts of the Inter-American Conciliation Commission and the League of Nations to end the dispute, the application of the Stimson Doctrine to the dispute.

8. *Latin American Developments.* Civil War in Brazil. Reestablishment of constitutional government in Argentina with the inauguration of President Justo. Revolutions in Chile, followed by the election and inauguration of President Arturo Alessandri. The replacement of President Ortiz Rubio by Gen. Abelardo Rodriguez in Mexico. In Nicaragua, Dr. Juan Bautista Sacasa was elected President in succession to Gen. José María Montecada at an election supervised by the United States, after which evacuation of the American marines commenced. Resort to terrorism and assassination by both the government and its opponents in Cuba. Revolutions in Honduras, Salvador, Ecuador, and Peru. Rejection by the Haitian Congress of a treaty providing for gradual termination of United States control.

9. *Further progress toward Autonomy for India at a Third Round-Table Conference.*

10. *United States Congress passed a bill granting freedom to the Philippines in about 12 years.*

11. *Iraq established as an independent state and member of the League of Nations.*

12. *Renewal of the food shortage in the Soviet Union as a result of passive resistance of the peasants on the collective farms. Completion of the Dniaper hydro-electric project and of other great industrial plants. Completion of the Soviet Five-Year Plan in four and a quarter years. New dissension in the Russian Communist party.*

13. *The Fascist movement in Japan. Assassination of Premier Inukai. Formation of the Saito Cabinet.*

14. *Victory of Eamon de Valera in the Irish Free State. His steps to abolish the oath of allegiance and the land annuities. Tariff war with Great Britain.*

15. *The Spanish Republican Government reorganized the political, economic, and social life of the nation.*

The record of Time, punctuated as it is with the occurrence of events, provides us with a text to which the mind may turn for information. With the help of BIOGRAPHY and CHRONOLOGY, every year paints this record which forms its own picture, and notwithstanding the fact that we are taught that there is no new thing under the sun, no two pictures are alike. Years never agree with years, nor days with days, for Time rings its own changes and brings variations that serve to chasten us for what we have done, or to hearten us for that which we have yet to do.

Years, the fingers of Time, mold the period in which we live and mellow our remembrances of it when it is passed, and Time, having written *Fins*, on the events of the year 1932, all that remains for man to do is to place on record their occurrence and their effect on the world at large, setting naught down in malice but with charity to all. A multitude of events—good, bad, or indifferent—now crowd pages that once were fair and white. Blots there are that happily are counterbalanced by blessings by the score, for Time, the father of mutability, is man's master in health as in sickness, and in joy as in sorrow, for he dulls the keen edge of grief and brings consolation to the afflicted. So it comes about that man experiences great relief as the years roll on and carry with them memories of heavy burdens borne, pain suffered, and exactions endured.

## PREFACE

Within the 856 pages of the present Volume the Editors and Contributors have treated 3,138 subjects, correlated by references and cross-references, topical divisions, and subdivisions, which present as a perfect whole more than 50,000 facts—the one literary tool indispensable to the home, the office, the classroom, the study, and the library shelf and reference room. THE NEW INTERNATIONAL YEAR BOOK for 1932 will be found to contain a greater mass of valuable material than has been collected and brought together in any other volume.

As life is lived through simple deeds and great, and actions are better than words, the outstanding achievements of statesmanship in National and International politics help to build the arch with which we are enabled to bridge over the abysmal problems that confront us. At home, as much as abroad, friendly relations with our neighbors are maintained as much through the cordial intercourse of individual friends as by the exercise of the refinements of statecraft, but POLITICS being an inherent part of the fabric of nations, must have its day, and our record would be incomplete without it, so political activities find a place in our book of life. Therein the outstanding event of national and international importance was the PRESIDENTIAL ELECTION, the trend or general course of which had been foreshadowed earlier in the year by two polls remarkable for their accuracy in that they showed conclusively how coming events cast their shadows before—these were *The Literary Digest* PRESIDENTIAL and PROHIBITION POLLS.

Those persons who are of retrospective mind will find in the BUSINESS REVIEW as complete a picture of commercial conditions during 1932 as can be presented. The lover of SPORTS can turn to the OLYMPIC GAMES—the greatest sporting feature of the year—and refresh his memory with the story of the struggle of the Champions for World Supremacy in the various events that constituted the Tenth Olympiad.

Throughout the year RACKETEERING was rampant and its handmaiden CRIME accompanied it through the Courts of LAW where tragedies of common and uncommon occurrence were exposed to the cold calm eye of the Judiciary and punishment to fit the crime meted out to the offender.

The advances in SCIENCE will be found discussed under their respective heads, and, mindful of the great value of the work done in CHEMICAL SCIENCE by DR. MARCUS BENJAMIN of the Smithsonian Institution, U. S. National Museum, Washington, D. C., who for more than twenty years contributed the articles on CHEMISTRY to THE NEW INTERNATIONAL YEAR BOOK, it is my sorrowful duty to record his death—a death in which the Readers of this work must suffer the loss of an eminent scholar and scientist—a man of international reputation in the world of letters, beloved far and wide and who, even in the closing hours of his life, sacrificed himself to duty, for he completed the able contribution that appears in this volume only a few hours before God touched his eyes and he slept. Another equally regrettable loss to the Staff of Contributors occurred in the death of MRS. AMELIA VON ENDE who for many years had contributed the article on GERMAN LITERATURE to the NEW INTERNATIONAL YEAR BOOK.

In the world of ART the Publishers were fortunate in securing the valued services of MISS LEILA MEHLIN who has contributed a brilliant analytic survey of ART during the year 1932 to these pages. MR. GEORGE N. SHUSTER kindly undertook the preparation of the article on GERMAN LITERATURE.

Outstanding achievements in aeronautics and aviation, in art and literature, in drama and the motion picture world, in opera, and in radio are recorded in their respective places.

The world of National and International Finance is fully represented and its activities during the year expounded clearly for a better understanding of the most perplexing problems of modern life—the balancing of budgets and the balance of trade.

The matter of public relief, for which the vast sum of \$80,000,000 was raised and spent in 1932, to help nearly a million persons whose need was directly attributed to unemployment, is comprehensively treated under subjects allied to ECONOMIC, SOCIAL, AND POLITICAL SCIENCE.

Mindful of the fact that the prosperity of those who till the soil is the basis of the prosperity of the world at large, the plight of the farmers, during the year, not merely in the United States but in every country where the masses follow agricultural pursuits, has been shown in special articles on AGRICULTURE, AGRICULTURAL EXPERIMENT STATIONS, and AGRICULTURAL EXTENSION WORK, and is reflected in the statistics of production under each respective country. The year 1932 was a year of severe strain for all farmers which is better understood by comparing the agricultural income for 1929 with that of 1932—\$11,900,000,000 with \$5,200,000,000.

Notwithstanding conditions that it could not control that seriously affected other branches of knowledge, SCIENCE swept onward to new victories in 1932. CHADWICK, COMPTON, MILLIKAN, and PICCARDI, COCKROFT, WALTON, BOTHE, and the JOLIOTS, added not merely to the vocabulary that we use but to the knowledge we had of atoms, electrons, neutrons, protons, cosmic rays, hormones, and vitamins.

Appreciative thanks for obligations incurred and courtesies received are offered to the Officers of the various Departments of the United States Government and their allied Bureaus; also, to the Officers of those other Governments who have supplied much information concerning their respective countries; to the Committee of "A Century of Progress" Exposition, Chicago; to MR. WILLIAM P. BANNING, of the American Telephone and Telegraph Company; to *Bradstreets*, and to each and every Association, Company, Corporation, or other Institution that has contributed material which will serve to maintain the high degree of accuracy required of this work.

To the EDITORS associated with him in this work, to the CONTRIBUTORS, and to the Assistant to the Editor, MISS HELEN READY BIRD, the undersigned owes much and tenders his grateful thanks for hearty cooperation and able service.

FRANK H. VIZETELLY

EDITOR  
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DEPARTMENT OF ZOOLOGY, VASSAR COLLEGE; RE-  
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NATURAL HISTORY, NEW YORK.



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## KEY TO PRONUNCIATION

- æ** as in *ale, fate*. Also see **ɛ**, below.
- ā** " " senate, chaotic.
- ā** " " glare, care, and as *e* in *there*. See **ɛ**, below.
- ā** " " am, at.
- ā** " " arm, father.
- ā** " " ant, and final *a* in *America, armada*, etc.  
In rapid speech this vowel readily becomes more or less obscured and like the neutral vowel or a short *u* (**ʊ**).
- ɑ** " " final, regal, where it is of a neutral or obscure quality.
- ā** " " all, fall.
- ā** " " eve.
- ē** " " elate, evade.
- ē** " " end, pet. The characters **ē**, **ā**, and **ā** are used for **ā**, **ae** in German, as in *Baedecker, Grafe, Handel*, to the values of which they are the nearest English vowel sounds. The sound of Swedish **ā** is also sometimes indicated by **ē**, sometimes by **ā** or **ā**.
- ē** " " fern, her, and as *i* in *sir*. Also for **ē**, **oe**, in German, as in *Gothe, Goethe, Ortel, Oertel*, and for *eu* and *œu* in French, as in *Neufchâtel, Crèvecoeur*; to which it is the nearest English vowel sound.
- e** " " agency, judgment, where it is of a neutral or obscure quality.
- i** " " ice, quiet.
- i** " " quiescent.
- i** " " ill, fit.
- i** " " old, sober.
- ō** " " obey, sobriety.
- ō** " " orb, nor.
- ō** " " odd, forest, not.
- o** " " atom, carol, where it has a neutral or obscure quality.
- oi** " " oil, boil, and for *eu* in German, as in *Feuerbach*.
- oo** " " food, fool, and as *u* in *rude, rule*.
- oo** " " foot, wool.
- ou** " " house, mouse.
- ū** " " use, mule.
- ū** " " unite.
- ū** " " cut, but.
- u** " " full, put, or as *oo* in *foot, book*. Also for *u* in German, as in *Munchen, Muller*, and *u* in French, as in *Buchez, Budé*; to which it approximates in English.
- ū** " " urn, burn.
- y** " " yet, yield.
- h** " " the Spanish *Habana, Córdoba*, where it is like a *v* made with the lips alone, instead of with the teeth and lips.
- ch** " " chair, cheese.
- d** as in the Spanish *Almodovar, pulgada*, where it is nearly like *th* in English *then*, this.
- g** " " go, get.
- g** " " the German *Landtag*, and *ch* in *Feuerbach, buch*; where it is a guttural sound made with the back part of the tongue raised toward the soft palate, as in the sound made in clearing the throat.
- h** " *j* in the Spanish *Jijona, g* in the Spanish *gila*; where it is a fricative somewhat resembling the sound of *h* in English *hue* or *y* in *yet*, but stronger.
- hw** " *wh* in which.
- x** " *ch* in the German *ich, Albrecht*, and *g* in the German *Arensberg, Mecklenburg*; where it is a fricative sound made between the tongue and the hard palate toward which the tongue is raised. It resembles the sound of *h* in *hue*, or *y* in *yet*; or the sound made by beginning to pronounce a *k*, but not completing the stoppage of the breath. The character **x** is also used to indicate the rough aspirates or fricatives of some of the Oriental languages, as of *kh* in the word *Khan*.
- ŋ** " in *sinker, longer*.
- ng** " " sing, long.
- n** " " the French *bon, Bourbon*, and *m* in the French *Étampes*; where it is equivalent to a nasalizing of the preceding vowel. This effect is approximately produced by attempting to pronounce "onion" without touching the tip of the tongue to the roof of the mouth. The corresponding nasal of Portuguese is also indicated by **n**, as in the case of *São Antão*.
- sh** " " shine, shut.
- th** " " thrust, thin.
- th** " " then, this.
- zh** " *z* in *azure*, and *s* in *pleasure*.  
An apostrophe [*ʼ*] is sometimes used to denote a glide or neutral connecting vowel, as in *tā'b'l* (table), *kāz'm* (chasm).
- Otherwise than as noted above, the letters used in the respellings for pronunciation are to receive their ordinary English sounds.
- When the pronunciation is sufficiently shown by indicating the accented syllables, this is done without respelling; as in the case of very common English and other words which are correctly accented. Pronunciation is discussed fully in *THE NEW INTERNATIONAL ENCYCLOPÆDIA* and in *THE NEW STANDARD DICTIONARY*.

# THE NEW INTERNATIONAL YEAR BOOK

**ABALLI, RAFAEL SANCHEZ.** A Cuban engineer, died Apr. 4, 1932, in Cuba, where he was born. He was educated in Cuba and the United States, where he received an M.E. degree at Lehigh University at Bethlehem, Pa. He then applied his engineering knowledge to the sugar industry and to stock raising. He served as ambassador from Cuba to the United States in 1926, but through an unfortunate accident was compelled to resign. He was then appointed secretary of communications in the Cuban Cabinet and served several years. Through his untiring efforts air-mail service was established between the United States and Cuba and Central and South America. He was engaged as a consultant for the sugar industry at the time of his death.

## **ABKHAZ AUTONOMOUS REPUBLIC.**

See **TRANSCAUCASIAN SOCIALIST FEDERATED SOVIET REPUBLIC.**

**ABNORMAL PSYCHOLOGY.** See **PSYCHOLOGY.**

**ABORTION IN CATTLE, INFECTIOUS.** See **VETERINARY MEDICINE.**

## **ABYSSINIA.** See **ETHIOPIA.**

**ACADEMIES IN SOUTH AMERICA.** See **SPANISH-AMERICAN LITERATURES.**

**ACADEMY, FRENCH (ACADÉMIE FRANÇAISE).** The oldest of the five academies which make up the Institute of France and officially considered the highest, founded in 1635, reorganized in 1816. The membership is limited to 40. The list of the Immortals at the beginning of 1932, in order of their election, was as follows: Paul Bourget, Gabriel Hanotaux, Henri Lavedan; René Bazin (q.v.); Maurice Donnay; Raymond Poincaré; Eugène Brieux (q.v.); René Doumic, Marcel Prévost; Henri de Régner; le maréchal Louis Lyauté; Pierre de la Gorce; Henri Bergson; Louis Barthou; Mgr. Alfred Baudrillat; Jules Cambon, Henri Bordeaux; Joseph Bédier, André Chevrillon; Pierre de Nolhac; Georges Goyau; Henri Brémond, Edouard Estaunié; Henri Robert; Camille Julian, Georges Lecomte, Émile Picard; Albert Besnard; Louis Bertrand; Auguste de Caumont, duc de la Force; Paul Valéry, Abel Hermant; Émile Mâle; Louis Madelin, Maurice Paléologue; le maréchal Henri Pétain; André Chaumeix, Charles Le Goffic (q.v.); Gen. Max Weygand; and Pierre Benoit. Elections at the June meeting brought to the Academy Abel Bonnard, the novelist, and at the November meeting the historian of the French Revolution, Lenôtre (pseudonym of L. L. T. Gosselin). There was published in April the *Grammaire de l'Académie Française* (see **FRENCH LITERATURE**).

## **ACADEMY OF ARTS AND LETTERS,**

**AMERICAN.** A society founded in 1904 by members of the National Institute of Arts and Letters, its charter of incorporation being approved by Act of Congress Apr. 17, 1916. It corresponds to the French Academy, its membership being limited to 50 chairs, and vacancies caused by death are filled by election by the members from the National Institute on the basis of lifetime achievement in literature, painting, sculpture, architecture, and music.

The membership of the academy as of Nov. 10, 1932, consisted of the following in the order of their election: Robert Underwood Johnson, Henry van Dyke, Edwin Howland Blashfield, George de Forest Brush, Bliss Perry, Abbott Lawrence Lowell, Nicholas Murray Butler, Owen Wister, Herbert Adams, Augustus Thomas, Cass Gilbert, Robert Grant, Frederick MacMonnies, William Gillette, Paul Elmer More, Gari Melchers, Elhu Root, Brand Whitlock, Hamlin Garland, Paul Shorey, Charles Adams Platt, Archer Milton Huntington, Child Hassam, Lorado Taft, Newton Booth Tarkington, Charles Dana Gibson, John Charles Van Dyke, Royal Cortissoz, Henry Hadley, Charles Downer Hazen, George Pierce Baker, Wilbur L. Cross, Herman A. MacNeil, John Russell Pope, Edwin Arlington Robinson, James Earle Fraser, John Huston Finley, William Mitchell Kendall, Edwin Markham, Robert Frost, Irving Babbitt, James Tinslow Adams, Edith Wharton, George Grey Barnard, Charles Martin Loeffler, William Lyon Phelps, and Adolph Alexander Weinman.

At the annual meeting on Nov. 10, 1932, the following new members were elected: Walter Damrosch, Anna Hyatt Huntington, and Paul Manship. Dr. John H. Finley presented to David Ross of the Columbia Broadcasting System the academy's medal for good diction on the radio. Miss Alexandra Carlisle, then appearing in *Criminal at Large*, was the recipient of the academy's medal for good diction on the stage, the presentation being made by Prof. George Pierce Baker. The Humanist leader, Prof. Irving Babbitt, gave the thirteenth address on the Evangelical Wilbour Blashfield Foundation, entitled "The Problem of Style in a Democracy." Prof. William Lyon Phelps extended the academy's greetings to Henry van Dyke on his eightieth birthday, and Robert Underwood Johnson and Edwin Markham read poems which they had written in honor of the occasion. There were also held in connection with the annual meeting an exhibition of the paintings of Gari Melchers

(q.v.), and the sixth concert of all American music.

The officers of the academy in 1932 were: President, Nicholas Murray Butler, chancellor and treasurer, Willbur L. Cross, secretary, Robert Underwood Johnson; directors, Herbert Adams, Royal Cortissoz, Charles Dana Gibson, Robert Grant, Cass Gilbert, Archer Milton Huntington. Administrative offices are at 633 West 155th Street, New York City.

**ACCIDENTS.** See RAILWAY ACCIDENTS; SAFETY AT SEA; WORKMEN'S COMPENSATION

**ADELBERT COLLEGE.** The men's college of liberal arts and sciences at Western Reserve University (q.v.)

**ADELPHI COLLEGE.** A nonsectarian college of arts and sciences for women in Garden City, N. Y., incorporated in 1896. Adelphi was located in Brooklyn, N. Y., until the autumn of 1929 when it was transferred to its new home in Garden City, where it has a campus of about 70 acres and three buildings. The enrollment for the autumn term of 1932 was 474 students. The faculty numbered 44. The endowment was \$892,799, while the income for 1931-32 was \$231,165. The library contained 31,693 volumes. President, Frank Dickinson Blodgett, LL.D.

**ADEN,** a'den or ā'den. An important, fortified coaling-station and transshipment point on the water route to the East, situated on a volcanic peninsula on the southwestern coast of Arabia about 100 miles east of the Strait of Bab-el Mandeb; belonging to Great Britain since 1839. The area of the peninsula is 75 square miles and that of Aden protectorate, including the hinterland, the peninsula of Little Aden, and the island of Perim, 9000 square miles. Population of Aden and Perim in 1931, 51,478, largely Mohammedan.

The chief commercial centre of the Arabian peninsula, Aden's total imports, including treasure, in 1930-31 amounted to 62,571,901 rupees (rupee exchanged at \$0.3369 in 1931). Exports, including treasure, aggregated 43,126,811 rupees. The above statistics do not include government stores and treasure. Cotton piece goods, fuel oil, gasoline, grain, hides and skins, tobacco, coal, and provisions are the principal commodities of trade. Salt and cigarettes are manufactured locally. Merchant vessels entering the port of Aden in 1930 31 numbered 1577 of 5,805,529 net tons. Entrances at Perim numbered 532. In 1930-31 the total receipts amounted to 6,283,078 rupees, the expenditure to 6,252,619 rupees.

Attached to Aden are the Kuria Muria Islands, ceded by the Sultan of Muscat for use as a landing for the Red Sea cable. Effective Apr 1, 1932, Aden and its dependencies were transferred from the administration of the Provincial Government of Bombay to that of the Governor-General of India in Council and established as the Chief Commissionership of Aden. Lieut.-Col. B. R. Reilly, the Resident and Commander-in-Chief, was appointed Chief Commissioner. Control of Aden was formerly divided between the Provincial Government of Bombay and the government of India.

**ADJAR AUTONOMOUS REPUBLIC.** See TRANSCAUCASIAN SOCIALIST FEDERATED SOVIET REPUBLIC.

**ADRIAN, PROF. EDGAR D.** See NOBEL PRIZES.

**ADULT EDUCATION, AMERICAN ASSOCIATION FOR.** An organization founded in 1926 to serve as a national clearing house of informa-

tion concerning adult education activities. Its main effort is directed toward supplying a medium of exchange for teachers and administrators who are in direct contact with adults and their demands. The association seeks also to publish and to assist in the publication of material useful to those who are working in this field and to conduct studies of problems fundamental to it. Among the agencies which are actively promoting adult education, and with which the association is in close contact, are the public schools, libraries, museums, extension services of departments of the Federal Government and of colleges, universities, and professional schools, corporation schools, workers' schools and classes, fraternal and religious associations, child-study and parent-education groups, and almost an infinite variety of clubs and other organizations.

The greatly augmented interest in occupational education, growing out of the economic depression and the widespread unemployment, led the American Association for Adult Education to undertake during 1932 a number of studies of existing experiments in this field. The first of these studies dealt with the work of the Denver Opportunity School, which has been maintained in Denver, Colo., since 1916 by tax funds under the public school authority. The association published a report of this study under the title, *What is this Opportunity School?* The results of a special experiment, carried on at the opportunity schools for whites and Negroes maintained by the State Board of Education of South Carolina, were published by the association in a bulletin entitled *The Opportunity Schools of South Carolina*.

In the fall of 1931 Nathaniel Peffer completed a study of adult education in industry made for the association. Mr. Peffer's year of investigation resulted in a book published under the title, *Educational Experiments in Industry* (Macmillan, 1932), in which are briefly described the educational opportunities offered by a number of industrial concerns for the purpose of training their employees for their jobs on the job. A study of adult education facilities and activities in rural communities and small towns was also completed during the year. A book on the subject is to be published early in the spring of 1933.

The seventh annual meeting of the American Association for Adult Education was held in Buffalo, N. Y., in May, 1932. The programme of the meeting consisted of a series of discussions on the possible contribution of adult education to the intelligent handling of present-day social and economic problems. The discussions were conducted by the so-called panel method, which provides for a public discussion of a subject by a chairman and a group, or panel, of special qualified persons, followed by a period in which the discussion is opened to the entire assemblage. This method has been widely used by adult education agencies since its successful demonstration at Buffalo.

At the annual meeting the following officers were elected: President, Dorothy Canfield Fisher; vice presidents, Ethel Richardson Allen, William A. Neilson, Adam Strohm, Charles A. Beard, Alvin S. Johnson, chairman, James E. Russell; secretary, Jennie M. Flexner, treasurer, Chauncey J. Hamlin. Headquarters are at 60 East Forty-second Street, New York City.

**ADVANCEMENT OF SCIENCE, AMERICAN ASSOCIATION FOR THE.** This organization was

founded in 1848 to advance science, to give a stronger and more general impulse and more systematic direction to scientific research, and to procure for the labors of scientific men increased facilities and a wider usefulness. In 1932 its membership included 18,802 individuals interested in the advancement of science and the progress of knowledge and education. There were also 136 autonomous and independent associated scientific societies, of which 100 were officially affiliated with the association, 26 being local academies of science. The association has 15 sections representing the main current subdivisions of science: mathematics, physics, chemistry, astronomy, geology and geography, zoological sciences, botanical sciences, anthropology, psychology, social and economic sciences, historical and philological sciences, engineering, medical sciences, agriculture, and education.

The ninety-first meeting of the association was held in Atlantic City, N. J., Dec. 27-31, 1932, with an attendance of about 3000 scientists from all parts of the United States and Canada. There were also 39 scientific organizations meeting with the association. The address of the retiring president, Dr. Franz Boas, at the opening session was entitled "The Aims of Anthropological Research." Among the general lectures were: "Fact and Fancv in Cosmogony," by Harlow Shapley, "The Social Effects of Mass Production," by Dexter S. Kimball, "The Constitution of the Stars," by Henry Norris Russell, and "Thermodynamics and Relativity," by Richard C. Tolman. At the section meetings more than 1400 papers were presented. The ninth prize of \$1000 for the paper read at the annual meeting describing "a noteworthy contribution to science" was awarded to Henry Fyning of Princeton University for "Quantum Mechanics and Chemistry with Particular Reference to Reaction Involving Conjugate Double Bonds." The science exhibition was well developed, with exhibits by commercial firms, individuals, scientific organizations, educational institutions, and government bureaus.

The national summer meeting in 1932 was held in Syracuse, N. Y., June 20-25; that for 1933 was to be held in conjunction with the Century of Progress Exposition in Chicago, June 19-30. The next winter meeting was to be held in Boston Dec. 27, 1933, to Jan. 2, 1934. There were held the usual annual and other meetings of the two regional divisions under the auspices of the association. The Pacific division, including the Pacific States, Alaska, and the Hawaiian Islands; and the Southwestern division, including Arizona, New Mexico, Colorado, western Texas, and northern Mexico.

The official organ of the association is a weekly journal, *Science*. In addition the association issues the *Scientific Monthly*, an illustrated magazine of timely articles of general interest by eminent men of science, and publishes at four-year intervals a volume of *Summarized Proceedings*, including a directory of members. The permanent endowment of the association, the income from which is employed to advance scientific research, amounted on Sept. 30, 1932, to \$200,774. Grants are made annually to individuals or scientific organizations to promote research.

The president of the association in 1932 was John Jacob Abel, professor of pharmacology at the Johns Hopkins University, who assumed office at the opening session of the Atlantic City

meeting. The president-elect for 1933 was Henry Norris Russell, professor of astronomy at Princeton University. The other officers were: permanent secretary, Henry B. Ward; general secretary, Burton E. Livingston; and treasurer, John L. Wirt. Headquarters are in the Smithsonian Institution Building, Washington, D. C.

**ADVENT CHRISTIAN CHURCH.** See ADVENTISTS.

**ADVENTISTS.** The Advent Movement had its origin in America with William Miller, who believed not only in the coming of Christ in person, power, and glory, but that such an advent was at hand and that the date might be fixed with some definiteness. The movement, however, began in England and on the Continent, under the leadership of the Rev. Hugh McNeile and the Rev. Edward Irving, in England, and the Rev. Joseph Wolfe, D.D., LL.D., in Prussia. A Prophetic Conference was held in Albury Park in 1836, at the residence of Henry Drummond, Esq., afterwards a member of the British Parliament, with "eight days of serious study of the prophecies," at which the Rev. Hugh McNeile presided. The first general gathering in America of those interested took place in Boston in October, 1840, the movement at that time being wholly within the existing churches, but in April, 1845, a conference was held in Albany, N. Y., at which the adherents of the Adventist doctrine were organized and a declaration of principles adopted, embodying the views of Mr. Miller. For the next ten years this organization included practically all the Adventists, but gradually separate bodies developed, beginning with the Advent Christian Church in 1855, and including the Seventh-Day Adventists, organized in 1860, Life and Advent Union, in 1864, The Church of God (Adventists), in 1866; and The Churches of God and Christ Jesus, in 1888.

**ADVENT CHRISTIAN CHURCH.** This church which is congregational in church government holds simply to the general imminence of Christ's return but takes the position that the day cannot be determined. Statistics reported for 1932, covering 43 conferences, showed 469 churches, 485 ordained ministers, 81 licensed ministers, 27,940 church members, 332 Sunday schools, 19,102 Sunday-school members, 93 Senior Young People's Societies of Loyal Workers, with 2181 members, and 19 Junior Young People's Societies with 325 members. The denomination maintains three publication societies and two educational institutions: Aurora College in Aurora, Ill., and the New England School of Theology in Boston. Periodicals published include *The World's Crisis* (Boston), *Messiah's Advocate* (Oakland, Calif.), and *Present Truth Messenger* (Live Oak, Fla.). Among the philanthropic institutions of the denomination are the American Advent Christian Home and Orphanage in Dowling Park, Fla., and the Vernon Home for ministers and missionaries in South Vernon, Mass. The biennial general conference of the Advent Christian Church was held in Plainville, Conn., June 24-27, 1932. The officers in 1932 were Irving F. Barnes, D.D., president; T. P. Stevens, Burr A. D. Bixler, Lee E. Baker, H. J. Wilson, vice presidents; C. H. Hewitt, secretary; F. C. Webster, treasurer. The General Conference Headquarters is at 160 Warren St., Boston.

**SEVENTH-DAY ADVENTISTS.** This denomination, which is the largest of the Adventist group, embraces nine union conferences in the United States

and Canada. It believes that the seventh day of the week, from sunset on Friday to sunset on Saturday, is the Sabbath established by God's law and that immersion is the only proper form of baptism. The local church is congregational in government, although under the general supervision of the conference. The statistical report of the denomination for 1931 indicated 2258 churches in the North American division, 915 ordained ministers, and 127,787 church members. Sabbath schools which numbered 2793 had a membership of 130,343.

The foreign divisions, including the Australasian, Central European, Chinese, Far Eastern, Inter-American, Northern European, Southern African, South American, South Asian, Southern European, and Union of Soviet Socialist Republics divisions, consisted of 4763 churches, 1167 ordained ministers, 208,259 church members, and 7785 Sabbath schools with an enrollment of 280,371. Throughout the world there was an increase in membership of 21,793 over 1930. The work was conducted in 141 countries by 71 union conferences, 155 local conferences, and 278 mission field organizations, employing 21,607 evangelistic and institutional laborers.

The movement maintains in the United States and Canada 104 educational institutions, which in 1931 had an enrollment of 14,913 students. There are also maintained in foreign countries 92 educational institutions with an enrollment of 9264 students. The denomination has 19 publishing houses in North America and 49 in other countries. During 1931 denominational literature was issued in 152 languages, and evangelistic work was conducted in 141 countries using orally 303 languages and dialects. Total contributions from all sources for this work amounted to \$7,291,177 for the North American division, and to \$3,742,984 for the other divisions. The headquarters of the General Conference of Seventh-Day Adventists are at Takoma Park, Washington, D. C.

**AERIAL PHOTOGRAPHY.** See PHOTOGRAPHY.

**AERONAUTICS.** As in the past several years, the furtherance of air transport for commercial purposes continued to be the aim in aeronautics during the year 1932. In the United States the closing month showed, perhaps, the greatest constructive progress of any month in the year in three directions: First, the inauguration of a solid express service between New York and Los Angeles, to operate daily and on a 17-hour schedule. The second was the amalgamation of conflicting transportation companies, operating chiefly east of the Mississippi. Simultaneously, in the third direction, a great increase in the facilities of commercial transportation with Central and with South America, with possible transatlantic routes, was announced.

Although the close of the year saw a 10 per cent reduction in the scheduled daily average plane miles of air transport below that of the close of the previous year, the decrease was gradual and, from the operating standpoint, loss of income was in part offset through more economical management and through an increase in the pay load per plane. The year was notable for the relatively few serious accidents, and for the number and nature of the new records in competitive, long distance, and altitude flights. Solo flights by women were especially noteworthy.

**NATIONAL BALLOON RACE.** The National Elimination Balloon Race started at Omaha, Neb., on May 30, and was won by Lieut. Wilfred J. Paul and Lieut. K. J. H. Bishop, flying the U. S. Army balloon No. 2. The official distance covered by the balloon to its landing place near Hatton, Sask., Canada was 901.4 miles after 29 hours and 15 minutes in the air, thus establishing new records both for distance and duration for balloons of 35,000 cu. ft. capacity. Second place went to the pilots of the *Goodyear VII*, piloted by Roland Blair and Frank A. Trotter, who landed near Tyvan, Sask., Canada, a distance of 709.9 miles. Third place went to *Army No. 1* with Capt. W. J. Flood, pilot, and Lieut. H. McCormick, aide, who covered a distance of approximately 605 miles. Lack of available funds, however, prevented the winners of the elimination contest from entering the Bennett races in September.

**BENNETT BALLOON RACE.** The 1932 James Gordon Bennett Balloon Race was started from Basle, Switzerland, on September 25. For the sixth consecutive race, first place was taken by an entry from the United States. The U. S. Navy balloon, piloted by Lieut. Com. T. G. W. Settle and Lieut. Wilfred Bushnell, covered 921 miles in storm and wind before being forced to earth on September 27 at Dutszty, close to the Polish-Latvian border. Second place went to Ward T. Van Orman and R. J. Blair, of the United States, winner of the 1930 and of the 1931 cups, who covered about 830 miles in the *Goodyear VIII*. Out of the 16 entries, the French *Petit Mouse* made the third place, about 740 miles, and the Polish *Polonia*, the fourth.

**ALTITUDE RECORDS.** In the interests of technical research, three test balloons were sent aloft at Stuttgart, Germany by Prof. Ehrich Regener on June 28. The balloons, of 6½-foot diameter, were connected, and jointly carried a basket with measuring instruments, and were hauled down after three hours. An altitude of 65,000 feet was recorded, about 14,000 feet higher than that attained by Prof. Auguste Piccard in 1931. On August 13, Professor Regener made a similar test and succeeded in sending his balloon to the altitude of 92,000 feet, almost double any previous experimental altitude. His photographs taken at various elevations in the ascent, tended to disprove the theory of a proportionate increase in cosmic ray intensity at increasing heights.

On August 18, Prof. Auguste Piccard made a second voyage into the stratosphere, using the same spherical metal cabin that he employed the previous year. His aide on this expedition was Max Cosyns. The flight started from Zurich, Switzerland, in the early morning, and was ended near Lake Garda, Italy, in the late afternoon. The balloon was the same that had been used in 1931, 98 feet in diameter, with a capacity of 494,400 cu. ft. An altitude estimated at 16,500 meters (54,120 ft.) was reached at the peak of the ascent, and numerous observations were made by the two scientists. No mishaps marred the success of the flight, and the flight was followed without difficulty by two aeroplanes and four motor cars, with which Professor Piccard kept in touch by radio. The ascent of 1931 reached an altitude of 51,793.2 ft. Except for the intense cold, which is relatively constant at 50° to 60° below zero Fahrenheit, Professor Piccard reported that the stratosphere would be ideal for the aviation of the future, as there are

neither clouds nor storms to interfere with flight and atmospheric currents are constant and of mild intensity. He plans a future ascent in the region of Hudson Bay, Canada.

On September 16, an official altitude record for aeroplanes was established by Capt. Cyril Unwins at Bristol, England. Flying a Bristol aeroplane, engined with a 550 h.p. Pegasus motor, Captain Unwins reached an altitude of 43,976 feet. The previous record, established by Lieut. Apollo Soucek, U.S.N., in 1930, was 43,166 feet.

**U. S. AIRSHIPS.** The U. S. S. *Los Angeles*, after almost eight years of service, was decommissioned on June 30. Built in Germany as an item of reparations, and flown to the United States in 72 hours, she was commissioned on Nov. 25, 1924. Her withdrawal from active service, according to the annual report of the Chief of the Bureau of Aeronautics, was for the purpose of effecting economies. The ship is housed in her hangar at Lakehurst and can be recommissioned on 30 days' notice. A stipulation in the provisions for her original construction, however, was that it would never be employed in military operations, and its future use is, therefore, contingent upon its further value as a training ship or on its operation for commercial purposes.

The U. S. S. *Akron*, which was commissioned late in 1931, suffered a slight accident in February because of a suddenly rising storm while she was being hauled from her hangar. This necessitated about six weeks' repair work, but in April she flew to the west coast and maintained efficient service thereafter. Although, for educational purposes, she has made numerous demonstration flights over many parts of the country, unlike the *Los Angeles*, the *Akron* is essentially a military unit and her flights have been largely for the determination of her fitness in that field. Among the tests that have been conducted are the launching and pick-up, while in flight, of small single-seater fighting aeroplanes. These planes, of which the present complement is five, are hangared within the envelope of the *Akron*. In launching them, one by one, they are suspended from a trapeze and lowered by it through a T-shaped opening; the engines, previously started to prevent a backward swing of the planes, are accelerated to synchronize with the speed of the *Akron*, and the pilots then trip a release and dive away. The return to the mother craft involves considerable skill, for the pilot must maneuver his small plane to engage with the trapeze. Patient experimentation and practice have developed a degree of perfection that demonstrate that such launchings and returns are entirely practicable, 127 such hook-ups having been made within one day.

In the further interests of the development of lighter-than-air craft, and to reduce the large ground crews that have been required to handle ships of the size of the *Akron*, experiments have been made during the year with a mobile, extensible mooring mast. The mast, operating on tracks under its own power, can be extended 160 feet into the air, and telescoped low enough to permit the airship to be drawn by it into the hangar. The initial device is intended to be used at the new airship base at Sunnyvale, Calif.

When the *Akron* was completed in 1931, work was immediately begun at Akron toward the assembly of the U. S. S. *Macon*. By September of 1932 the framework of this airship was reported

about 95 per cent complete, and the full completion is expected early in 1933. In its construction advantage has been taken from lessons learned from the *Akron* to incorporate a number of refinements and improvements, including a reduction in dead weight.

It was expected that the U. S. Army non-rigid airship, *TC-13*, would have been completed by the end of the year 1932. Congressional appropriations were pared down to so low a figure as to delay completion. This ship is to be used by the Air Corps for coastal patrols, and is the largest non-rigid airship in the United States. It has an overall length of 233 feet, a diameter of 54 feet, and a capacity of 360,000 cubic feet. The non-inflammable helium provides a gross lift of 22,300 lb. The cruising range at the low speed of 25 m.p.h. is 2500 miles; at higher speeds this is reduced to 100 miles at 65 m.p.h. Fuel can be picked up during flight.

The ship is powered by two 375 h.p. engines geared to three-bladed propellers. The car, internally suspended, is flush with the envelope, and has space for a crew of three pilots, two mechanics, a navigator, a radio operator, and a bomber, with sleeping accommodations. Fuel, water, and storage tanks may be dropped at the will of the pilot to provide greater buoyancy in emergency. While the ship is concealed within or above the clouds, a sub-cloud car may be lowered, so that an observer therein may report his observations by radio.

**GRAF ZEPPELIN.** On June 28, the *Graf Zeppelin*, in a trip over Switzerland, completed successfully its 250th flight. On March 20, she started a round trip to Buenos Aires, returning to her base at Friedrichshafen on the tenth day, thereby establishing a new record for mail delivery at each end. The trip was so satisfactory that negotiations were started for a scheduled route to and from Brazil. She made two to Pernambuco in April, and nine were completed by fall. The trip one way occupies three days and it is reported that each trip, with passengers, express, and mail, has been successful in financial operation. It is reported that the cost for transporting the huge ship from airport to airport is \$16,000 or about \$3 a mile. Against this a passenger fare of \$476.20 and mail cargoes producing a revenue of about \$10,000 a trip, have enabled the company to show a slight profit. With a fleet of at least two ships and sailings each week, it is believed that commercial loads probably more than double those of this year could be assured.

**AVIATION.** Despite the continued period of hard times, travel by air showed a slight but gratifying increase. This increase, offset by lowered fares, did not encourage manufacturers to develop new types of planes. Improvements were in the lines of more efficient engines, propellers, and in refinements of details. An exception, however, is the Beech biplane, which embodies unusual features. This ship, designed by Walter Beech, formerly president of the Curtiss-Wright Company, is a notable departure from accepted American practice by virtue of high degree of negative stagger—38 per cent—of the two wings. Wind-tunnel tests and actual flight have demonstrated that the ordinary difficulties introduced by negative stagger—a tendency of the lower wing to blanket the upper wing, at times resulting in a stall or a spin, and a tendency to pick up speed in a glide—have been overcome

in the design. The main advantages of the type are sharply demonstrated in improvement in visibility from the forward cockpit.

Increased interest has been shown in the autogiro. In January, Capt. L. A. Yancey flew from New York to Cuba, and within a few days continued his flight to Mexico, thence to Yucatan where he landed on an ancient Mayan ruin to demonstrate the practicability of this type of machine for explorations in regions devoid of adequate space for the landing and take-off of aeroplanes. And in September, to prove feasibility at high altitudes, he ascended to something more than 20,000 feet. Cabin planes, with accommodations for four or five persons, have been constructed and tested.

**LARGE PASSENGER PLANES.** The Dornier DO-X, described in previous YEAR BOOKS, after a protracted trip from Germany landed at New York, August, 1931. After several exhibition flights this large ship was laid up until the spring of 1932 when she made a few test flights and on May 19 started the return trip to Germany. Shortage of fuel forced her down a few miles from the Azores, where, after refueling, she resumed her flight via Spain and England, arriving at her airport near Berlin on May 24.

In recent years the commercial operators encouraged the development of planes with large seating capacities; but some of them have realized that economical operation is not achieved, under present conditions, through a provision for excess requirements. A half-empty giant plane that would seat 20 is greatly more expensive in flight than a full one seating 10. In the United States, the United Air Lines has conservatively sacrificed capacity to speed, with the obvious reasoning that, if traffic warrants, the number of scheduled sailings can be increased. Consequently, this company announced a full schedule that would utilize some of the new ten-seater Boeing transports. But in place of the former 120 m.p.h. service, the new planes have a cruising speed of 155 m.p.h. The new machine, developed from the Boeing bomber, has a wing span of 74 feet, and with two Pratt and Whitney supercharged Wasp engines of 550 h.p. each, a gas load of 220 gal., will have a pay load of 2400 lbs. The comfort of the passenger is provided by ample head-room, individual reading lamps, and a cabin heated in winter and cooled in summer. The flying schedule of the new ships calls for 23 hours between San Francisco and New York and about five and a half hours between Chicago and New York.

Second in size to the DO-X is the new U. S. Navy plane completed in the fall of the year. This giant cruiser is entirely experimental, but if expectations are fulfilled the builders, the Hall-Aluminum Aircraft Corporation, anticipate further orders for this type. The machine powered by four Curtiss motors, has a wing spread of 100 feet, capable of supporting ample fuel, oil, and pay load for a cruising range of 3000 miles. In its design and construction the builders had in mind the possible utility of the type for commercial transatlantic flight via the Bahama Islands and the Azores.

**THE SPEED PLANES.** In view of the sustained exploits attending the National Air Races at Cleveland in the closing days of August, and early September, interest was focused on the plane in which Major James H. Doolittle bettered the world's land plane speed record of

eight years' standing, and the plane in which his racing partner, James Haizlip, established a new transcontinental record. The racer piloted by Doolittle, but owned by Russell Boardman who, through an injury, was unable to fly it, was a GeeBee super sport model built by Granville Bros., and powered by an 800-h.p. Pratt and Whitney Wasp engine. The official average speed for the course was 294.386 m.p.h. The plane used by Haizlip was built by the Wedell-Williams Air Service Corp., and powered by a Wasp Junior engine that developed about 550 h.p. The elapse of time between the Los Angeles airport at Burbank and the New York airport at Floyd Bennett Field, a distance of 2470 miles, was 10 hours and 19 minutes, almost 57 minutes less than the record established by Major Doolittle in the previous year.

**NATIONAL AIR RACE MEETING.** The 1932 National Air Race Meeting was held in Cleveland, O., August 27 to September 5. The Bendix Trophy Race and the Cord Cup Race, a transcontinental handicap derby, preceded the contests actually held at the Cleveland airport. The former was won by James H. Haizlip, in the Wedell-Williams plane described before in the remarkable time—Los Angeles to Cleveland—of 8 hours, 19 minutes, 45.79 seconds. Second place was won by J. R. Wedell in 8 hours, 47 minutes, 31 seconds, and third place by Col. Roscoe Turner in 9 hours, 2 minutes, 25.23 seconds. The first three planes were built by the same company, powered by motors of the same make. All three bettered the winning time of 1931 of 9 hours, 10 minutes, 21 seconds. Haizlip and Turner continued to New York, and both arrived there inside of the previous transcontinental record, Haizlip's time being 10 hours and 21 minutes; Turner's 10 hours, 58 minutes, as against the previous record established by Major Doolittle of 11 hours and 16 minutes.

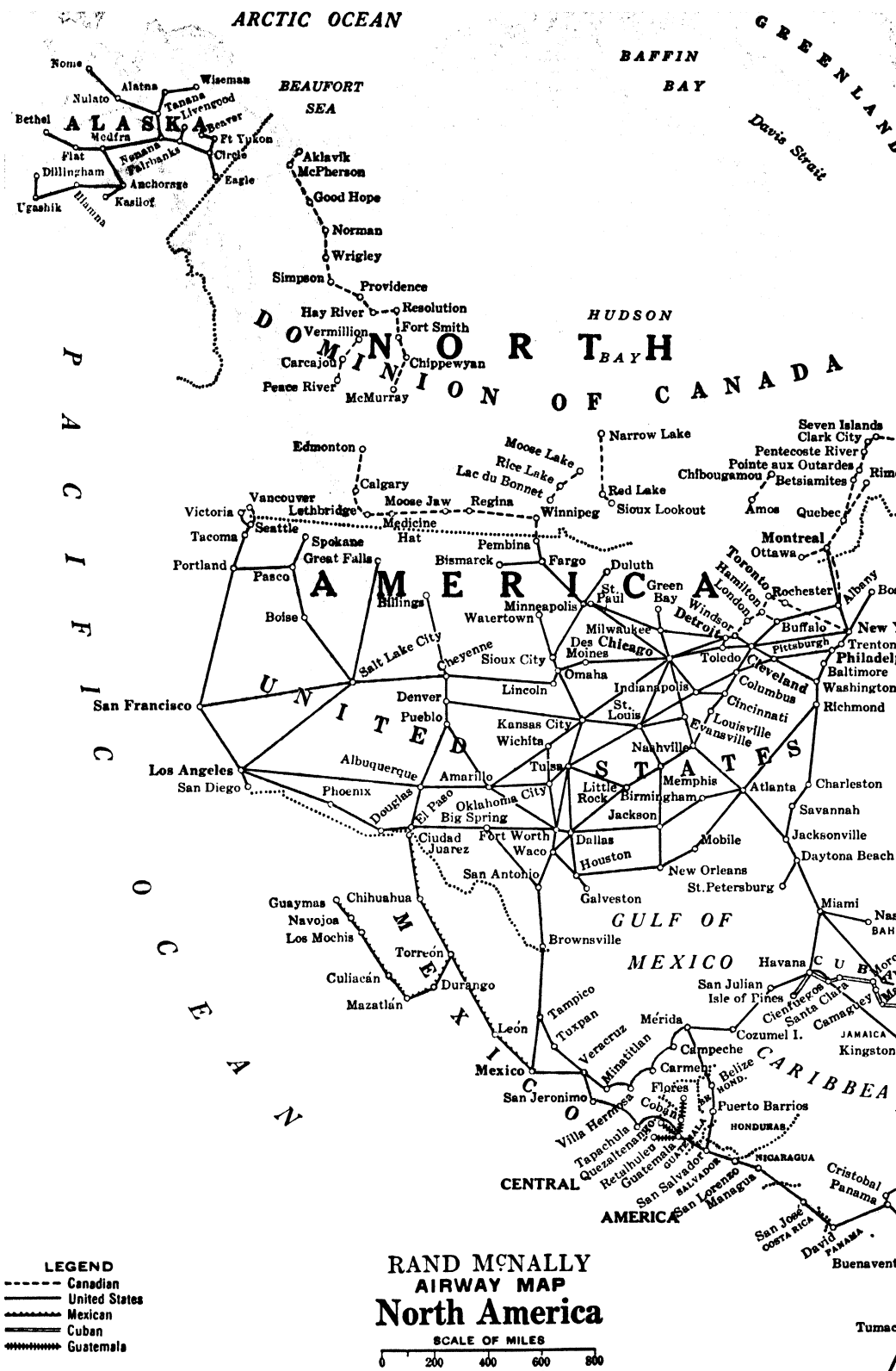
The Cord Cup Race, or Transcontinental Handicap Air Derby, was in two divisions—the western division leaving Los Angeles as the eastern division left Washington, D. C., and taking prescribed courses that covered equal distances meeting in Bartlesville, Okla., and finishing at Cleveland. The prize for the Pacific Wing, in which 38 contestants finished, was awarded to Roy Hunt, flying a Great Lakes plane with a Cirrus motor; that for the Atlantic Wing went to S. C. Huffman in a Waco plane powered by a Continental engine.

In the hundred-mile Thompson Trophy Race, in which the qualifying speed is 200 m.p.h., there were eight entrants. The race was won by Major James H. Doolittle in the GeeBee sport racer, described before, in the fast time of 23 minutes, 44.69 seconds, with an average speed of 252.686 m.p.h. Second, third, and fourth places were taken by Wedell, Turner, and Haizlip, respectively, each of whom exceeded 230 m.p.h. in average speed.

The Phillips Trophy Race, introduced to encourage the building of planes of lower horsepower, was won by Ray Moore, in a Keith-Rydic monoplane with Menasco motor, who covered the 80 miles in 25 minutes 20½ seconds, an average speed of 182.22 m.p.h. Second place was taken by Ben O. Howard in a Howard racer, Menasco motor, with a speed of 177.635 m.p.h., and closely trailed for third place by Roy Liggett, flying a tiny Cessna, Warner motor, at 176.519 m.p.h.











Three races were limited to women entrants only. The Aerol Trophy Race had four entrants; but as the race was called at the end of the fourth lap because of a heavy rain, the results were somewhat inconclusive. Officially, first place was awarded to Gladys O'Donnell, flying a Howard plane, Menasco motor; second place to May Haizlip, flying her husband's Wedell-Williams; third to Florence Klingensmith, in a Monocoupe, Warner motor, and fourth to Bettie Lund, in a Waco plane, Wright engine. The Amelia Earhart Trophy was won by Florence Klingensmith, with Edith Foltz and Helen Richey, each flying Bird planes with Kinner motors, taking second and third places. In the Shell Speed Dash for women, for a world's record over a three-kilometer course, the winning time and world's record was established by May Haizlip who covered the distance with an average speed of 411.209 kilometers (255.513 miles) per hour.

In the same event for men, as previously described, Major Doolittle set up a new world's record of 476.829 kilometers (296.287 miles) per hour.

**KING'S CUP AIR RACE.** On July 9, the annual British handicap for the King's Cup over a course of 1233 miles, was won by Capt. W. L. Hope, the victor in 1927 and 1928. In the two days' flight that circled southern England, Captain Hope piloted his Fox Moth over the course for an average speed of 124.25 m.p.h. The entry of the Prince of Wales, a Comper-Swift, flown by Flight Lieut. E. H. Fielden came in second with an average speed of 155.75 m.p.h. The fastest time for the race and a new record for the course was recorded by H. A. Brown in an Aero Mail Carrier, showing 176 m.p.h. for the entire distance.

**SCHNEIDER TROPHY.** The air races for the trophy offered by Jacques Schneider, of France, in 1913 and annually after the World War, were discontinued on the grounds that they had "outlived their usefulness," according to the announcement of Sir Philip Sassoon, Under-Secretary for Air, of England. Formerly the competition was supported by the various governments participating in the races, but more recently the expenses have been borne by private individuals or commercial manufacturers, and representatives of the various nations have been gradually withdrawing. The United States has not been represented since its victory in 1925, and in 1931 English planes were the only entries. The expenses of the last contest were met by Lady Houston, when the British government refused to bear the costs.

**NOTABLE FLIGHTS.** The increasing reliability of the aeroplane for distance, altitude, and speed, was demonstrated during the year to a far greater degree than in many years. Long distance flights surpassing anything of previous years became so commonplace as to pass almost unnoticed. Spectacular flights that accomplish little in the furtherance of commercial aviation held the limelight as usual; and those flights, if not successful through inadequate preparation, served to retard the development of air travel. The more outstanding flights of the year are given here more or less chronologically.

On March 28, James A. Mollison, who last year flew from Wyndham, West Australia to London, 10,000 miles, in 8 days, 20 hours, 19 minutes, completed the last hop of the 6200-mile flight from Lympne Airdrome, Kent, England

to Cape Town, South Africa. The flight was accomplished in 4 days, 17½ hours. The route selected, the west coast, led him over 2000 miles of the Sahara Desert on which he landed once for a brief rest. Although faced most of the way by a strong seasonal southerly wind, the trip was without accident until its completion at Cape Town, where a blinding searchlight caused him to crash in landing, although without injury to himself, but wrecking his tiny Puss Moth plane.

Two French fliers, Captain Goulette and Lieutenant Salel, on April 21, arrived at Cape Town in a Farman Lorraine monoplane, in less than 100 hours of flight from Europe. The actual time from Le Bourget Field, France to Cape Town was 3 days, 19 hours, 15 minutes, about 20 hours, with allowance for distance, better than the time established by Mollison.

In China, the Ford tri-motored all-metal monoplane, purchased by Marshal Chang Hsiao-hang, former governor of Manchuria, on April 21 made a one-stop flight from Hongkong to Peiping, a distance of 1275 miles. The stop at Hankow was made only to obtain fuel. This was the first flight of such a distance in China.

On April 28, C. W. A. Scott, in a Gipsy Moth, completed the 10,200-mile trip from the Lympne Field, England, to Port Darwin, North Australia, in the record time of 8 days, 20 hours, 44 minutes. For the east-bound trip the flight was about five and a half hours better than that made by C. A. Butler in the fall of 1931. Scott's failure to complete the trip under eight days, as he had planned, was explained by the sandstorms and heavy winds he fought between Bindari and Basra.

The first woman to make the flight across the Australian continent was Miss Irene Dean-Williams. The trip was from Perth, Western Australia to Melbourne, and was made on May 9. The Central Australian desert, which, because of its intense dry heat has caused many other fliers to lose their lives, was crossed by Miss Williams.

The first woman to make a solo flight across the Atlantic ocean and the second person to make such a solo trip, was Mrs. Amelia Earhart Putnam. She had previously crossed the Atlantic by air, in 1928, as a passenger with Wilmer Stultz, as pilot, and Lou Gordon as mechanic, and had been flying for some 10 years, one of the first women to obtain a transport pilot's license. Leaving Harbor Grace, Newfoundland at 7:20 on the evening of May 20, in her Lockheed-Vega monoplane, 13 hours and 45 minutes later she set her machine down in a pasture outside of Londonderry, Ireland. The distance, 2026.5 miles, established a new record for women, and the time was the shortest in which the trip had yet been made. The trip was made on the anniversary of, and five years after, the memorable transatlantic flight of Col. Charles A. Lindbergh. Mrs. Putnam received hearty ovations in Ireland and also in London where she was the guest of the American Ambassador, Mr. Mellon. Upon her return to the United States she received many honors and was the first woman to receive the Distinguished Flying Cross awarded by Congress.

A few hours after Mrs. Putnam started from Newfoundland, the flying boat DO-V began its return flight to Germany. Leaving Newfoundland at 4 a.m., May 21, the big 12-engine plane arrived off the harbor of Horta, Azores at 10:55

p.m., having to taxi the last 7 miles to the harbor because of fuel shortage. The next evening she sailed for Spain, then after a brief stop in England, she arrived at Berlin on May 24.

A new record for passenger-mail planes was established in Australia when the commercial plane carrying the mail and 13 passengers from Perth to Adelaide made the 1450-mile trip in 10 hours.

On June 19, Lieut. Col. Girier and Major Rignot of France left the air field at Le Bourget, Paris, at 9 30 a.m., and without stop made a successful flight of 2980 miles to Teheran, the capital of Persia, in an even 29 hours, arriving at their destination at 2 30 the following afternoon.

In a small low-powered Spanish plane, capable of only 84 miles an hour, Fernando Rein y Loring, a Spanish aviator, left Spain on April 24, having as ultimate destination the city of Manila, Philippine Islands. His trip, of 10,000 miles, frequently interrupted, was notable chiefly because of low speed and power and for the reason that he was the first to make a solo flight from the continent of Asia to the Philippines—Hongkong to Asparri, Northern Luzon—which he reached on July 11.

An eighteen-year-old flier, Robert Buck of New Jersey, who in 1930 set a junior speed record from New York to Los Angeles, established two new junior records in rapid succession this year. On August 10 he flew from the Newark airport to Mexico City, arriving there in 24 hours, 9 minutes; and leaving the Mexican capital three days later in his Pittcairn plane, made the flight to Los Angeles in 20 hours, 35 minutes. Stopping in the western city a week he entered the Bendix Trophy Race of the National Air Races, and finished the twenty-fourth of the 38 entrants who completed the race to Cleveland.

On August 26 Amelia Earhart Putnam, using the same Wasp-powered Lockheed that had carried her across the Atlantic in May, completed a non-stop flight from Los Angeles to the Newark Metropolitan Airport, to become the first woman to make a non-stop transcontinental flight, and bettering by more than 500 miles the previous cross-country distance record for women, held by Miss Ruth Nichols. Mrs. Putnam's elapsed time for the flight was 19 hours, 5 minutes.

Under the description of the National Air Races, on a previous page, an account is given of the remarkably fast flight made by Mr. James G. Haizlip from Los Angeles to Cleveland in 8 hours, 19 minutes, 45 seconds, and to New York in 10 hours, 19 minutes to establish a new transcontinental record.

Not to be outdone by her husband, J. A. Mollison, who in March established a new record for the flight from England to Cape Town, Mrs. Mollison—better known as Amy Johnson—left the Lympne airdrome on Monday morning, November 14 in her Puss Moth, 130-h.p. monoplane to follow his route to the same destination. On Friday afternoon, November 18, she reached Cape Town, a distance of 6200 miles in 4 days, 6 hours, 54 minutes, or 10 hours, 28 minutes, better than that made by her husband. On December 11, the intrepid aviatrix started a return flight to England. Delayed by storms and impenetrable fogs, she was defeated in her aim to reduce the time of her southward flight and required a few minutes more than seven days to reach the Lympne airdrome. Nevertheless, she

reduced by two and a half days the record time established in 1930 by the Duchess of Bedford and Capt. C. D. Barnard.

On November 14, Col. Roscoe Turner established a new east-to-west transcontinental record in the remarkable time of 12 hours, 33 minutes, bettering by two hours, 12 minutes the previous record made in 1930 by Capt. Frank Hawks. Turner left Floyd Bennett field, N. Y., at 7.46 a.m., Eastern Standard Time, and reached Burbank, Calif., at 5.19 p.m., Pacific Standard Time.

**TRANSATLANTIC FLIGHTS** The notable flights of Mrs. Amelia Earhart Putnam and of the *DO-X* across the Atlantic Ocean in May, 1932, are presented on previous pages. Other aviators attempted this crossing, a few ending the flight successfully, but the majority encountering troubles that led to disaster.

On May 13, Louis T. Reichers, having made the flight from the Newark airport to within 47 miles of the southern coast of Ireland, was forced down. His anticipated flight to Paris ended in the total loss of his plane, and he himself, with minor, though painful injuries, was rescued by the *S. S. President Roosevelt*, which continued on its way with him to New York.

On June 11, Stanislaus Felix Hausner, a Polish-American motion-picture operator, was rescued from his floating plane 400 miles north-east of the Azores by a British freighter eight days after the plane had left the Floyd Bennett Field, Brooklyn, with Warsaw as the objective. The condition of the pilot was precarious, through lack of food and water, but by the time the rescuing ship had reached America, he had entirely recovered from the effects of the long exposure.

The first successful east-to-west transatlantic solo flight was made by Capt. James A. Mollison, Scottish aviator, who, taking off from Portmarnock, Ireland on Thursday morning, August 18, arrived at Pennfield Ridge, New Brunswick, at Friday noon, 30 hours and 10 minutes later. Mollison was flying a Puss Moth plane of the same type as that in which he had made his record flight from England to Cape Town in the spring, a tiny machine with a wing spread of 36 ft., 9 in., and a Gipsy III, 4-cylinder, air-cooled, 120-hp motor. To utilize all possible space for fuel storage, the pilot had removed the ordinary seat and handled his controls from a rather cramped position from the floor of the cockpit. The flyer said that at no time did he experience any danger but that he was compelled to travel through a thick fog all night which he found to be very tiring. From New Brunswick he extended his flight to New York and was accorded a hearty welcome. Subsequent plans to return to England by air were canceled upon advice from his physicians who feared that the nervous tension would prove too great. In the east-to-west flight, Captain Mollison established three records in addition to that of the first solo flight. The others were shortest time for a westward crossing; the first transatlantic trip in a light plane, and the longest duration flight in a small plane.

On August 25, Clyde Allen Lee, of Wisconsin, and John Boehkon, a former member of the Norwegian Flying Corps, left Harbor Grace, Newfoundland, with Oslo, Norway as their goal. From the time of its takeoff, the plane was not sighted by any of the number of ships on its pro-

posed course, and the fate of the flyers, who had every confidence in their success, remains unknown.

George Hutchinson, his family of three—wife and two small daughters—and a crew of four, left the Floyd Bennett Field on August 23 in an amphibian Sikorsky plane, *City of Richmond*, en route to London by easy hops. The expedition was well planned, and because of the great experience of the pilot no apprehension was felt as the longest hop from Labrador to Greenland was but 626 miles. The expedition proceeded by schedule but was forced to alight in a storm on the coast of Greenland. The entire party of eight was able to get ashore, after sending an S O S, and within two days was rescued by a British trawler and carried to a Scottish port.

On Tuesday, September 13, William Ullbrich with Dr. Leon Pisculli and Miss Edna Newcomer as passengers, left Floyd Bennett Field with Rome, Italy as their destination. Carrying enough fuel for a flight of 44 hours, the plan was to make no stop until Rome was reached. Although reported 400 miles off the coast of Ireland, the plane was not observed again, and the fate of the flyers is unknown.

Plans for other transatlantic flights were made during the year but were postponed, abandoned, or met with accidents in the early stages. The year ended with but four successful flights: Amelia Earhart Putnam, James A. Mollison, the 12-motored Dornier DO-X, and that of the projected world flight of Griffen and Mattern.

**WORLD FLIGHTS** In an effort to shorten the time of the round-the-world flight set by Post and Gatty, Bennet Griffen and James Mattern in a Lockheed-Vega monoplane with a supercharged Wasp engine left Floyd Bennett Field on July 5, refueled at Harbor Grace, Newfoundland, and reached Berlin on July 6, making a record time across the Atlantic and sighting Ireland 10 hours and 50 minutes after leaving Newfoundland. Stopping in Berlin for only 3 hours and 20 minutes they headed immediately for Moscow, almost 11 hours ahead of the time set by Post and Gatty. Mistaking the lights of Borisov for Moscow, the aviators circled for a landing and landed in a great bog, and the plane cracked up in the soft surface. The damages were too great to permit of emergency repairs, and completion of the flight was necessarily abandoned.

For the third successive year, Capt Wolfgang von Gronau, with three aides, took flight on July 25 from the Isle of Sylt, Germany, to survey a proposed international mail and passenger route. Landing in Iceland, Greenland, and Labrador, he reached Montreal on July 26. He then proceeded to Chicago, Juneau, Alaska, and to Tokyo, where he arrived September 4. The party landed at Shanghai, September 23; but the trip was temporarily halted by an accident over the Indian Ocean, the aviators being rescued by a passing steamer. After repairs were made, the expedition continued via Colombo, Bombay, Bagdad, Athens, and Rome, arriving at Friedrichshafen, Germany on November 9.

**ENDURANCE** Starting on March 23, two French aviators, Lucien Boussoutrol and Emil Rossi, established a new non-stop endurance record. Over a closed circuit at Oran, Algeria, they flew continuously for 76 hours, 43 minutes, and covered a distance of 6025 miles.

**WOMEN'S RECORDS** Amelia Earhart Putnam and Amy Johnson Mollison stood very much in

the forefront among women aviators during the year, the former for her solo transatlantic and speedy transcontinental flights, previously described, and the latter for her record-breaking England to Capt Town flight and return flight. Other women, however, established new records in speed, altitude, and duration.

At the National Air Races in Cleveland on September 5, Mrs. May Hailzip, using the plane in which her husband had broken the transcontinental record a few days earlier, attained a straightaway speed of 252 226 m p h. This was faster by 41.5 miles than the previous record established in 1930 by Ruth Nichols.

On August 19, the French aviatrix, Maryse Hiltz, climbed to an altitude, recorded by her barograph as 33,456 feet. The former official record for women was held by Ruth Nichols, with an altitude of 28,743 feet.

After 8 days, 4 hours, and 5 minutes of continuous flying, Mrs. Louise Thaden and Mrs. Frances Marsalis, descended in their Curtiss Thrush monoplane on August 22 at the Curtiss-Wright Airport, Long Island, having established a new endurance record for women. The former record, established by Miss Bobby Trout and Miss Edna May Cooper, at Los Angeles, was exceeded by more than 73 hours. In the course of the flight contact was made 77 times with the refueling plane.

**AIRWAYS IN THE UNITED STATES** According to the Aeronautics Branch of the U S Department of Commerce, at the end of the year 1932 there were in operation 48,530 miles of airways, as against 50,339 miles at the close of 1931. Mail airways amounted to 45,436 in 1932, as against 43,735 in 1931. The total average of airplane-miles schedules per day was 144,042 miles (158,378 in 1931), in which U S mail was carried an average of 111,849 miles per day (107,705 in 1931), and express an average of 125,922 miles per day.

The number of air transport services in operation in the United States on Dec. 1, 1932, with 1931 numbers in parentheses, were as follows: Domestic routes, 117 (111); mail, 76 (66); passenger, 101 (94); express, 96 (63). Foreign routes, 19 (17); mail, 15 (15); passenger, 18 (11); express, 16 (7). All routes, 136 (111); mail, 91 (79); passenger, 119 (94); express, 112 (70). There were 37 scheduled air-transport operating companies in the country at the close of the year, a net reduction of one, of whom 30 were engaged solely in domestic operation, six solely in foreign, and one in both domestic and foreign operation.

A comparison of the first nine months of operation for the year 1932 with the same period of the preceding year shows an increase in the total amount of express from 683,845 lbs to 1,019,973 lbs., an increase of almost 50 per cent. In the same period the passenger miles flown increased from 89,928,195 to 107,840,869, an increase of 20 per cent. Reduced fares to approximately 6.2 cents per mile, decreases in flying time, coordination of schedules, and improvements in ground connections, all aided in the increase of the number of passengers.

In the first 10 months of the year 1932 a total of 420,719 passengers on the air lines of the continental United States had been carried, as against 469,981 for the 12 months of the preceding year. The average length of trip increased from 250 miles in the first six months of the

year to 279 miles in the next four, and from an average of 230 miles in the year 1931. The air lines of the United States, including those operating in foreign countries, carried a total of 522,345 passengers in 1931 (417,505 in 1930), and flew 47,385,987 miles (30,945,203 in 1930). Express shipments for 1931 totaled 1,151,348 lbs. (468,571 in 1930).

The total number of airports and landing fields in the United States increased from 1870 at the end of June, 1931, to 2037 at the end of June, 1932, according to the annual report of Clarence M. Young, assistant secretary for Aeronautics, U. S. Department of Commerce. Commercial airports increased in number from 601 to 610, while municipal airports decreased from 577 to 543 in the same period.

**AIR MAIL IN THE UNITED STATES.** Notwithstanding a reduction of mail volume, generally, there was an increase of 266,545 pounds in the air mail carried during the fiscal year ending June 30, 1932, according to the annual report of the Postmaster General. During the year 32,202,170 miles were flown with mail out of a scheduled mileage of 34,509,483, the difference representing the mileage of flights abandoned on account of bad weather which rendered transportation by air unsafe to the mail and dangerous to the pilot and passengers. Approximately 60 per cent of the air mail service was on night schedules. On June 30 there were 26,745 miles of air mail routes, an increase of 3257 miles during the year. The average cost per mile for transportation the past year was approximately 62 cents as against 79 cents for the fiscal year 1931. The completion of a lighted airway between Richmond, Va., and Jacksonville, Fla., made it possible to rearrange the service via those points between New York, N. Y., and Miami, Fla., whereby air mail leaving New York at 4 p. m. is due at Miami the next morning at 5 50 a. m., making immediate connection with the planes at Miami for Central and South America. Changes in schedules have been made on all routes offering an attractive fast mail service between the coasts and on connecting lines north and south bound. Practically all mail planes are now equipped with radio and complete flying instruments, have passenger-carrying space, and give fast service with all available safeguards to mail, pilot, and passengers. The service inaugurated about 14 years ago over an experimental route 200 miles long is now a network comprising the largest, safest, and most efficient system of airways in the world. The miles of service scheduled in each year since 1926, the miles actually flown, the weight of mail dispatched, and the amount paid to the carriers are shown in the accompanying table.

creasing popularity. The service included twelve routes, with a total scheduled annual flight of 3,794,855 miles, and included the following routes: (1) New York to Montreal; (2) Seattle to Victoria; (3) New Orleans to Pilotstown; (4) Miami to Havana; (5) Miami to Cristobal, via Central America and direct; (6) Miami to San Juan; (7) Miami to Nassau; (8) Brownsville to Mexico City and thence to San Salvador; (9) Cristobal to Montevideo; (10) Paramaribo to Buenos Aires; (12) Bangor to Halifax.

**BRITISH AIRWAYS.** The British Air Mail Service during 1932 carried a total of 6,348,720 letters. Imperial Airways, the largest of the operating companies, reported that for the six months ending September 30, that line had carried 37,465 passengers, or over 7000 more than for the entire year ending March 31. On January 20, the company inaugurated a regular air mail service between England and Cape Town, South Africa. The fleet of the company was increased to 40 aeroplanes by the addition of 8 *Atalantas* specially designed for service on the African route. The *Heracles* and *Hannibal* classes operated by the Company are the largest aircraft in the world for use in civil transport, providing accommodation for 38 and 22 passengers respectively.

**CANADA.** In the first 10 months of the year there was an increase of 41 private pilot licenses in force in Canada, and 51 commercial pilot licenses, making a total of 333 private pilots and 420 commercial pilots. Licensed airports increased to 91 as against 78 at the beginning of the year. By the middle of the year there were 8 air mail services in operation, chiefly in remote portions of the Dominion. The total of mail carried in the first six months was 227,839 lbs.

**GERMANY.** In miles flown and in total number of passengers carried, the German air lines greatly surpassed the performance of any other European country in 1931, although in both fields the air lines of the United States showed far larger totals. Passengers carried by German lines numbered 98,467, and the miles flown were 6,387,495. In goods carried, the German lines surpassed those of any nation with a total of 2175 tons; the United States lines were a poor sixth with a total of 575 tons. Total figures for 1932 are not available; but scattered reports of several lines indicate that, although miles flown may be but slightly increased, an increase of 5 to 10 per cent in passengers and tonnage will be shown. The Luft Hansa lines reach 26 large foreign cities, connecting them with 35 important German cities, traveling more than 19,000 miles daily. It operates 40 regular passenger lines and in addition has four mail and express

Fiscal year	Length of routes, miles	Miles of Service		Total wgt of mail dispatched, pounds	Amount paid carriers
		Scheduled	Actually flown		
1926 .. . . .	3,597	411,070	396,345	3,000	\$89,753 71
1927 .. . . .	5,551	3,092,016	2,805,781	473,102	1,363,227 82
1928 .. . . .	10,932	5,999,948	5,585,224	1,861,800	4,042,777 16
1929 .. . . .	14,406	11,032,508	10,212,511	5,635,680	11,169,015 13
1930 .. . . .	14,907	16,228,453	14,939,468	7,719,698	14,618,231.50
1931 .. . . .	23,488	22,907,169	21,381,852	8,579,422	16,943,605.56
1932 .. . . .	26,745	31,509,483	32,202,170	8,845,967	19,938,122 61
Total .. . . .	..	94,180,647	87,523,351	33,118,669	68,164,733.49

International air mail routes emanating from the United States functioned at almost 100 per cent during the fiscal year, and showed an in-

lines to England, Holland, Scandinavia, and the Balkans.

**FRANCE.** Second of European countries in air





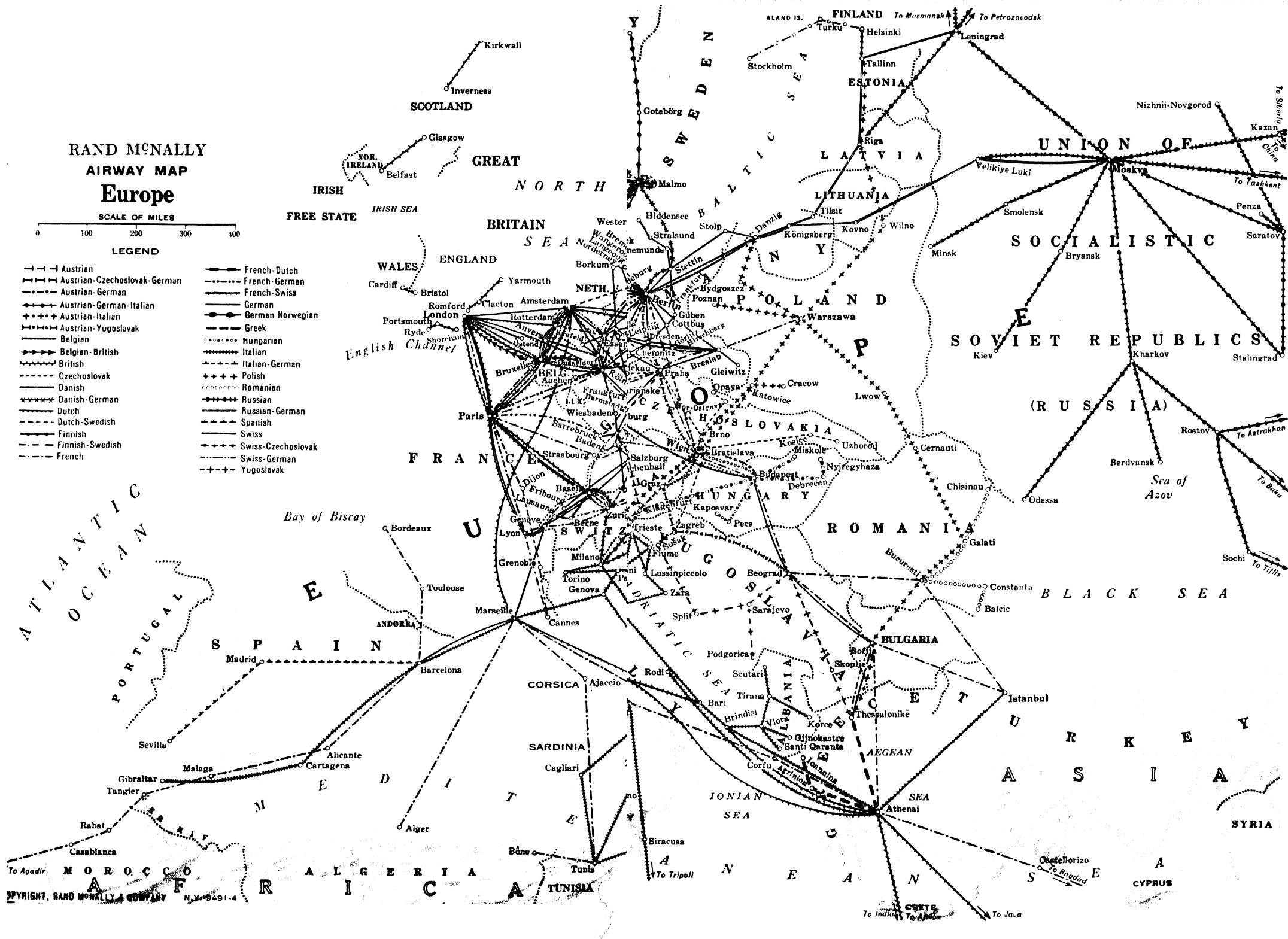
# RAND McNALLY AIRWAY MAP Europe

SCALE OF MILES

0 100 200 300 400

## LEGEND

- |                                    |                          |
|------------------------------------|--------------------------|
| —+—+— Austrian                     | —+—+— French-Dutch       |
| —+—+— Austrian-Czechoslovak-German | —+—+— French-German      |
| —+—+— Austrian-German              | —+—+— French-Swiss       |
| —+—+— Austrian-German-Italian      | —+—+— German             |
| —+—+— Austrian-Italian             | —+—+— German-Norwegian   |
| —+—+— Austrian-Yugoslav            | —+—+— Greek              |
| —+—+— Belgian                      | —+—+— Hungarian          |
| —+—+— Belgian-British              | —+—+— Italian            |
| —+—+— British                      | —+—+— Italian-German     |
| —+—+— Czechoslovak                 | —+—+— Polish             |
| —+—+— Danish                       | —+—+— Romanian           |
| —+—+— Danish-German                | —+—+— Russian            |
| —+—+— Dutch                        | —+—+— Russian-German     |
| —+—+— Dutch-Swedish                | —+—+— Spanish            |
| —+—+— Finnish                      | —+—+— Swiss              |
| —+—+— Finnish-Swedish              | —+—+— Swiss-Czechoslovak |
| —+—+— French                       | —+—+— Swiss-German       |
|                                    | —+—+— Yugoslav           |







operations, French air lines covered a total of 5,759,018 miles in 1931, carrying 32,700 passengers and 1508 tons of goods. The air routes traversed by these lines totaled 21,152 miles, including lines in Africa, Asia, and South America. French lines have devoted less attention to an increase in passenger service, but have concentrated their interest into the transportation of merchandise. One company is reported to have increased its business in that direction to a remarkable extent with a total volume in 1932 of more than 2500 tons.

See LIGHTHOUSES under *Airways Facilities*; MILITARY PROGRESS under *Great Britain*.

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Moors, *Aircraft Engine Mechanics Manual* (New York); H. A. Lewis-Dale, *Aviation and the Aerodrome* (Philadelphia); Harold Lewis Kirby, *An Analysis of Meteorology as Related to the Operation of Aircraft* (Glendale, Calif.); Maj. Wm. C. Ocker and Lt. Carl J. Crane, *Blind Flight in Theory and Practice* (San Antonio, Texas); C. H. Latimer-Needham, *Sailplanes, Their Design, Construction, and Piloting* (London); Carl Pirath, *Die Hochstrassen des Weltluftverkehrs* (Berlin); Richard Roskoten, *Ziviler Luftschutz* (Düsseldorf); L. H. Slotemaker, *Freedom of Passage for International Air Services* (Leiden, Holland); J. M. Spaight, *An International Air Force* (London); Hugh Allen, *The Story of the Airship* (Akron, Ohio); D. R. Pye, *The Internal Combustion Engine* (Oxford, Eng.); Maufred Curry, *The Beauty of Flight* (New York); Col. C. C. Carter, *Simple Aerodynamics and the Airplane* (New York). The reader is also directed to the reports by the British Aeronautical Research Committee, London, the British Directorate of Civil Aviation, London, and the National Advisory Committee for Aeronautics, Washington, D. C.

#### AEROPLANES. See AERONAUTICS.

**AFGHANISTAN**, af-gān'-is-tān'. An independent kingdom of central Asia, serving as a buffer state between India and the Soviet Union. The estimates of the area vary from 245,000 to 270,000 square miles, while the population is roughly estimated at about 11,000,000. King in 1932, Muhammed Nadir Shah, who was called to the throne Oct. 16, 1929. Capital, Kabul, with a population of about 80,000.

Other important towns are Kandahar (60,000), Herat (30,000), and Mazari-i-Sharif (46,200). The Afghan is the dominant race and the chief tribes are the Durans and the Ghilzais, numbering about 2,200,000. There were about 70 Europeans in the country in 1931. The prevailing languages are Persian and Pushtoo and the dominant religion is Islam. Free elementary and secondary schools exist in various parts of the country.

**PRODUCTION, ETC.** The largely mountainous country contains a number of fertile plains and valleys where irrigated crops of cereals, fruits, and vegetables are raised. Pears, apples, almonds, peaches, quinces, apricots, plums, pomegranates, grapes, figs, and cherries constitute a staple food of the population and much preserved fruit is exported. The native fat-tailed sheep is the principal domestic animal. Native industries, chiefly of the cottage type, supply the local demand for cloth, soap, boots, and other articles; carpets and rugs are woven for export. Army supplies are made at a state-owned factory in Kabul. Copper, lead, iron, coal, lapis lazuli, and some gold are found, the first named in large quantities. There is little mining activity, however. Afghanistan's trade with India averages about \$15,000,000 annually in normal times. The principal exports are wool, silk, cattle, hides, tobacco, timber, fruits, and vegetables, cereals, safflower and other drugs, and spices. Imports in 1931 came chiefly from the Soviet Union. Cotton goods, sugar, leather, hardware, and silver treasure are the chief imports from India.

The annual revenue is variously estimated at from \$5,000,000 to \$20,000,000. The two leading trade routes to India are from Kabul to Peshawar by way of the Khyber Pass and from Kanda-

har, centre of a rich fruit-growing region, to the railway terminal at Chaman, India. There are no railways in Afghanistan and transport is by caravan or by motor over the rough roads connecting Kabul with the chief cities. A 40-year contract for the establishment of air lines from Herat to Kandahar and Kabul, with branch lines to the northwest frontier of India, was obtained by the Junkers company of Germany in 1931. A Soviet weekly air service connected Kabul with Termez in Soviet Central Asia.

**HISTORY.** The new Constitution promulgated by Nadir Shah and made public in the outside world in 1932 provided for an independent constitutional monarchy, with Islam as the state religion. It contained a bill of rights, made primary education compulsory, and forbade slavery and forced labor or the confiscation of personal property, except that of refugees from the country. Provision was made for a Council of State, composed of representatives elected for three years, and for a Chamber of Nobles appointed by the King. Legislation was to be initiated by the Ministers, passed by the Council of State, approved by the Chamber of Nobles, and signed by the King. A revolt of the Darakhel section of the Zadran tribe was reported in November, 1932.

**AFRICA.** The various divisions of Africa in this volume are discussed under their own heads. See articles on the respective countries and territories, including ETHIOPIA, KENYA; EGYPT; MOROCCO; TUNIS; SOUTH AFRICA; UNION OF, etc. See also the articles ANTHROPOLOGY, ARCHEOLOGY; PHILOLOGY, MODERN; and EXPLORATION.

**AFRICAN LANGUAGES.** See PHILOLOGY, MODERN.

**AGNES SCOTT COLLEGE.** An institution for the higher education of women in Decatur (Atlanta), Georgia. The enrollment for 1932-33 was 475. The faculty numbered 48 members, and the officers of administration, 15. The endowment was \$1,257,000, and the gross income for the year was approximately \$333,000. There were 26,500 volumes in the library. During 1932 there has been steady progress made on collecting funds for the carrying out of a development programme of \$1,500,000. President, James Ross McCain, Ph.D., LL.D.

**AGRICULTURAL EXPERIMENT STATIONS.** Experiment stations, the research institutions of agriculture, were in active operation in all of the States of the United States, and in the territories and insular possessions. Of the available funds for their support, totaling approximately \$17,500,000, the Federal government supplied \$4,587,030, which included \$90,000 for each State, \$15,000 for Alaska, and \$22,000 for Hawaii. The remainder, coming from State appropriations, allotments, sales, and fees, shows that as heretofore, the Federal funds were supplemented liberally. Funds for the support of experiment stations maintained by the U. S. Department of Agriculture in Alaska, Hawaii, Puerto Rico, Guam, and Virgin Islands aggregated \$230,030.

The magnitude of this system of agricultural research was evident in the number of research projects aggregating nearly 7000, of which 436 projects received support from the Adams fund and 1458 from the Purnell fund. Approximately 1100 of the total were in cooperation with the U. S. Department of Agriculture covering national, regional, and special problems. Curtail-

ment of funds and other reasons led to a considerable revision of research projects and programmes by the stations. Recent contributions to agriculture by the State stations dealt with problems of soil fertility, of farm management, of animal and plant disease control and insect control, of distribution and marketing, of quality improvement, of harvesting methods, of processing and storing, of utilizing surpluses and by-products, and of farm living standards.

During the year, the U. S. Department of Agriculture discontinued operation of the stations in Alaska, Guam, and the Virgin Islands which had been under its control. In Alaska the work was to be continued as part of the Alaska Agricultural College and School of Mines. The Virgin Islands station was transferred to the Department of the Interior, and the Guam station was transferred to the insular government for use as an agricultural school. Steps were taken to coordinate the various agricultural research and extension activities in Puerto Rico, in somewhat the same way as had already been done in Hawaii.

Improved facilities for research in the form of buildings and land were provided by the several States and others were authorized. New buildings erected in 1932 included the Jenkins laboratory at the Connecticut State Station, a dairy building at the Pennsylvania Station, a poultry plant at the Arkansas Station, a home economics building at the Georgia College, an agronomy building at the Wisconsin Station, horticultural laboratories at the New York State and South Carolina Stations, and a crops field house at the Minnesota Station. The Nebraska Station was erecting a new seed house and crops laboratory. The James Turner Research Institute, the North Jersey Branch of the New Jersey Stations, completed the construction of modern barns, a hay dehydrator, and silos. The current research programme of the institute included pasture management studies, nutrition, breeding, and the control of diseases and parasites of dairy animals.

Important local problems and special crops were responsible for the establishment of several new substations and experimental fields. In South Carolina, a new substation was established in Charleston County for experiments with vegetables, and the Coast Substation was converted into a livestock and forestry station. Experimental fields were established in southeastern Kansas for crop production studies on three major soil types, and in northeastern Kansas for study of orchard problems, small fruit, potatoes, and general field crops on the glacial soil. W. K. Kellogg of Battle Creek, Mich., presented to the University of California, a ranch of 750 acres near Pomona, with a stud of 87 Arabian horses and an endowment of \$600,000 under an agreement to establish the W. K. Kellogg Institute of Animal Husbandry, as a part of the division of animal husbandry, and devoted to the breeding and improvement of the Arab horse. He supplemented previous gifts to the Michigan College and Station with a tract of 360 acres of abandoned farm land for reforestation demonstrations. A 2082-acre tract in Hernando County, Florida, was deeded by the owners, Col. and Mrs. Raymond Robbins, to the Department of Agriculture for use as a bird refuge, and also, in cooperation with the Florida Station, in studies of problems relating to citrus

fruits, livestock, and feed and forage. The Wisconsin Station, cooperating with the U. S. Department of Agriculture, established a soil erosion experimental farm near LaCrosse.

The Massachusetts, Ohio, and New York State Experiment Stations celebrated their fiftieth anniversaries during the year. Changes occurred in the directorships of the Alaska, Colorado, Guam, Iowa, Mississippi, New York Cornell, and Virginia Truck Stations. Director C. F. Curtiss, associated with the Iowa Station since 1892, and H. C. Henriksen, Agriculturist of the Puerto Rico Station, retired during the year. C. P. Gillette retired as director of the Colorado Station. In Canada, Joseph H. Grisdale, deputy minister of agriculture since 1919 and previously a pioneer agriculturist and director of the Dominion Experimental Farms, retired March 9.

**BRITISH EMPIRE** The Empire Marketing Board continued to promote agricultural research throughout the British Empire, expending £335,000 in the year ended May, 1932 on numerous projects in cooperation with different institutions, with supplementary funds from local contributions often equaling the imperial grants. Substantial reductions were effected in almost all of the Board's research liabilities, provisional grants were suspended, and few new grants were made, although the Board continued to cooperate with existing research organizations in planning joint programmes of research on a broad empire basis. Research enterprises currently proceeding under substantial allotments included cold storage research in Great Britain and Trinidad; fruit studies in New Zealand, Trinidad, Sierra Leone, and Great Britain, plant breeding work in Wales, Irish Free State, New Zealand, and Australia, plant disease control and economic investigations in the British Isles, tobacco research in Southern Rhodesia, sugar and pineapples in Mauritius; investigations of the mineral content of pastures in Scotland, Australia, New Zealand, and Southern Rhodesia; entomological work in Australia, New Zealand, and Great Britain; poultry research in Ontario and the British Isles; dairy products research in Scotland and New Zealand; veterinary work in Quebec, Australia, and South Africa, wool studies in Great Britain; and tropical research stations in Trinidad and at Amami, East Africa.

**CANADA** The agricultural colleges of the several Provinces and the Dominion Experiment Farms continued to maintain their high standards of agricultural research. The Institute of Parasitology, a new empire centre for the study of internal parasites of livestock was established at Macdonald College, P. Q., and was to be housed in buildings being erected by the Quebec Government. Financial support for three years was to be provided jointly by the Empire Marketing Board and the National Research Council of Canada. The National Research Laboratories, formally opened at Ottawa on August 10, embrace a division of biology and agriculture directed by Dr. Robert Newton. The twelfth Annual convention of the Canadian Society of Technical Agriculturists, a dominion-wide organization of station and extension workers, was held at Manitoba Agricultural College, Winnipeg, in June, 1932.

**SCOTLAND** The Macaulay Institute for Soil Research, established and endowed by T. B. Macaulay, of Montreal, Canada, at Craigiebuckler, near Aberdeen, Scotland, in 1930, was operating

a peat demonstration farm in the Island of Lewis in the Western Hebrides; was carrying on soil investigations under the directorship of Dr. W. G. Ogg; was cooperating with and taking over certain phases of soils work from the Scottish agricultural colleges, and was collaborating with other research institutions on problems related to soils. The new plant of the West of Scotland Agricultural College at Auchincruive near Ayr, was in operation after its formal opening in 1931 by the Duke and Duchess of York. A tract of 600 acres, presented to the Scottish Government for purposes of education and research, was assigned to the college adjoining the new Hannah Dairy Research Institute. The Dairy School for Scotland formerly at Kilmarnock, was transferred to Auchincruive and reorganized; provision was made also for a poultry school, horticultural, bookkeeping, and plant industry departments, dairy research, and an experiment station, and a number of new buildings were constructed. The Hannah Dairy Institute, formally opened in 1931, at its permanent location at Auchincruive, housed in buildings erected and equipped from a capital grant of £15,000, was carrying on, under the direction of Dr. Norman C. Wright, investigations dealing with the nutrition of ruminants, the physiology of lactation, the breeding of dairy cows, bovine tuberculosis, and the condensing and drying of milk and its by-products.

**PALESTINE.** The Independent Biological Laboratories opened about two years earlier at Tel-Aviv, in 1932 were giving attention to the biology of numerous Palestinian plants and geographical areas, wheat, and the physiology and biology of citrus. Courses of instruction in agriculture and related sciences were also being offered. A school of agriculture to be directed by Dr. Chaim Weizman, was to be established by the Hebrew University and was to cooperate with the experiment station of the Jewish Agency.

**U.S.S.R. (RUSSIA).** The New Bast Fibre Research Institute in Moscow, established in 1931, as a branch of the Lenin Academy of Agricultural Sciences, for the working out of scientific methods for the introduction of new bast fibre plants into the U.S.S.R., and mechanizing the processes of extracting fibres from ramie, kenaf, kenat, flax, hemp, and jute, and headed by A. M. Krasnotchokoff, organized several laboratories, experimental textile plants, and cotton mills at Moscow, experiment stations at Krasnodar, Kuznets, and Tashkent, and over 28 special state farms in Central Asia and the Caucasus.

**NECROLOGY.** Station workers dying during 1932 included T. C. Johnson, director of the Virginia Truck Station, S. T. Fleming, asst. director of the Florida Station, W. P. Headdon, retired chemist of the Colorado Station; George Jansen, asst. agronomist of the Arkansas Station; Frederik Rasmussen, head of the dairy husbandry department, Pennsylvania Station; Anthony Spuler, associate entomologist at the Washington Station; and Robert Wytheombe, superintendent of the Eastern Oregon Substation. Harry Hayward, former director of the Delaware Station, and William A. Henry, retired director and dean of agriculture of the Wisconsin College and Station, also died during the year. Among British agriculturists, Sir William Somerville, professor of agriculture and rural economy at Oxford University from 1906-1926, and a pioneer worker in agricultural science in

Great Britain, died February 7. Sir Horace Plunkett, eminent for his pioneer studies of agricultural cooperation and rural life, and a leader in the agricultural affairs in Ireland, died March 26. Dr. R. Stenhouse Williams, first director of the British National Institute for Dairying and research professor of dairy bacteriology in the University of Reading, died February 2. Prof. K. K. Gedroiz, director of the experiment station of the Scientific Institute of Fertilizers, Moscow, died October 5.

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### AGRICULTURAL EXTENSION WORK.

The major problems faced by farm families during 1932 were reducing their expenditures on the one hand, augmenting their income on the other, and maintaining at the same time adequate standards of living. To these problems, the Extension Service gave its principal attention during the year. The general depression, marked reduction in consumption of many agricultural commodities together with surpluses of some of these commodities, and other factors, made it necessary for farm families to develop and use sources of income which they had not previously used. Supplemental and alternative lines of production had to be considered and decided upon. There were many factors for farm people to consider, or much need for careful study of the situation in which the individual farmer found himself.

In seeking to meet their various situations, farm people made urgent demands on the United States Department of Agriculture and the State Agricultural colleges for reliable and practical information bearing on production, marketing, and home making. The Extension Service brought to them the facts best adapted to their particular needs. The farm organizations cooperated with extension agents in making these facts available and in putting them to wide practical use. The farm organizations made it their business to carry through the extension programmes in their counties to a successful conclusion. As individuals their members served as local leaders, demonstrators, and cooperators in bringing to the attention of their friends and neighbors the information they have obtained through their county extension agents. Without the aid of these farm organizations and of other organized groups the Extension Service would have fallen far short of its opportunities for being of service to farm people during 1932.

The wide usefulness of the Extension Service during the year was shown by the number of farmers and farm women throughout the country who made the extension programme their own and who voluntarily gave their time and effort to carrying out this programme in their communities. More than 150,000 men and 128,000 women served as volunteer local leaders in extension work among their neighbors. Over a million demonstrations were carried out by men and women interested in improving their meth-

ods of production, management, marketing, and home making.

Supplementing its work with adults, the Extension Service gave more than 900,000 farm boys and girls opportunities for self-advancement and self-expression through membership in 4-H clubs. These 4-H clubs are clubs for farm boys and girls in which they are given instruction and practice in methods of farming and home making. The boys, as a rule, grow an acre of corn or cotton, raise a pig, calf, or sheep, or engage in some other line of agricultural production. The girls engage in such activities as the growing of vegetables, the canning of vegetables and fruits, the making of dresses and other clothing, refinishing of furniture, and the beautifying of the grounds around the home. The term 4-H used to designate these clubs signified the four things which are developed by boys and girls in this extension activity; namely, the head, hands, heart, and health. The idea of the 4-H club developed in a number of forms in the period from 1900 to 1910, although the designation, 4-H, was first associated with the development of these clubs for both boys and girls in the Southern States as a part of the demonstration work developed in that section in the effort to overcome the inroads made by the boll-weevil in cotton-producing areas. In 1932, these boys and girls learned not only to take their part in the ranks of agriculture but contributed in no little measure to the production, income, and economy of the farms on which they lived. This work, too, was reinforced by the assistance of some 70,000 men and women and, in addition, 30,000 older boys and girls who voluntarily gave their time and effort to encouraging and carrying on some 70,000 local 4-H clubs.

Information on which extension programmes were developed in the counties came from studies of the counties themselves. The facts required were obtained either through formal surveys or through the meetings of leading local people who reported on county and community conditions and needs. These programme-planning meetings had as their economic background the farm and home surveys, the farm and home accounts which had been summarized to show receipts and expenditures, and data on production and on management methods in farm homes. Outstanding farmers and farm home makers made observations on local conditions and discussed these conditions at the county meetings. Food and feed needs of a county often were determined by using the United States per capita consumption as a basis, or a per capita or family-and-farm need budget developed by the State. Several States drew up forms to serve as bases in helping to determine food-and-feed budgets. During the year conferences of this type were held in every part of the United States.

Economic data on the world, the nation, the State, the county, and even the individual farm, are not completely informative without facts about the various enterprises which constitute a programme for an individual farm. Individual farm records provided fundamental information on which to base adjustments in farm business. Many thousand farmers cooperated with county extension agents in keeping detailed accounts of their receipts and expenditures and the changes in their inventories. Records of costs and returns from different activities on single farms or on



groups of farms, also, were kept. The information contained in these accounts and records was summarized and analyzed and its application was discussed by local groups. How many sprayings could profitably be applied to orchards or potato fields, how much fertilizer or how much feed could profitably be used, the efficient size of a production unit, how labor could be used to greatest advantage, and similar facts.

With less cash to spend in maintaining their households, farm women showed keen interest in keeping strict account of the use of their incomes. The results of the analyses of such accounts were tabulated according to the size of the incomes as well as the size of the families. Analysis meetings held at the end of the year helped the farm people to check their expenditures against the averages of other families under similar conditions. Deductions about changes they might incorporate in the next year's farming and living programme to bring about a wiser use of the family income were made by these account keepers in consultation with their extension agents.

It is necessary under present conditions that the farm be organized and operated to produce with the smallest expenditures of money, time, and effort per unit. In accomplishing this result in 1932, farmers utilized with advantage information provided by extension agents bearing on the use of efficient methods in growing crops and livestock, the prevention of loss and waste from diseases and pests, the use of improved seed and the best cultural methods. The unusual demands of the situation brought several crops into prominence because of their adaptation to certain new requirements, and with the assistance of extension workers, farmers introduced and developed many cash or maintenance crops new to their counties.

Not only were changes in lines of production undertaken by farmers during the past year but they made many adjustments to more economical farm practices as well. This was particularly true of the use of farm labor, power, and machinery. The year witnessed a marked spread of the use of big hitches enabling farmers to use horses effectively in operating gang plows and other machinery hitherto largely drawn by tractors. This, in turn, reduced operation costs since the horses were being maintained largely on feeds grown on the farm itself. Terracing and the building of soil-saving dams were important activities on many farms. Including the estimated acreage terraced during the year, approximately 15,000,000 acres have been terraced in accord with extension recommendations in the past ten-year period. Extension agents stressed the importance of putting all existing buildings in good condition and repair. They supplied information concerning the installation of water-supply, sewage-disposal, and lighting and heating systems, and for the planning, construction, and remodeling of farm homes in every State. Rural electrification, also, was an important phase of farm-home improvement undertaken.

In dealing with plant-disease problems, growers, particularly those specializing in intensive crops, gave more than their usual attention to cutting production costs and improving quality by suppressing plant diseases. Extension workers stressed the economies effected by controlling plant diseases, and at the same time sought to

evolve the lowest-cost methods consistent with safety.

Farmers were aided in improving such marketing processes as packing, grading, and standardizing commodities, and in reducing losses in marketing channels, warehousing, and storage. Extension workers kept farmers informed on probable market demands in order to enable them to adjust their production programmes and to know when to sell. They helped officers and managers of cooperative associations in educational campaigns to teach the members and the public about the activities of particular marketing organizations and of the whole cooperative marketing movement. The volume of business done by organized groups of farm people in 1931 with whom extension workers cooperated totaled \$350,000,000. The amount of business done in 1932, in spite of lower prices, was estimated as being considerably in excess of this amount.

Farm women in many localities sought earnestly to develop supplemental sources of income to make up the deficiencies of the income from the regular operations of the farm. Boys and girls, also, took up various activities to bring in a little money. There was a great demand for information on some of the old-fashioned home arts and crafts and timely thrift measures. Extension workers encouraged the standardization of articles made for sale and the women recognized the value of such standardization. The activities of 4-H club members during the year frequently enabled them to give definite financial aid to the household. A fat baby beef, three or four sheep, the products of a garden, home-canned fruits and vegetables, clothing and furnishings remodeled or manufactured from inexpensive material, contributed to increasing the family income or to reducing its expenses.

The Extension Service assisted farmers during the past year in the credit field. The importance of making annual farm inventories, filing credit statements at banks, and endeavoring to use bank credit instead of store credit, was stressed by extension agents. A striking instance of activity in this field was the cooperative work done with the bankers of Georgia in a directed agricultural credit movement. In 117 of the 160 counties in the State, agricultural programmes were adopted by the farmers of the county at mass meetings. The bankers then printed and distributed copies of the programme and announced to the farmers that they would lend money on that basis only.

Farm families during 1932 sought in every possible way to reduce their expenditures. Farm women set the example of thrift by making bread, canning and drying fruits and vegetables, curing meats, making soap, laundering and dry cleaning clothes, and remodeling coats and dresses. The year was marked by the unprecedented activity in the planned production of home-grown foods. In every State the poultry flock and the home dairy were developed to the utmost to meet nutritional needs. Many extension agents found on the farms of their counties a surplus of milk or an excess of beef that could hardly be sold at any price. They put on culling campaigns along with butchering demonstrations. This encouraged not only the price of the animals but also of the products left on their farms, and served to lower the cost of living on the farm. Thousands of home makers, handicapped by reduced incomes,

were supplied with suggestions on the more economical clothing of the farm family. Demonstrations and exhibits were staged in coat making; women were taught to make garments from flour, feed, and sugar sacks; sewing machine clinics were held; and "use cotton" campaigns were staged.

Attractive surroundings, good health, wholesome recreation, social contact with neighbors, and better family relationships appeared to count for much more in 1932 in rural communities than in more prosperous times. Much was accomplished in the way of inexpensive improvement and beautification of the home and the grounds with little or no cash outlay. Home makers refinished and reupholstered furniture, made rugs, curtains, and draperies out of inexpensive materials, and brought to light many artistic pieces of furniture that had been stored and forgotten in attics. Grounds and yards, as well as the interiors of houses, were improved and beautified. Local woods, cuttings from the gardens of friends, and plant exchanges among the home demonstration club members were the principal sources of material for beautification. Many States reported the planting of shrubs and shade trees, the repairing of buildings, the removal of rubbish, and other work that added to the appearance of home surroundings at slight cost.

Recreation at little cost was a real factor in maintaining morale in several communities during the year. The Extension Service cooperated systematically with the National Recreation Association (q.v.), and with other agencies, in developing leaders in recreation and amateur dramatics in rural communities who organized and carried out suitable recreation programmes. Extension workers redoubled their efforts to help farm families maintain their health standards. Recommendations on properly balanced and adequate diets and menus available from the products of the farm or at the lowest possible cost for purchased food have been worked out and supplied to farm home makers. Special attention has been given to the use of foods locally plentiful, such as wheat, sorghum, potatoes, beans, apples, and peaches.

Depression, unemployment, drought, and the ravages of insect pests have brought dire want and suffering to many farm families in the past few years. Wherever the National or State governments attempted to meet existing problems of unemployment, or relieve the distressed in rural districts in 1932, the county extension agents usually assisted in the execution of these plans. They aided local committees materially in the efforts of the Reconstruction Finance Corporation (q.v. UNITED STATES) to make needed credit available to farmers in areas where because of crop failures or economic conditions refinancing of the farm business became imperative.

Organizations of farmers and farm women were active throughout the country in relieving distress and destitution in their communities. Extension agents worked with them in cooperating with county governing bodies and local relief organizations in bringing systematic and efficient aid to those in need of food, clothing, and shelter. Throughout the country, extension agents encouraged rural women to donate excess food supplies for the use of needy neighbors and for canning, to use in rural schools, in order to assure one hot dish for rural children at their noon meal during the winter.

The field force employed to carry on extension work on June 30, 1932, totaled 5977 persons, 202 fewer than last year. Engaged in agricultural work in the counties were 2312 county agents, 222 assistant agents, and 174 negro agents. The home-economics staff included 1176 county home-demonstration agents, 35 assistant agents, 10 urban agents, and 127 negro agents. One hundred and eighty-six county club agents and 35 assistants devoted full time to 4-H clubs, while practically all county extension agents gave a substantial part of their time to boys' and girls' club members. To reinforce the efforts of county extension agents, and to assist with more highly specialized problems, there were 1178 extension specialists, most of them stationed at the State agricultural colleges. The administrative and supervisory staff in the States numbered 504.

The total funds allotted for cooperative extension work in the States and Territories during the fiscal year 1932-33 amounted to \$23,405,000; a reduction of about two million dollars, or 8 per cent from the amount available during the previous year. Of the total funds allotted \$9,653,000 is from Federal sources, and \$13,752,000 from sources within the States and Territories. The reduction in Federal funds amounted to \$63,000 while funds available from sources within the States were reduced by about \$1,930,000.

Exact figures on extension results for 1932 were not available when the statement was prepared, but in every extension activity a greater volume of results was indicated as compared with the previous year. The figures for 1931 show that 1,057,489 demonstrations in improved methods of farming and home making were conducted by farmers and farm women with the assistance of extension agents. The number of demonstrations carried on by boys and girls in the 4-H clubs was even larger, being 1,114,065. Supplementing contacts made with farm families through these demonstrations, extension workers made many farm and home visits, held meetings, supplied news items to the local press, gave radio talks, sent out circular letters, displayed exhibits, conducted tours, and used every possible means of bringing extension information to public attention. The number of meetings held to demonstrate improved methods was 461,793, with a total attendance of 7,988,587 people. There were 960,550 farms and 363,019 homes visited by extension agents to enable them to discuss their individual problems at first hand with farmers and farm women. These figures afford some indication of the variety of ways in which the Extension Service was brought in touch with farm people and was enabled to serve them.

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**AGRICULTURE.** The year 1932 in American agriculture was characterized by unprecedented low price levels for all classes of farm commodities, diminished incomes, increasing debts, and tax burdens that were heavier to carry. Crop production was fairly stable, and there was no calamitous drought, or insect infesta-

tions or other plagues of serious magnitude. This general situation in agriculture was not confined to the United States, its scope was world-wide.

The influences largely responsible for the prevailing extremely low levels of prices and farm income were, in the opinion of the Federal Farm Board, the inability of our domestic consumers to buy, because of reduced incomes and widespread unemployment; and the inability of foreign customers to purchase American products to the usual extent, due to disorganization of international trade, and the accompanying heavy unemployment and reduced incomes abroad.

**FARM RELIEF.** The distress of the agricultural industry and the farmers naturally was a paramount issue in the 1932 presidential campaign, and probably was an important factor in the outcome of the election. Both major parties considered it as the most urgent economic problem of the country and included programmes for relief in their platforms. President Hoover in his acceptance speech in Washington, August 11, referred to the dependency of the farmer upon tariff protection for recovery, the many measures of emergency relief enacted for agriculture, the progress of the Farm Board in furthering the cooperative movement, and its experience in stabilization. He opposed the extension of governmental agencies to control the farmers' production and to provide subsidies. He voiced the opinion that "The most practical relief to the farmer to-day aside from the general economic recovery is a definite programme of readjustment and coordination of national, State, and local taxation which will relieve real property, especially the farms, from unfair burdens of taxation which the current readjustment in values has brought about."

Governor Franklin D. Roosevelt, the president-elect, in a speech at Topeka, Kan., Sept. 14, 1932, declared "The situation challenges every responsible statesman in America to seek in agricultural circles an active remedial plan." In his programme for agricultural equality with industry, he proposed for immediate relief, the refinancing of farm mortgages with lower rates and longer time for payment, the restoration of world trade by tariff reform and tariff agreements with other nations, and the raising of domestic prices of surplus crops. As a permanent programme, he favored putting into effect a national land planning policy, the reduction and equalization of land taxes, and the reorganization of the U. S. Department of Agriculture to eliminate waste and make its work more effective.

Among the many proposals for farm relief, brought forward to cope with the agricultural situation, the voluntary domestic allotment plan, a measure having the support of leading farm organizations and opposition in various other quarters, was regarded as most influential. The proposal, as described by the Food Research Institute of Stanford University, was evolved to meet the demand that farmers producing export-surplus crops and livestock be assured, on the portion consumed in this country, the equivalent of effective tariff protection. It called for distributing a bonus or tariff benefit among producers on the basis of their past production, and deriving the necessary funds from excise taxes levied on processors. It contemplated a decentralized procedure for making allotments to individual farmers, whose claim to determined benefit would rest upon voluntary signature and ful-

fillment of contracts to restrict acreage (or production) as the Federal administrative agency might prescribe. The domestic allotment plan was said to be embodied in a bill before Congress at the close of the year. The bill provided that adjustment certificates be issued to farmers willing in 1933 to reduce their acreages of wheat, cotton, or tobacco 20 per cent, or their tonnage of hogs to the same extent. Certificates would entitle holders to receive, on that percentage of the total crop consumed in the United States, cash payments enough to bring prices up to their average pre-war level for the years 1909 to 1914. Funds with which to make these payments would be raised through a tax imposed on millers, packers, and other processors of the products specified.

The farm relief movement during 1932 was also featured by a farm strike in the late summer in usually conservative middle-western States in efforts to bring higher prices for farm products. The governors or their agents from nine midwestern States, meeting in Sioux City, Iowa, in September during the strike declared themselves in favor of tariff revision, sound currency expansion, moratoriums on farmer debts, and an orderly marketing programme in recommendations addressed to the President and Congress. They denied the demands of leaders of the non-selling movement for an embargo on marketing. Other relief activities of more than local interest included a milk strike in the New York City milk shed, in September and October. A gathering of executives of industrial firms to formulate a relief programme for agriculture, meeting at Chicago in November, was sponsored by the United States Chamber of Commerce. The Farmers' National Relief Congress, an outgrowth of the farm strikes, met in Washington in December to present demands for farm relief to Congress.

**AGRICULTURAL SITUATION.** Drastic retrenchments in the farm business and in family living as well, were indicated as the farmers' main defense, according to a year-end symposium of the agricultural situation all over the country by the U. S. Department of Agriculture. The reports from every section detailed the live-at-home programmes, the economies, and the trend back toward a subsistence type of farming, and confirmed the story of the migration from town back to the land. The low prices of farm products and the disparity between these low prices and the prices of goods and services which farmers must buy, were given as primary causes of farmers' difficulties. The complaint that debts and taxes represented an intolerable load upon the farm business at current price levels was universal.

The net agricultural production, i. e. for market or for use in the farm home, in 1932 was the lowest for any year since 1923, the index of net agricultural production for 1932, based upon preliminary estimates, being 103 per cent of the 1919-1927 average, compared with 112 in 1931, 107 in 1930, and 101 in 1923. The market decline in production from 1931 to 1932 was in response to smaller acreages and low yields of wheat and cotton, lower yields of fruits, and a slight curtailment in the production of dairy and poultry products. The total gross income from the farm production of 1932 was estimated at \$5,240,000,000 compared with \$11,950,000,000 in 1929, according to Department of Agriculture estimates. The re-

duction in gross income since 1929 was ascribed largely to national and world-wide changes in financial and economic conditions which brought about lower price levels in general, and curtailed demand for farm products in both domestic and foreign markets. The marked reduction in farm incomes from 1929 to 1932 was general for all farm products. In 1932, incomes derived from crops, totaling \$2,282,000,000, were only about 42 per cent of those of 1929, while incomes from livestock, aggregating \$2,958,000,000, were nearly 48 per cent of those of 1929. Income from major crops fell much more sharply than did the income from minor crops. Net farm incomes probably declined proportionately more than gross farm incomes in 1932 just as they did in 1931 and 1930, since production costs declined far less than prices of farm products.

The general level of prices paid to farmers at local farm markets for agricultural products was 52 per cent of the five-year pre-war average on Dec. 15, 1932 as compared with 66 per cent on Dec. 15, 1931. Estimates of average prices received by producers, Dec. 15, 1932, based on reports, were for corn 18.8 cents per bushel, wheat 31.6, oats 13, barley 19.3, rye 21.1, flaxseed 82.8, potatoes 36.8, and apples 61.7 cents per bushel; cotton 5.4 cents per pound, cottonseed \$8.87 per ton, and hay \$6.14 per ton. Hogs brought \$2.73 and sheep \$2.04 per 100 lbs., and beef cattle \$3.41 per cwt. Eggs were 28.1 cents per dozen, butter was 21.3 cents per pound, and whole milk wholesaled at \$1.26 per cwt. Wool and live chickens each sold for 9.2 cents per pound. Milk cows brought \$32 each, horses \$56, and mules \$61.

The value of all capital employed in agricultural production as of Jan. 1, 1932 totaled \$44,339,000,000, as compared with \$58,249,000,000 on Jan. 1, 1930, a decline of about 24 per cent. The farmers' equities in their property declined along with their current incomes so that their financial security as well as their standard of living was impaired. Values of farm real estate, reflecting severe declines in prices of farm products and purchasing power, registered new low levels. The acre value for all farm lands with improvements, averaged for the whole country, decreased from 106 per cent of the pre-war value to 89 per cent, during the year ended Mar. 1, 1932, compared with a 9 per cent drop in the year before. Values in two-thirds of the States were below pre-war levels. Foreclosures and tax-delinquent problems were intensified and forced sales were increased in number. The current decline in farm land values started from a relatively low level and not from a relatively high level. In a large measure the decline in farm land values after 1920, the first post-war slump, liquidated a wave of speculation, whereas the current decline reflected a writing down of values to correspond with a lower commodity price level.

**Credit.** Availability of farm credit of nearly all classes was at the lowest ebb in 1932 of any time in many years, according to the U. S. Department of Agriculture. Farm incomes from the production of 1931 dropped so low that country banks generally could maintain but a small fraction of their lending power and, moreover, had to stand the additional stress of the usual outflow of agricultural funds in mortgage interest, tax payments, etc. Agricultural distress affected the supply of mortgage credit, delinquent interest payments and a high foreclosure rate impressed mortgage lenders unfavorably, and special factors

in the investment market made matters worse. The life insurance companies had to meet an exceptional demand for policy loans; also, the value of their railroad and industrial securities declined drastically. Federal Land Banks and joint-stock land banks found the bond market unsatisfactory for the sale of additional securities. The credit stringency tended still further to lessen the earning power of the farmers, handicapping them in readjusting their crop programmes, and preventing the efficient utilization of feed and of labor time.

Relief in the credit situation was afforded by the Federal Government in several ways. It authorized production loans out of the relief appropriations remaining unexpended in 1931; it made additional provision for production loans in the Reconstruction Finance Corporation act; it amended the laws governing the operations of the Federal intermediate credit banks in such a manner as to increase their lending power; and it appropriated \$125,000,000 to increase the capital stock of the Federal land banks. Another measure authorized the Secretary of Agriculture to make loans from a \$10,000,000 revolving fund to assist individuals in organizing or enlarging agricultural-credit corporations and livestock loan companies. Other Federal legislation helped to relieve the farm credit stringency. The Reconstruction Finance Corporation helped agriculture through the relief it extended to banks generally. One of the most active factors in the year's agricultural financing was held to be the record amount of credit extended as crop production loans by this agency. A total of about \$65,000,000 up to Sept. 1, 1932, distributed in small loans throughout the country, brought direct financial aid to approximately 500,000 farmers.

**Mortgage Debt.** The mortgage debt bore down heavily upon the American agricultural industry in 1932. The total farm-mortgage debt in the United States rose from \$3,300,000,000 in 1910 to \$7,900,000,000 in 1920, and to \$9,500,000,000 in 1928, but since then it fell slightly, largely due to foreclosures. Interest and other costs on this mortgage debt in 1930 represented a fixed annual charge of \$568,000,000. The capacity to carry this charge declined greatly in the last two years, yet the charge remained about the same. In 1931, interest on the farm mortgage debt absorbed about 8 per cent of the gross farm income, compared with 4 per cent in 1920, and 3 per cent in 1910. In recent years an increasing number of farms have been mortgaged. The U. S. Department of Agriculture estimated that in 1930, 40 per cent of all farms were mortgaged. Its surveys showed that approximately 37 per cent of the mortgaged farms in the United States were indebted for more than half their value on Jan. 1, 1932. The largest proportion of farms with high debt ratios was found in the west north central States while the most favorable mortgage debt situation was in New England. Farms operated by owners showed a greater proportion of high debt ratio throughout the country than did farms of other tenure.

Farm mortgage loans were smaller in both total volume and average size in 1931 as compared with 1930, mortgage bankers in 17 western and southern States reported during the year. There were higher ratios of loans to value of farms, and more general use was made of the gradual payment system. Renewed loans represented a materially higher percentage (61.3) of

the value of mortgaged property than did new loans (39.4 per cent). Life insurance companies took 71.2 per cent of the total loans, less than in previous years, whereas a larger proportion of farm mortgages was bought by private investors and other local agencies. In September, 1932, farm mortgage loans by 40 life insurance companies aggregated \$1,395,000,000, a progressive decline from \$1,618,000,000 in 1927; by Federal Land Banks \$1,129,000,000 versus \$1,197,000,000 in 1929; by Joint Stock Land Banks \$454,000,000 versus \$667,000,000 in 1927; by banks of Federal Reserve System \$345,000,000, June 30, 1932 versus \$489,000,000, June 30, 1929; by Federal Intermediate Credit Banks—production and marketing loans for farmers' cooperative associations, \$19,000,000, and to financing agencies \$83,000,000, versus \$64,000,000 and \$66,000,000 in 1930; and crop production loans by the Reconstruction Finance Corporation amounted to approximately \$57,000,000.

**Taxes.** Farm property taxes for the whole country were during the last two years about 166 per cent higher than in 1914, yet there were clear indications of a continued decrease since 1929. With gross income down to the pre-war level, the tax load was extremely burdensome, although in a few States farmers received substantial relief. As in the case of the mortgage debt burden, its real weight was doubled by the fall in prices since 1929. In 1931 taxes on farm property absorbed about 11 per cent of the gross farm income, compared with only 4 per cent before the war. Increasing delinquency in the payment of real estate taxes in agricultural States and in cut-over forest areas was shown in recent reports by 30 State tax commissions.

The unfair tax burden on the farmers was attributed to increases in public expenditures and the failure of the tax system to allow for the post-war decline in farm incomes. The tax system, especially the so-called general property tax, discriminated against the farmer and the injustice was greater than a few years ago. Tax revision calls for substitutes for a substantial part of the general tax levy, although it appeared that attempts by States to draw large revenues from income taxes and excise taxes, the leading alternatives and the main reliance of the Federal Government, would necessitate coordination of Federal and State systems to avoid new inequalities. Reduction of farm taxes through reorganization of rural local government was considered an important possibility.

**Exports.** Exports of agricultural commodities, excluding forest products, in the year ended June 30, 1932, declined in value to \$752,141,000 or 28 per cent less than in the preceding year and, was the lowest since 1896-97. The percentage of agricultural products exported declined from 12.2 in 1928-29 and 10.2 in 1929-30, to 7.4 in 1930-31 and about the same in 1931-32. Exports of all the more important agricultural commodities, except cotton and wheat, declined in 1931-32. Exports of leaf tobacco and of meat and meat products each dropped 27 per cent. More barreled apples were exported, while exports of nearly all other fruits decreased. Exports of cotton rose from 7,180,000 bales of 500 pounds (including linters) in 1930-31 (fiscal year) to 9,131,000 bales in 1931-32; exports of cottonseed oil advanced to 41,038,000 pounds, and exports of wheat, including flour, increased slightly to 135,797,000 bushels in 1931-32.

**Imports.** The imports of principal agricultural products (excluding forest products and rubber) decreased in both volume and value, totaling in value \$783,475,000 in 1931-32, a decline of 28 per cent from 1930-31. The principal decreases in volume were in imports of wool, 31 per cent; oil cake and oil meal, 24; palm oil 30; and copra 21 per cent. Imports of flaxseed increased 77 per cent, those of olive oil increased slightly, and imports of silk, coconuts, and coffee declined slightly.

**Population.** The farm population in the United States showed the largest increase in 10 years, being estimated from U. S. Department of Agriculture surveys, as of Jan. 1, 1932, at 31,260,000, as compared with 30,612,000 on Jan. 1, 1931. The movement to towns and cities comprised 1,472,000 in 1931, while 1,679,000 persons went from cities to farms. When these movements and births and deaths were balanced, a net gain of 640,000 persons in farm population remained. Indications were that the farm population by Dec. 31, 1932, approximated 32,000,000 people, or close to the peak of 32,077,000 as of Jan. 1, 1910. Urban unemployment evidently was a significant factor in the change in the movement of population.

**LAND UTILIZATION.** The current depression emphasized further the need for a new land policy for American agriculture, Secretary of Agriculture Hyde called a national conference on land utilization which met in Chicago Nov. 19-21, 1931, to discuss the formation of a land-use programme. The conclusions reached at the conference, actions taken in 1932 by committees set up, and the widespread interest shown in many States, promised the replacement of this country's traditional policy of planless agricultural development with a comprehensive and thoroughly integrated programme of land utilization. This programme envisages a better economic utilization of the land resources, control of erosion, a far-sighted provision for future timber and public recreation needs, preservation of wild life, the gradual diversion to other purposes of lands submarginal for farming, guidance of proper enterprises in land settlement, and important adjustments in governmental organization in the distribution of local institutions and in local taxation and expenditures.

The national land-use planning committee and the national advisory and legislative committee on land use, since their initial meeting in February, 1932, made notable progress in defining objectives, formulating tentative policies, stimulating local interest in adequate land-use adjustments, and aiding in developing coordinated land-use planning programmes in individual States. At their meetings at Washington in November, 1932, the committees issued a statement condemning any wholesale, unguided back-to-the-land movement as the poorest possible solution of the unemployment problem, and reemphasizing the need for control and guidance of the movement by State and Federal agencies cooperating. A second statement called for immediate Federal regulation of grazing on unallotted and unserved public lands in the West, to check overgrazing, erosion, and damage to watersheds and irrigation districts. See also *Proceedings of the National Conference of Land Utilization*. (Washington, 1932.)

**CROP PRODUCTION IN 1932.** The area devoted to all crops harvested in the United States

in 1932, exclusive of fruits, was estimated to be 352,825,000 acres, about 1 per cent more than was harvested in 1931. There was a substantially lower production of crops raised for sale and much heavier production of feed crops than in 1930 or 1931. The leading cash crops, wheat, cotton, tobacco, and rice, showed the sharpest reductions, although the production of other cash crops, as flaxseed, rye, beans, and buckwheat, also was low, largely due to acreage reductions. Fruit production was below average due to adverse weather conditions, and the production of vegetables for commercial canning was the lowest for several years due to acreage reductions.

The 1932 production of feed grains was the largest since 1920, and the hay crop exceeded that of either 1930 or 1931. Outside of areas affected by drought, the total acreage of crops had been fairly stable during the last few years. Considering all crops, yields per acre on acreages harvested averaged 3.1 per cent above 1931, and 1.4 per cent below averages for the ten years 1919-1928. Due to drought, yields were below average chiefly in the Great Plains area and in an eastern area centring on Virginia. Reduction in the quantity of fertilizer used in the eastern and southeastern States appears to have tended to reduce the yields of cotton, potatoes, some vegetables, and some types of tobacco.

The preliminary estimate of the gross income from the 1932 crops was \$2,282,000,000 compared with \$2,764,000,000 in 1931, and \$3,808,000,000 in 1930. The total comprised grains, \$391,000,000; fruits and nuts, \$397,000,000; vegetables, \$632,000,000; sugar crops, \$67,000,000; cotton and cottonseed, \$397,000,000; tobacco, \$130,000,000; and other crops, \$268,000,000.

Wheat production in the United States was estimated at 726,831,000 bushels from 55,177,000 acres, a decrease of 19 per cent in production from 106,700 fewer acres than in 1931. The harvested acreage and the total production were for winter wheat 33,656,000 acres, 462,151,000 bushels; durum, 3,863,000 acres, 39,868,000 bushels; and other spring wheat, 17,658,000 acres, 224,812,000 bushels. The 1932 wheat production of 41 countries which produced about 75 per cent of the 1931 world wheat crop, exclusive of Russia and China, was officially estimated at a total of 2,979,416,000 bushels compared with 2,808,262,000 in 1931. The Canadian crop amounted to 431,200,000 bushels versus 304,144,000 in 1931. The 1932 production in 26 European countries was reported at 1,495,333,000 bushels, 4 per cent above the 1931 harvest. See WHEAT.

The corn crop in 1932, estimated at 2,908,045,000 bushels, exceeded the 1931 crop by 13 per cent and the 1930 crop by 41 per cent. Yields in 1932 were average or higher in all Corn Belt States, except Ohio and Nebraska, and mostly average or lower elsewhere. The total acreage, 107,729,000 was 2.3 per cent greater than in 1931, and the yield per acre averaged 27 bushels, compared with 24.4 in 1931. The production of corn for grain was estimated at 2,508,920,000 bushels, and the remainder of the crop was used for silage, fodder, hogging and grazing. Corn production in 19 foreign countries, reporting amounted to 851,215,000 bushels, compared with 761,133,000 in 1931. Eleven European countries reported a total of 708,407,000 bushels versus 605,547,000 in 1931. See CORN.

The 1932 oats crop was estimated to be 1,242,-

437,000 bushels, and harvested from 41,224,000 acres, compared with 1,117,970,000 bushels in 1931 from 39,800,000 acres. The acre yield averaged 30.1 bushels, 2 bushels more than in 1931. The production of oats in 31 countries accounting in 1931 for nearly all of the world total, excluding Russia and China, amounted to 3,437,362,000 bushels, compared with 3,086,263,000 in the previous year, and that of 24 European countries 1,676,660,000 bushels versus 1,537,361,000 in 1931. The Canadian crop was estimated at 419,556,000 bushels. See OATS.

The estimated total production of barley in 1932 was 299,950,000 bushels raised on 13,213,000 acres averaging 22.7 bushels per acre compared with 198,389,000 bushels on 11,419,000 acres averaging 17.4 bushels in 1931. The crop in 35 countries was reported to be 1,389,076,000 bushels, about 17 per cent above their 1931 production. The crop in 24 European countries reporting showed a total of 743,631,000 bushels, and in Canada 82,981,000 bushels. See BARLEY.

Rye production in 1932 rose to 39,855,000 bushels on 3,271,000 acres from 32,026,000 bushels on 3,060,000 acres in 1931. It averaged 12.2 bushels per acre in 1932 and 10.5 in 1931. The 1932 rye crop in 26 countries reporting, accounting for the greater part of the world production, except U.S.S.R. and China, was estimated to total 995,048,000 bushels against 815,481,000 bushels in 1931. Buckwheat production totaled 6,844,000 bushels from 464,000 acres, about 23 per cent less than in 1931, although on but 41,000 fewer acres. Rice made 39,356,000 bushels, on 869,000 acres, 15 per cent less production on 10 per cent smaller acreage than in 1931. See RYE, RICE.

The flaxseed crop in 1932 totaled 11,841,000 bushels from 2,087,000 acres as compared with 11,798,000 bushels and 2,416,000 acres in 1931. Feterita, kafir, milo, and other grain sorghums produced an estimated equivalent of 105,871,000 bushels from 7,850,000 acres, a slight increase over the year before. The portion of the acreage harvested for grain produced 65,053,000 bushels, 7 per cent less than in 1931. Broomcorn production, 33,300 tons from 284,000 acres, was one-fourth less than in 1931.

Production of sorghum (sorgo) sirup in 1932 amounted to 15,209,000 gallons; sugarcane sirup, 18,179,000 gallons, maple sugar, 1,601,000 pounds; and maple sirup, 2,394,000 gallons. The sugar beet crop of 1932 was estimated at 8,991,000 tons of beets from 768,000 acres, expected to produce more than 1,300,000 tons of sugar, against 7,903,000 tons of beets from 713,000 acres in 1931. The area of 217,000 acres of sugarcane in Louisiana was expected to produce 231,000 tons of sugar.

The hay crop, appreciably above that of either 1931 or 1930, was estimated to total 81,788,000 tons, of which tame hay made up 69,609,000 tons, and native or wild grasses 12,179,000 tons. The totals included alfalfa, 25,992,000 tons; clover and timothy, 26,033,000 tons; sweet clover, 936,000 tons; lespedeza, 343,000 tons; annual legume hay, 4,753,000 tons; grain hay, 5,162,000; sweet sorghum forage, 3,948,000 tons; and other hay crops, 6,390,000 tons. Larger yields of red and alsike clover seed, and smaller crops of seed of timothy, alfalfa, lespedeza, and sweet clover were reported in 1932. See HAY.

The potato crop was estimated at 356,589,000 bushels compared with 375,310,000 bushels in 1931; the average yield per acre 105.9 bushels

versus 111.2 in 1931. The Canadian crop was reported to be 69,575,000 bushels. Estimated production in 14 European countries producing about 77 per cent of the European crop, exclusive of U.S.S.R. (Russia), was 3,851,938,000 bushels compared with 3,764,294,000 bushels in 1931. The sweet potato crop was estimated to be 78,484,000 bushels; the peanuts harvested for picking or threshing at 1,002,080,000 pounds; cowpeas (except for hay), 11,007,000 bushels; and soy-beans (except for hay), 10,953,000 bushels. See POTATOES.

Tobacco production in 1932 was 1,033,330,000 pounds from 1,432,000 acres. The reduction of 29 per cent from the 1931 acreage was due almost entirely to a shift from cash to food and feed crops required by economic conditions. Decreases in production occurred in all classes. The flue-cured class was estimated to comprise 362,004,000 pounds of the total, 45 per cent less than in 1931; fire-cured, 127,679,000 pounds; Burley, 344,197,000 pounds; Southern Maryland, 22,750,000 pounds; dark air-cured, 41,960,000 pounds; cigar filler, 64,831,000 pounds; cigar binder, 62,387,000 pounds; and cigar wrapper, 6,825,000 pounds. See TOBACCO.

The cotton crop of the United States, according to December 1 estimates, was 12,727,000 bales, considerably less than the 17,096,000 bales grown in 1931, and the cotton was harvested from 37,589,000 acres compared with 40,693,000 acres in 1931. The yield of lint per acre averaged 162.1 pounds in 1932 and 201.2 in 1931. Exports of cotton during the cotton year ended July 31, 1932, totaled 8,707,548 bales compared with 6,759,927 in the previous year. Japan, United Kingdom, China, and Italy were the major consuming countries that greatly increased their imports. See COTTON and articles on other individual crops.

**FEDERAL FARM BOARD.** The board, in 1932, continued to devote most of its efforts to aiding producers to develop a strong cooperative marketing system under the mandate of the Agricultural Marketing Act of 1929. Further progress was made in the creation of new associations, in strengthening existing conditions, and in maturing their organization under the test of severe business depression. However, in the board's opinion, no system of organization would have been adequate to offset the drastic decline in demand for farm products, which characterized the year and largely masked the benefits of cooperative efforts. Stabilization purchases had been suspended before the beginning of the past year. Stabilization sales programmes during the year were carried on so as not to depress domestic prices, but instead to support them as far as possible. The results of this policy were particularly successful with wheat. Although over half the accumulated stabilization supplies were disposed of, here or abroad, farm prices for the 1931 crop were maintained well above their usual relation to prices on world markets.

**Cooperative Marketing.** Cooperative marketing made continued success in the fiscal year 1931-1932, the active membership in the various cooperative associations (eliminating duplication) comprising nearly 2,100,000 or more than one-third of all the farmers in the United States. Many new regional and State associations were formed for livestock, dairy products, poultry and poultry products, tobacco, seeds, and fruits

and vegetables, and many new cooperative projects were taken up.

Cooperatives, as a group, were able to make important contributions to the effective marketing of farm products during the year. These included the aiding of weak price situations by orderly marketing of standard products; providing outlets for farmers in hundreds of communities where no market existed because dealers either suspended operations, or were buying at ruinously low prices; marketing products by grades, and payment of premiums for superior quality; reductions and savings in operating costs; provision of financial facilities to their members; and leadership in the development of industry cooperation.

The quantity of products handled by cooperative associations increased by about 15 per cent during the year, but the value decreased from \$2,400,000,000 in 1930-31 to \$1,025,000,000 in 1931-32, due to the decline in prices of farm products. The total volume handled by cooperative groups in 1931 was estimated to approximate 14,000,000 head of livestock; more than 9,000,000,000 pounds of milk, about one-half of the consumption; 35 per cent of the creamery butter, 25 per cent of the cheese, and 28 per cent of the milk powder produced; wool 124,000,000 pounds, over 30 per cent of the clip; mohair 11,446,000 pounds, 60 per cent of the production; cotton, 2,521,169 bales, about one-sixth of the 1931-32 crop; and grain, 185,000,000 bushels (in 1931-32), handled by cooperatives at terminal markets, about one-sixth of the commercial movement. Cooperation reached significant proportions among producers of many types of fruits, vegetables, and nuts, the business of cooperatives handling these products in the 1931-32 marketing season totaling about \$291,000,000.

Up to June 30, 1932, the board loaned to cooperatives from the revolving fund for acquiring or constructing facilities, \$14,893,518 of which \$1,308,932 was repaid; for effective merchandising, \$181,441,439 of which \$102,819,158 was repaid; and on commodity advances \$160,576,469, reduced by repayments of \$82,682,474. Of the \$101,103,169 loaned to cooperative associations during the fiscal year 1931-32, loans were approved to new organizations, totaling \$1,561,690. Loans to cooperatives for all purposes exceeded \$100,000,000 in each of the three years of the board's operation, totaling \$356,969,627; and repayments were large, amounting to \$186,848,766 up to June 30, 1932.

In addition to its direct loans, the board continued to assist cooperative associations by organization surveys, and by aid in improving methods of operation and management, in developing sound marketing policies, and sales programmes and in improving the quality of services rendered.

The future development of cooperative marketing, the board indicated, must be along the lines of creating new associations where none now exist; bringing about fuller utilization of the marketing services offered by existing organizations; and increasing the effectiveness of the services rendered, both through improvements in the operation of individual associations, and through their coordination or merger into larger units for more efficient functioning. Much also remained to be done to develop active control of marketing organizations by the individual producers served.



**Stabilization Operations.** No further stabilization purchases were made by the Federal Farm Board in view of the large stocks already accumulated and the limited ability of stabilization to correct effects of prolonged economic depression. Attention was centred on disposing of stocks already owned so as to least affect prices for current production. More than half of the wheat supplies were disposed of, while in cotton, reductions in acreage helped to clear the way for subsequent disposition of stabilization stocks.

The disposition of wheat stocks accumulated in earlier efforts to maintain prices, went far toward completion during the year. By July, 1932, stabilization stocks had been reduced by export sales, 40,000,000 bushels; sales to China, Brazil, and Germany, 47,500,000; net sales in domestic markets, 20,000,000; transfer to Red Cross, 40,000,000; making a total of 147,500,000 bushels. Unsold stocks on July 1, totaling 108,000,000 bushels, included 36,000,000 bushels of futures and 72,000,000 bushels of cash wheat. Congress, in giving 45,000,000 bushels belonging to Grain Stabilization Corporation to the Red Cross, in July, 1932, reduced unsold holdings to 63,000,000 bushels, of which only 28,000,000 were cash wheat. By Sept. 5, 1932, most of these stocks had been sold, leaving only 3,000,000 bushels of cash wheat and 38,686,000 bushels of futures owned by the Stabilization Corporation. Under terms of a loan commitment given by the Reconstruction Finance Corporation early in September, these supplies were withdrawn from sale until after Jan. 1, 1933. The net cash gains to wheat producers as a result of stabilization operations up to June 30, 1932, were conservatively estimated at \$160,000,000 or \$6,000,000 in excess of the estimated cost of wheat stabilization operations at that date.

Activities in cotton stabilization during the year were confined to withholding from the market cotton already on hand. No further purchases of cotton were made by the Stabilization Corporation during the 1931-32 marketing season, and none was added to the unhedged stocks in hands of coöperative marketing associations. The board, however, did assist coöperatives to finance the handling of the 1931 crop. On May 2, the board authorized the Stabilization Corporation to sell, not to exceed 650,000 bales of its current holdings in the cotton year beginning Aug. 1, 1932, making efforts to distribute sales throughout the season without disturbing markets or price levels. Gradual liquidation of the stabilization stocks as authorized was begun during August. Prices of cotton and of other products began a continuous rise, which appeared to mark the beginning of revival from the bottom of the depression. To help maintain this improvement and to lessen competition between sales of the stabilization stocks and the new crop, arrangements, announced September 5, were made with the Reconstruction Finance Corporation to partially refinance the stocks of the Stabilization Corporation and the American Cotton Coöperative Association until March, 1933. In July, 1932, Congress turned over to the Red Cross 500,000 bales of stabilization cotton for relief purposes.

The Cotton Stabilization Corporation on July 31, 1932, owned 1,308,732 bales of cotton, worth \$42,523,912 at current prices or \$85,051,578 less than the sums invested in cotton stabilization.

Thereafter, cotton prices advanced and more than 300,000 bales were sold at higher prices. Similarly, the spot and future cotton from the 1929 and 1930 crops, which coöperatives were withholding from sale, totaling 1,825,202 bales on July 31, 1932, were valued at \$58,025,108 at current prices, or \$62,934,212 less than the sums invested.

Reviewing its experience with stabilization, the board concluded that no measure for improving the price of farm products other than increasing the demand of consumers can be effective over a period of years unless it provides a more definite control of production than has been achieved so far. In a few limited and specialized lines, coöperative associations have made progress toward such control. For the great staple products, however, the problem still remains for future solution.

**Other Activities.** Its experience during three years in administering the Agricultural Marketing Act led the board to recommend to Congress on Dec. 7, 1932, legislation to modify the stabilization sections of the agricultural marketing act so as to provide some means of elevating the returns to farmers from the production of exportable farm products, in such a way as to pay the costs, if any, on a continuous and self-sustaining basis, and to provide an effective system for regulating acreage or quantities sold, or both; to definitely authorize the board to make loans to associations engaged in the coöperative purchase of equipment and materials for farm production; and to place the board's services to coöperatives, financial and otherwise, on a permanent and self-sustaining basis.

The board also worked with other agencies, particularly the U. S. Department of Agriculture and the several States, in assisting coöperatives to secure adaptation of production to marketing needs, and aided the Department of Agriculture in developing a land utilization programme. It also maintained its usual coöperation with various agencies interested in developing the coöperative organization programme. The staff was reorganized after July 1 to correlate services, expedite the examination of loan applications, and increase the effectiveness of research and coöperative organization work.

The annual meeting of the American Country Life Association held at Oglebay Park, Wheeling, W. Va., Oct. 14-16, 1932, considered among other topics in its several assemblies the agricultural extension system, adult education by religious organizations, the cultural arts, rural adult education through the schools, extension of library service, and regional planning and adult education.

Consult also *Third Annual Report of the Federal Farm Board for the Year Ending June 30, 1932; Recommendations for Legislation: Special Report to Congress* (Federal Farm Board, 1932); *Coöperative Marketing Makes Steady Growth*, (Federal Farm Board, Bul. 8, 1932).

**WORLD AGRICULTURE:** *British Imperial Economic Conference.* Seven of the 12 new Imperial commercial agreements, concluded at the conference held at Ottawa, July 21 to Aug. 20, 1932, and later ratified, were between the United Kingdom and the several Dominions, and the remaining five were inter-Dominion agreements. However, the British market, rather than Dominion markets, is of major importance as an outlet for American agricultural exports. On the basis of



PRODUCTION REPORTED BY COUNTRIES IN 1931 AND 1932 OF WHEAT, RYE, OATS, BARLEY, AND MAIZE (CORN) IN BUSHELS \*  
[International Institute of Agriculture and U. S. Department of Agriculture]

Country	Wheat		Rye		Oats		Barley		Maize (corn)	
	1932	1931	1932	1931	1932	1931	1932	1931	1932	1931
United States	726,831,000	800,219,000	39,855,000	32,026,000	1,242,437,000	1,117,970,000	299,950,000	198,389,000	2,908,045,000	2,587,306,000
Canada	431,200,000	304,144,000	9,937,000	5,322,000	419,556,000	348,795,000	82,981,000	67,383,000	5,426,000	5,665,000
Mexico	8,921,000	16,226,000	.....	.....	.....	.....	.....	.....	.....	75,962,000
Argentina	219,698,000	235,960,000	9,744,000	4,129,000	69,280,000	60,983,000	22,124,000	14,000,000	284,826,000	419,661,000
Chile	21,187,000	21,190,000	82,000	120,000	4,923,000	5,109,000	3,097,000	3,876,000	.....	2,707,000
Austria	13,007,000	11,009,000	23,853,000	18,931,000	31,312,000	22,877,000	13,862,000	9,948,000	4,803,000	4,990,000
Hungary	58,593,000	72,550,000	32,203,000	21,672,000	19,510,000	13,368,000	32,496,000	21,867,000	95,894,000	59,749,000
Czechoslovakia	53,736,000	41,232,000	85,661,000	54,631,000	114,628,000	84,368,000	69,121,000	49,356,000	12,176,000	8,965,000
Belgium	15,099,000	13,817,000	20,078,000	20,483,000	47,790,000	48,384,000	4,308,000	3,552,000	.....	.....
Bulgaria	50,553,000	61,195,000	10,186,000	12,072,000	7,777,000	8,605,000	14,102,000	16,560,000	41,511,000	39,256,000
Denmark	10,656,000	10,053,000	8,661,000	8,405,000	72,338,000	64,450,000	45,470,000	43,973,000	.....	.....
England and Wales	40,619,000	35,887,000	.....	.....	85,540,000	86,793,000	34,818,000	36,029,000	.....	.....
Estonia	2,075,000	1,738,000	6,606,000	5,820,000	8,747,000	11,296,000	7,487,000	5,918,000	.....	.....
Finland	1,260,000	1,161,000	13,641,000	11,792,000	45,539,000	45,886,000	7,487,000	6,480,000	.....	.....
France	331,357,000	264,116,000	35,188,000	29,519,000	353,383,000	316,288,000	53,680,000	47,732,000	17,912,000	24,623,000
Germany	186,827,000	155,545,000	329,273,000	262,892,000	462,032,000	427,482,000	147,961,000	138,622,000	.....	5,371,000
Greece	19,474,000	11,228,000	1,378,000	1,800,000	6,200,000	5,274,000	11,483,000	9,146,000	.....	76,155,000
Italy	276,127,000	244,732,000	6,400,000	6,521,000	41,805,000	39,467,000	11,537,000	11,082,000	110,544,000	.....
Latvia	5,084,000	3,388,000	11,895,000	5,615,000	21,705,000	23,611,000	8,694,000	8,809,000	.....	.....
Lithuania	9,359,000	8,340,000	20,808,000	16,282,000	26,940,000	28,065,000	10,173,000	10,845,000	.....	.....
Luxembourg	496,000	407,000	413,000	336,000	3,514,000	2,721,000	276,000	286,000	.....	.....
Netherlands	13,694,000	6,751,000	13,660,000	14,167,000	20,916,000	19,784,000	2,710,000	3,274,000	.....	.....
Norway	785,000	592,000	527,000	378,000	13,282,000	9,494,000	5,578,000	4,207,000	.....	.....
Poland	55,888,000	83,220,000	252,399,000	224,504,000	163,863,000	159,199,000	70,607,000	67,781,000	15,976,000	17,543,000
Portugal	18,138,000	12,999,000	6,411,000	5,070,000	7,355,000	6,331,000	2,398,000	2,025,000	218,771,000	238,704,000
Rumania	73,486,000	135,299,000	12,992,000	13,962,000	52,360,000	46,175,000	82,216,000	64,964,000	.....	124,325,000
U. S. R. <sup>b</sup>	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Spain	178,499,000	134,426,000	23,780,000	21,103,000	53,639,000	41,670,000	127,267,000	90,724,000	26,384,000	26,389,000
Sweden	25,830,000	18,048,000	17,328,000	11,745,000	77,506,000	69,767,000	10,105,000	10,716,000	.....	114,000
Switzerland	5,647,000	5,489,000	1,488,000	1,402,000	2,342,000	2,308,000	597,000	569,000	106,000	126,111,000
Yugoslavia	53,462,000	98,789,000	8,034,000	7,614,000	17,563,000	18,242,000	17,765,000	18,000,000	177,943,000	.....
British India	836,971,000	347,387,000	.....	.....	.....	.....	.....	.....	.....	.....
Korea	8,305,000	8,340,000	.....	.....	.....	.....	44,086,000	41,862,000	.....	.....
Japan	32,533,000	90,892,000	.....	.....	.....	.....	80,055,000	76,522,000	.....	.....
Syria and Lebanon	11,942,000	13,929,000	.....	.....	934,000	711,000	10,592,000	14,193,000	1,024,000	1,303,000
Algeria	29,982,000	25,649,000	55,000	37,000	8,130,000	8,212,000	29,097,000	27,069,000	252,000	238,000
Egypt	52,568,000	46,072,000	.....	.....	.....	.....	12,067,000	9,694,000	75,704,000	69,886,000
Morocco (French)	21,965,000	29,967,000	.....	14,000	1,591,000	1,660,000	37,254,000	59,032,000	.....	5,326,000
Tunis	14,697,000	13,962,000	.....	.....	1,929,000	2,274,000	15,616,000	8,268,000	217,000	197,000
Australia	189,653,000	213,594,000	.....	.....	49,604,000	41,115,000	552,000	.....	.....	.....
New Zealand	6,583,000	7,580,000	.....	.....	3,473,000	4,115,000	.....	873,000	58,146,000	57,171,000
Union of South Africa	14,122,000	9,297,000	.....	.....	5,920,000	.....	.....	.....	.....	.....

\* The production given countries of the Southern Hemisphere is for the crop years 1931-32 and 1930-31    <sup>b</sup> Average 1926-30.

information in official summaries made public, the chief items affected by various tariff preferences in the treaties, of significance to the United States from the viewpoint of direct competition in the British market, were wheat, apples, oranges, grapefruit, raisins, prunes, and bacon and hams. Some other agricultural items of a type that the United States exports more or less, also figured in the agreements. Tobacco was not involved except as the current substantial preferences to Empire producers were guaranteed for a period of years. (See also *Foreign Crops and Markets*, vol. 25 (1932) No. 12, pp. 404-423.)

*Canada.* The agricultural situation in Canada in 1932 was epitomized editorially in *The Country Guide* (Winnipeg) for November.

With wheat prices the lowest in 50 years; with beef, pork, lamb and mutton prices ruinously low and steadily declining, with butter and egg prices below production costs, with tax arrears, interest arrears and debts steadily mounting, the agricultural industry is in an extremely bad way. Not only is Canada's major industry facing ruin, but the lack of farm purchasing power is the direct cause of business stagnation throughout the country with a rising tide of unemployment and huge deficits being faced by municipalities, provincial governments and even by the Federal government. . . . Here in Canada the situation in the main is due to world-wide conditions. Looking at it from the purely domestic standpoint, however, it is due chiefly to the fact that farm prices have declined to a degree and with a rapidity out of all proportion to the decline in the prices of those commodities and services which the farmer has to buy in order to carry on his business. Agriculture could still carry on at the present prices of farm products if taxes, debts and interest and the price of everything the farmer has to buy had declined in the same proportion.

See CANADA under *Production and History*.

*Great Britain.* The plight of farmers in England was described as resembling that of American farmers. Although less than 30 per cent of English food was home-grown and the government had provided such artificial aids as the wheat quota, price fixing, and tariff duties on certain products, prices were demoralized, and farmers were operating at a loss, getting deeper into debt, and thousands were forced into bankruptcy and off the land. The under-development of agriculture in Great Britain was attributed mainly to unremunerative prices, a higher rate of wages than the land could carry, and shortage of capital. See GREAT BRITAIN under *Production*.

*Germany.* The agricultural situation in 1932 in Germany and the United States was reported to show several identical features including inadequate money returns, mortgaged farms, the outcry against interest rates and the middlemen, and the clamor for special protection. The situation in Germany was aggravated by the abundance of small peasant holdings with only a narrow margin between a living and acute physical distress, and, on the other hand, by the survival of a considerable number of gentlemen's estates—commonly unprofitable. The German situation was also most notably differentiated from the American agricultural problem by the political weight of the Reich's agrarian interests, a weight actually in excess of the agricultural vote.

*U.S.S.R. (Russia).* Agricultural production in Russia in 1932 seemed likely to fall far short of the official plans for the season, according to a review of current developments by the U. S. Department of Agriculture. Prospects were for another relatively short wheat crop. Cotton production might exceed that in 1931, but a slower

rate of increase compared with other recent years seemed probable. An unfavorable season, mechanical and management difficulties, and lack of incentive on the part of producers, were the principal weak spots in the current agricultural situation. See UNION OF SOVIET SOCIALIST REPUBLICS under *Production*. See also *Foreign Crops and Markets*, 25 (1932) No. 13, pp. 446-466.

*Foreign Agricultural Price-Supporting Measures.* That government intervention for the purpose of enabling farmers to obtain higher and more dependable prices for their products has been an outstanding feature of the world agricultural situation in recent years, was indicated in a U. S. Department of Agriculture report issued during the year. Since the World War, however, and particularly during the last three or four years, the trend toward a wider application of price-supporting measures had been especially marked; and since the onset of the world economic crisis in 1929 (of which the agricultural phase has been so prominent), there was scarcely a single country which did not engage in direct or indirect activity for the support of prices of home-grown products. As a result, the world's agriculture was operating under the impact of a greater variety and a more widespread application of artificial price-supporting measures than ever before in modern times. These measures comprised various restrictions imposed on imports, aids to branches of agriculture on an export basis, aids in the form of measures designed directly or indirectly to regulate exports, and production bounties and premiums, and other aids granted directly to the producer.

The effects, as well as the technique, of the measures applied with wheat and other farm products, directly concerned producers in the United States. The report pointed out that all such aids to agricultural export, whether applied to products of the type that the United States exports, as wheat and tobacco, or to those of the type that she imports but also produces, as wool and sugar, cannot but tend to lower prices received by producers in the United States. The Danubian grain monopolies and controls of recent date and the joint efforts of these countries to secure preference for their grain in European importing countries; the Canadian and Australian wheat bonuses; the Australian, South African, and Chilean export bounties on a range of agricultural products; and the many other foreign bounties and premiums on the production or exportation of crops such as are grown in the United States; all tend to intensify foreign competition with American agriculture.

*International Institute of Agriculture.* The general assembly of the institute, with delegates from 42 nations, met at Rome, Oct. 17, 1932. Problems of world agriculture were discussed, the delegates agreeing with the view expressed by the president of the assembly Sir Bhupendra Nath Mitra, High Commissioner of India in London, that current distressing conditions in agriculture could be remedied only by common action among the countries of advanced civilization. The thought stressed by several was that it was imperative at this time to keep open the channels of international communication and consultation, of which the institute was held to be the most effective as far as agriculture is concerned. The first publications of the world agri-

cultural census, carried out under the institute's leadership, covered the Irish Free State and Estonia.

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**AGRICULTURE, U. S. DEPARTMENT OF.** The report of the Secretary of Agriculture for the fiscal year ended June 30, 1932 dealt with activities and conditions during the past year rather than with prospects and developments in the future. The agricultural situation in general and its relation to farm incomes, commodity prices, land values, taxation, credit, and exports and imports of farm products were summarized and a discussion of scientific research as the basic task of the Department and pointing out that agricultural research lowers production costs, reduces waste, widens markets, finds new uses, adjusts production to demand, and improves quality was presented. It was shown further that among numerous lines of effort the services growing out of this research include foreign agricultural service, Federal standards and grades, crop estimates, services in home economics, extension and information, seed verification, and meat inspection. The more outstanding achievements of the Department resulting from its research activities, especially during recent years, were enumerated and treated in the light of their direct value to the farmer and their importance to the consuming public.

The expenditures and obligations of the Department of Agriculture for the fiscal year 1932 aggregated \$306,400,098 distributed as follows: Road construction \$212,421,775, emergency relief loans \$10,806,829, payments to the States for the support of agricultural experiment stations, extension work and cooperative forestry activities including fire prevention \$16,040,465, and for the ordinary activities of the Department \$67,131,029 of which only \$30,758,947 was of benefit primarily to agriculture. The amount for road construction included \$188,660,236 paid to the States for Federal-aid highways (see ROADS AND STREETS). A classification of the year's outlay by types of activity showed that \$22,563,863, or 7.4 per cent, was used for research, \$11,202,584, or 3.6 per cent, for extension work, \$12,118,145 or 4 per cent, for the eradication or control of crop and animal pests, \$11,996,034, or 3.9 per cent, for regulatory work, \$36,662,646, or 12 per cent, for public service activities, and \$211,856,826, or 69.1 per cent, for road construction excluding \$76,135 for highway service activities included in the preceding item. An analysis of these expenditures reveals that over four-fifths went to the general public rather than to agriculture, and only about one-tenth to the ordinary activities of the Department primarily for the benefit of the farm and the farm home. More than two-thirds of the

total was allocated to the States. Permanent savings for the year amounting to \$4,665,200, made in carrying on the ordinary activities by reducing pay roll, travel and supply expenses, by curtailing and postponing certain lines of work and by readjusting the programme of action in Washington and in the field, and unexpended balances approximating \$7,902,000 accrued on appropriations for loans, roads, and other purposes were turned back into the Treasury.

Numerous changes in the personnel were recorded for the calendar year. Those affecting positions of leadership were the appointments of Dr. S. O. Fladness in charge of interstate transportation of livestock, Packers and Stockyards Division of the Bureau of Animal Industry, to the position of assistant chief of the Field Inspection Division of the bureau made vacant by the death of Dr. W. P. Ellenberger late in 1931; of Dr. R. Snyder as the successor of Dr. S. O. Fladness in his former position and of Dr. H. W. Schoening as chief of the Pathological Division. Dr. Albert Hassall assistant chief of the Zoological Division was retired after a service of forty-four years in the bureau. H. W. White was appointed head of the Division of Truck-crop and Garden Insects of the Bureau of Entomology. R. M. Reese for many years chief clerk and later real estate officer of the Department and A. Zappone disbursing officer since 1905 were retired after the close of the fiscal year. Among the deaths recorded were those of Dr. N. A. Cobb, chief of the Division of Nematology of the Bureau of Plant Industry, and an outstanding authority on the group of worms known as nematodes or nemas; H. H. Barrows assistant chief of the Bureau of Agricultural Engineering, and W. C. Holmes of the Bureau of Chemistry and Soils, an expert in the synthesis of biological stains.

On July 1, 1932, the library of the Department including eleven branch libraries in various bureaus and offices contained 234,265 volumes including 18,200 books, pamphlets, and maps added during the fiscal year just closed. The periodicals received by purchase, gift, and exchange numbered 4250, and the books and periodicals sent to the Government Printing Office for permanent binding, 4755.

Two pavilions or wings of the new six-story office and laboratory building of the Department officially designated as the South Building were completed and occupied during the year. Contracts for the erection of the remaining five pavilions to be completed in two years were let and the work of construction begun.

**AIR-CONDITIONING.** See ELECTRICAL INDUSTRIES; ELECTRIC TRANSPORTATION.

**AIRCRAFT CARRIERS.** See NAVAL PROGRESS.

**AIRPLANES.** AIR RECORDS, AIRSHIPS, ETC. See AERONAUTICS.

**AKRON.** THE UNIVERSITY OF. A coeducational institution of higher learning in Akron, Ohio, founded in 1870 as Buchtel College and taken over by the city and renamed in 1914. The enrollment for the summer session of 1932 was 303 students and for the autumn day session, 1248 students, distributed as follows: College of liberal arts, 572; home economics department of liberal arts, 60; teachers college, 250; college of engineering and commerce, 366; 790 students were enrolled in the autumn evening session.

There were 84 faculty members. The amount of endowment was \$141,114 and the income for the year, including tax levy from the city, \$417,524. There were 32,224 volumes in the library. Among the important gifts received during the year was a \$50,000 bequest from the will of Isabel McRoy Pixley, wife of Frank Pixley, class of 1887. President, George Frederick Zook, Ph.D., LL.D.

**ALABAMA.** POPULATION. According to the Fifteenth Census, the population of the State on Apr. 1, 1930, was 2,646,248, as against 2,348,174 in 1920. The capital is Montgomery, which had, in 1930, 66,079 inhabitants. Birmingham had (1930) 259,678.

**AGRICULTURE.** The following table gives the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod. Bu.	Value
Cotton ...	1932	3,159,000	930,000 <sup>a</sup>	\$29,295,000
	1931	3,397,000	1,420,000 <sup>a</sup>	40,044,000
Corn .....	1932	3,224,000	37,076,000	18,347,000
	1931	3,042,000	42,588,000	18,313,000
Hay ...	1932	679,000	483,000 <sup>b</sup>	3,384,000
	1931	614,000	478,000 <sup>b</sup>	4,268,000
Sweet potatoes .	1932	101,000	8,585,000	5,409,000
	1931	78,000	5,070,000	4,462,000
Peanuts ..	1932	466,000	242,320,000 <sup>c</sup>	2,908,000
	1931	382,000	229,200,000 <sup>c</sup>	4,355,000
Potatoes .	1932	36,000	2,484,000	2,087,000
	1931	39,000	3,666,000	2,530,000

<sup>a</sup> Bales. <sup>b</sup> Tons. <sup>c</sup> Pounds.

**MINERAL PRODUCTION.** The production of coal, normally furnishing the greater part of the total yearly value of the State's primary output of minerals, was further and sharply reduced in 1931, attaining only 11,620,000 short tons, as against 15,570,058, in value \$31,616,000, for 1930. The production of coke from the State's by-product ovens fell conformably in quantity to 2,943,143 short tons for 1931, from 3,986,920 for 1930; and in value to \$8,023,595 for 1931, from \$10,741,937 for 1930. There were produced in 1931 but 3,529,997 long tons of iron ore, as against 5,637,678 in 1930; in value, \$6,155,995 for 1931 and \$11,015,336 for 1930. Similarly, shipments of pig iron from the blast furnaces of the State again fell sharply, to 1,617,331 long tons for 1931, from 2,294,513 for 1930; and in value, to \$20,024,541 for 1931, from \$31,083,905 for 1930. The cement industry was less affected: shipments from the cement plants fell moderately to 4,476,400 barrels for 1931, from 4,689,516 for 1930; in value, to \$5,283,085 for 1931, from \$5,829,818 for 1930. Lime production was in reduced quantity, 139,000 short tons (estimated) for 1931 as against 164,822 for 1930; and of lower total value, \$758,000 for 1931 (estimated), as against \$929,302 for 1930. The value of the State's clay products was, for 1930, the latest year of available figures, \$2,295,334; for 1929, \$4,001,633. There was quarried in 1930 stone to the quantity of 967,320 short tons and to the value of \$2,111,340. The total value of the State's mineral product was \$55,461,985 for 1930 (duplications eliminated); for 1929, \$65,402,354.

**FINANCE.** State expenditures in the year ended Sept. 30, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments \$22,585,350 (of which \$7,130,950 was for local education); for conducting public-service enterprises, \$695,107; for interest on debt, \$4,402,251;

for permanent improvements, \$8,836,729; total, \$36,519,437 (of which \$9,156,680 was for highways, \$1,918,009 being for maintenance and \$7,238,671 for construction). Revenues were \$31,359,822. Of these, property and special taxes furnished 31.1 per cent; departmental earnings and compensation to the State for officers' services, 10.8; sale of licenses, 34.1 (in which was included a gasoline sale tax that produced \$3,484,040). Funded debt outstanding on Sept. 30, 1931, totaled \$66,535,336, of which \$42,859,000 was for highways. There were no sinking-fund assets against the total debt. On an assessed valuation of \$1,206,610,465 the State levied in the year ad-valorem taxes of \$7,842,968.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 5256.20.

**EDUCATION.** Great efforts were made during the summer, by the Alabama Education Association (the teachers' organization), with the aid of the State Department of Education, to win support through a speaking campaign, for measures to increase failing school revenues. For 1932 the number of persons of school age in the State was reported as 897,473. There were in that year 639,859 enrolled pupils. Of these, 504,029 were in grades from the first to the sixth, inclusive. In grades from seventh to twelfth, inclusive, were 135,180. The total expenditure for public-school education, in the year 1931, was \$21,495,577. Salaries of teachers averaged, by the year, \$609 for elementary positions and \$1041 in the high schools; for both groups together, \$734.

**CHARITIES AND CORRECTIONS.** The central authority of the State over institutions of care and custody, in 1932, was the Board of Administration. Although entitled a board, it was composed of but one member, styled a Director (William F. Feagin). It was charged with the duty of making all purchases for the State, it administered the State insurance fund, and it exercised management and control over the penitentiaries. These included a State farm, at Attmore, reported in December as having a population of 1150 white and colored males; Kilby Prison, Montgomery, 1504 white and colored males, and 12 colored females; Number Four Prison, Montgomery, 565 white and colored males; Speigner Prison, Speigner, 656 white and colored males; Wetumpka Prison, Wetumpka, 29 white and 146 colored females; a hospital at Wetumpka, 77 males; nine road camps at divers locations, containing 1070 colored males.

Hospitals for the insane, the Bryce Hospital at Tuscaloosa and the Searcy Hospital at Mount Vernon, were under a single self-perpetuating board of seven trustees. A board of control chosen chiefly by districts conducted the Jefferson Manley Faulkner Soldiers' Home at Mountain Creek. Under other separate boards were a Reform School (colored), the Partlow State School (mental defectives), a State Training School for Girls, at Pinson, the Alabama Boys' Industrial School, at Birmingham, and the Alabama School for the Deaf, at Talladega.

**LEGISLATION.** A Special session of the State Legislature was convened in August at the call of Governor Miller, to deal with financial needs. It voted the proposal to the vote of the people at the November election of a constitutional amendment to create a State income tax and also effected a series of economies in State expenditure.

**POLITICAL AND OTHER EVENTS.** A tornado of unusual severity caused much devastation in its track through the northern part of the State on March 21, causing 269 deaths in Alabama as well as 37 in Georgia and smaller numbers in Tennessee, South Carolina, and Kentucky. It was estimated to have injured some 2500 persons and to have destroyed the homes of 7000. Aid to the sufferers was supplied by the American Red Cross. The State Supreme Court upheld on March 24 a sentence of death upon seven Negro youths who had been found guilty under the law against the crime of rape, declaring them to have been fairly tried. The case, as it involved two young white women who had been riding on freight trains, was widely criticized outside the State, as being an extreme expression of the white racial sentiment, and formed a subject of agitation in some foreign countries. Appeal was taken to the Federal Supreme Court, partly on the ground that Negroes had been excluded from the jury; the Court declared a mistrial on the ground that the defendants' right to counsel had been infringed.

The State Public Service Commission issued a stringent order, similar to that issued somewhat earlier in Wisconsin, requiring utility companies to set up reserves to protect their capital in priority to dividends, and obliging them to make ample allowances for yearly depreciation of machinery. Hugo L. Black gained the Democratic nomination for United States Senator at the May primaries, and a delegation in favor of Franklin D. Roosevelt was sent to the Democratic National Convention.

**ELECTIONS.** Hugo L. Black was reelected United States Senator on November 8. The voters rejected a proposed constitutional amendment to provide a State income tax and another amendment to authorize a debt-funding bond issue of \$20,000,000.

For President, the popular vote was: Roosevelt (Dem.), 207,910; Hoover (Rep.), 34,675.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, B. M. Miller; Lieutenant-Governor, Hugh D. Merrill; Secretary of State, Peter B. Jarman, Jr.; Treasurer, Sidney H. Blan; Auditor, John Brandon; State Superintendent of Education, A. F. Harman; Attorney-General, Thomas E. Knight, Sr.

**Supreme Court:** Chief Justice, John C. Anderson; Associate Justices, William H. Thomas, A. B. Foster, Lucien D. Gardner, Virgil Bouldin, Joel B. Brown, Thomas E. Knight, Sr.

**ALABAMA, UNIVERSITY OF.** A coeducational State institution for higher learning at University, Ala., founded in 1831. For the autumn term of 1932 the enrollment was 4408; the summer school registration was 1847. The faculty for 1932-33 numbered 200. The productive funds of the university amounted to \$3,228,842 and the income for the year was \$1,020,584. The library contained about 75,000 volumes, of which 20,000 were government documents. President, George H. Denny, Ph.D., LL.D.

**ALASKA.** A territory of the United States, the most extensive of the noncontiguous territories and possessions under the American flag. It forms a peninsula at the northwestern extremity of the North American Continent. Its total area is 586,400 square miles. The capital is Juneau. The population, according to the Fifteenth Census, was 59,278 in 1930; in 1920 it was 55,036.

**GEOLOGY.** Progress was made during 1932 with the United States Geological Survey's examination of the Anthracite Ridge coal basin, in south-central Alaska, on the northern side of the Matanuska River valley, some 200 miles north of Seward. This coal basin was found to extend some 4 miles by 7, between the river and the ridge to the north. The coal beds were determined to be in the Chickaloon formation of Tertiary fresh-water deposits with intrusive igneous dikes and sills, underlain by marine Cretaceous beds. The coal beds themselves were reported to range generally in thickness from a few inches to 8 feet, but thicknesses of 34 and of 24 feet were measured in a locality on the northwest border of the basin. In this portion of the field the type of coal was found to be semi-anthracite; in the southern and eastern parts of the field were located relatively thin beds ranging from semibituminous to bituminous. Observations of the location of the higher-grade coal permitted an estimate of only 750,000 tons, not a sufficient quantity to encourage commercial development. A synclinal area somewhat farther south in the basin was declared to warrant further study, and drilling was prosecuted during the summer.

**MINERAL PRODUCTION.** The total production of 1932, by value was estimated by the Geological Survey as \$10,938,000. Of this, gold supplied \$9,539,000; copper, \$531,000; silver, \$73,000; coal, \$535,000; other minerals, \$260,000.

The total value of minerals produced in 1931 was reported by the Geological Survey to be \$12,278,000, or considerably below the \$13,812,000 for 1930. The value of copper mined suffered a very heavy shrinkage, to \$1,877,000 (1931) from \$4,244,000 (1930). Silver, coal, lead, and tin were likewise mined in smaller totals as to value. There was, on the other hand, a substantial increase in the mining of gold, to a total value of \$9,507,000 (1931), from \$8,476,000 (1930). It resulted that gold supplied more than three-fourths of the value of the entire mineral product of 1931. The production of silver, in terms of value, was \$102,000 for 1931, and \$157,000 for 1930; that of coal, for the same respective years, \$556,000 and \$631,000; of lead, \$126,000 and \$136,000. Among the minor mineral products, in addition to tin, were petroleum, platinum metals, and limestone.

The production of gold in 1931 came from lode mines and from placers in the respective proportions of 49 and 51 per cent. More than 82 per cent of the lode mines' production came from southeastern Alaska, where the mining of great tonnages of low-grade ore was actively carried on with the aid of proximity to deep-water marine communication. Of the placer production, more than 77 per cent was contributed by 28 dredges active during the year; of these, 13 were in the Yukon Valley camps and 14 in the Seward Peninsula. Dredges handled some 10,214,000 cubic yards of gravel, from which gold was recovered at the average value of 36.7 cents a cubic yard.

**FISHERIES.** The fisheries maintained their rank as the chief industry of the Territory, employing some 22,500 persons. Their production in 1932, however, declined both in quantity and in value. For 1931, the value of the products of fisheries was \$33,594,752, falling short of the corresponding figure for 1930 by \$4,084,297. The output of canned salmon represented 96 per cent of the total value for fisheries in 1931. The

herring industry, on the other hand, was sharply depressed.

**SEALING INDUSTRY.** The herd of fur seals at the Pribilof Islands was estimated to number 1,027,028 in 1931, or approximately 9 times as many animals as in 1910. There were taken, in 1931, 49,524 skins of fur seals, or more than in any other year since 1889. Skins sold in 1931 brought an aggregate of \$546,219. Receipts from sales of seal skins and fox skins, accumulated in the United States Treasury since 1918, reached in 1931 the approximate total of \$6,000,000.

**FINANCE.** The Territorial Treasury offered a favorable contrast with the finances of many parts of the Union, showing on June 30, 1932, a credit balance of \$561,662, which was not far short of \$10 per capita of the population. The balance, however, was lower than that of a year earlier, which had been \$694,895. In the calendar year 1931, receipts were \$904,168; expenditures, \$1,196,731. The receipts from customs for the fiscal year 1932 were reported to have fallen below those of the year before by about 16.7 per cent.

**TRANSPORTATION.** Freight traffic on the Alaska Railroad ran, for the fiscal year 1932, well above that for the year before and brought an increase of 31.62 per cent in freight revenue. Passenger revenue made a slight increase, of 0.2 per cent. The deficit from operation of the railroad and of river boats affiliated with it decreased by 30.06 per cent, but stood at the still considerable figure of \$412,467. There were 31 airplanes engaged in furnishing transportation in 1932. Their service was stated by the Governor to extend to "practically every community in the interior" and to be aided by large and well-equipped fields at Anchorage, Fairbanks, and Nome.

**EDUCATION.** Territorial public schools in incorporated towns and districts reported for the academic year 1931-32, 2754 pupils in elementary and 908 in high-school grades. Territorial schools not in such districts had 1669 enrolled pupils. Higher education, chiefly technical, was given by the Alaska Agricultural College and School of Mines, which awarded 15 diplomas to graduating students in 1932.

**ALBANIA**, ăl-bă'nîa. A Balkan kingdom on the east coast of the Adriatic, situated between Yugoslavia to the north and Greece to the south. Capital, Tirana (Tiranë), with 30,806 inhabitants in 1930; reigning King in 1932, Zog I.

The area is approximately 10,629 square miles and the population at the census of May 25, 1930, was 1,003,068, as against 828,593 in 1927. The 1930 population included about 688,280 Moslems, 210,313 orthodox Christians (National Albanian Church), and 104,184 Roman Catholics. The other towns are Koritsa, or Korçë (population 22,787 in 1930) and Scutari, or Shkodër (29,209). Durazzo, or Durrës (8739) and Valona, or Vlone (9100) are the leading ports. Primary education is nominally compulsory, but the law is not enforced. There were about 900 young Albanians studying abroad, in 1929.

**PRODUCTION AND COMMERCE.** Primitive agriculture and cattle-raising are the principal occupations. Only about 926 square miles were under cultivation in 1932. The state owns about 125,000 acres of land and under King Zog has taken an active interest in modernizing agriculture. The leading products are tobacco, timber, hides, wool, furs, dairy products, cheese, fish,

olive oil, and corn. There are extensive forests and relatively unimportant mineral deposits, including copper, salt, and bitumen, capable of further development. Flour-milling, cheese-making, olive-pressing and similar agricultural industries are carried on. The heavy excess of imports over exports, due largely to Italian loans and expenditures in Albania, continued in 1930, with imports totaling 33,288,900 gold francs and exports 12,352,063 gold francs (gold franc equals \$0.1929 at par). Italy supplied imports valued at 16,707,000 gold francs, and took exports valued at 7,379,000 francs. Textiles, cereals, and metals are the chief imports and animal foods, hides and skins, and fish the principal exports.

**FINANCE.** In the budget estimates for the fiscal year ending Mar. 31, 1932, revenue was placed at 29,097,000 and expenditure at 31,533,422 gold francs, as compared with estimates balancing at 31,385,000 gold francs in the previous fiscal year. Following authorization by the Albanian Parliament, the Government in June, 1931, contracted with the Italian government for a series of ten annual loans limited to a maximum of 10,000,000 gold francs (about \$2,000,000) in any one year. The loans were to draw no interest, and the date and manner of repayment were to depend on the financial situation of Albania. A commission of two Italians and two Albanians were to supervise expenditure of the loan funds, devoting them chiefly to public works, national economic development, and education. It was stipulated that advisers approved by the Italian government were to be appointed to the Albanian Ministries of Finance, Public Works, National Economy, and Education; also that the payments would depend upon the "continuation of full and sincere technical and political collaboration between the two governments." A previous loan of 50,000,000 gold francs was floated in Italy in 1925 and is guaranteed by Albanian Customs receipts and the income from Government monopolies.

**COMMUNICATIONS, ETC.** Communication is chiefly by highways and, in the north, by pack animals. In 1930, there were 857 miles of completed roads and 360 miles under construction. Highways and five air routes connect the leading cities. There is a railway 22 miles long between Tirana and Durazzo (Durrës). Under the Constitution of 1928, the King administers the government, assisted by a council of ministers appointed by him and by a parliament of one chamber, the members of which are elected indirectly for four years. Premier in 1932, Pandeli J. Evangheli.

**HISTORY.** General elections held Nov. 12, 1932, resulted in the reelection of Premier Evangheli and all the members of his cabinet, as well as the majority of the members of parliament. The result was interpreted in Tirana as an endorsement of King Zog's efforts to modernize the country. The Albanian Legation at Washington on September 25 issued a denial of reports that 80 conspirators against King Zog's régime had been executed at Tirana. The Legation's statement said that the Albanian court had sentenced the chief conspirators, including seven who confessed, to 15 years' imprisonment.

Albania's precarious position as a buffer between Italy and Yugoslavia was emphasized in December, 1932, when a new Italian-Yugoslav crisis arose over Italian policy in Albania. It was reported that Italy was attempting to force King

Zog to accept a customs union as the price of a new loan and that King Zog, rejecting the proposal, had approached other governments with a request to free Albania from dependence upon Italy. The report was denied in Rome and Tirana. In Yugoslavia there was firm opposition to the customs union project, which would strengthen Italian military power upon the Yugoslav frontier (see ITALY and YUGOSLAVIA under *History*).

Consult Eugene Staley, "Italy's Financial Stake in Albania," *Foreign Policy Reports*, June 8, 1932, vol. viii, no. 7.

**ALBERT**, al'bâr', EUGEN (EUGÈNE FRANCIS CHARLES) d'. A pianist and composer, died in Riga, Latvia, Mar. 3, 1932. He was born in Glasgow, Scotland, Apr. 10, 1864, the son of Charles d'Albert, noted French composer of dance music, who was his first teacher. He studied at the National Training School, London, under Sir Arthur Sullivan, Ebenezer Prout, Sir John Stainer, and Ernst Pauer; in Vienna under Hans Richter; and in Weimar under Franz Liszt. In 1881 he made his first appearance at a philharmonic concert in Vienna with brilliant success. In his succeeding concert tours throughout Europe and America his mastery of technic, intellectual grasp, and poetic conceptions placed him among the most eminent pianists of the world. His interpretations of Bach, Beethoven, and Brahms especially were deemed the most forceful heard in recent years. In 1895 he was appointed court conductor at Weimar, and in 1907 he succeeded Joseph Joachim as director of the Hochschule für ausübende Tonkunst in Berlin. His compositions include two concertos for piano and orchestra, pianoforte music, a suite, a symphony in F, two quartets for strings, several songs, and the operas *Der Rubin* (1893); *Ghismonda* (1895); *Gernot* (1897); *Die Abreise* (1898); *Kain* (1900); *Der Improvisator* (1900); *Im Tiefland* (1903); *Das Floto Solo* (1906); *Tragaldabas* (1907); *Izyl* (1909); *Liebesketten* (1912); *Die Verschenkte Frau* (1912); *Die Toten Augen* (1916); *Der Stier von Olivera* (1918); *Revolutionshochzeit* (1919); *Sirocco* (1921); *Mareike von Nymwegen* (1923); and *Der Golem* (1926). Of these operas *Im Tiefland* was given at the Metropolitan Opera House in New York City in 1908; it has formed a part of the stock repertory of all German opera companies since its production in Prague in 1903. *Die Toten Augen* was presented by the Chicago Opera Company in 1923.

**ALBERTA**, al-bûr'tâ. The westernmost of Canada's Prairie Provinces, bounded by Saskatchewan on the east, British Columbia on the west, the United States on the south, and the District of Mackenzie on the north. Area, 255,285 square miles; population at the census of 1931, 731,605 as compared with 588,454 in 1921. The chief towns, with their census populations in 1931 and 1921 (in parentheses), are: Calgary, 83,761 (63,305); Edmonton (the capital), 79,197 (58,821); Lethbridge 13,489 (11,097); Medicine Hat 10,300 (9634). In 1930 there were 17,649 births, 5496 deaths, and 5334 marriages. Enrollment in the 3710 public schools (1930) was 168,076; in three normal schools, 1001; in the University of Alberta, 1578.

Agriculture is the chief occupation, but the extraction of coal, natural gas, and petroleum are important supplementary industries. The total acreage sown to field crops in 1931 was 13,600,731, compared with 12,561,400 in 1930.



The estimated gross agricultural revenue of the province in 1931 was \$135,219,000, of which \$96,907,000 represented field crops. Production of the chief crops in bushels (1931) was: Wheat, 136,000,000; oats, 90,500,000; barley, 20,800,000; rye, 1,100,000. The potato crop totaled 2,776,000 cwt.; hay and clover 394,000 tons. Alberta ranked fourth among the Provinces in mineral production in 1931, with an output valued at \$23,970,783 (\$30,427,742 in 1930). In 1930 coal production was valued at \$18,063,225; natural gas, \$4,929,226; petroleum, \$4,780,696. The total products of the lumber industry in 1930 were valued at \$2,390,587.

Executive power rests nominally with a lieutenant-governor appointed by the Dominion government, but actually with the Executive Council of the Provincial Legislature. Of 63 members in the Legislature (1932), 38 were United Farmers of Alberta, 11 Liberals, 7 Conservatives, 4 Labor, and 3 Independents. The Province sends 6 members to the Senate and 16 to the House of Commons at Ottawa. For the fiscal year ended Mar. 31, 1930, ordinary revenues and expenditures totaled \$15,829,865 and \$15,402,885, respectively. There was a deficit of \$2,306,581 for 1930-31. The gross bonded debt on Mar. 31, 1930, stood at \$106,888,380, of which \$38,936,134 represented self-supporting assets. In 1930 there were 5607 miles of railway line within the Province. A modern telephone system is owned by the Province, except for the city of Edmonton and the town of Banff, with 216,818 miles of wire, 329 exchanges, and 278 toll stations. Air lines connect the principal cities. Lieut.-Governor in 1932, W. L. Walsh; Premier and Provincial Secretary, John E. Brownlee. See CANADA.

**ALEXANDER, JAMES STRANGE.** An American banker, died in New York City July 16, 1932. He was born in Tarrytown, N. Y., Feb. 21, 1865. Beginning his banking career with the National Bank of Commerce in New York in 1885, he rose from clerk to assistant cashier in 1899. In 1907 he accepted the office of treasurer of the American Express Co., but the following year was requested to return to the National Bank of Commerce as vice-president. He was elected director of that bank in 1909, president in 1911, and chairman of the board in 1923. On its merger with the Guaranty Trust Co. of New York in 1929 he was made chairman of the board, in which capacity he served until his retirement the following year. He was also chairman of the board of the French-American Banking Corp. and held numerous directorships in industrial concerns, railroads, insurance companies, etc.

During the World War Alexander was secretary of the Second Federal Reserve District and was a member of the New York Liberty Loan Committee and of its sub-committee on money rates. He was president of the New York Clearing House in 1923 and was a member of the advisory committee of the Federal Reserve Board of the Second District during 1926-28. He acted also as chairman of the executive committee of the National Committee on European Finance and was a member of the advisory committee of the American section of the International Chamber of Commerce. He was made a chevalier of the French Legion of Honor and of the Order of the Crown of Italy, and a Knight Commander of the Order of Leopold II by King Albert for his services to Belgium during the World War and after.

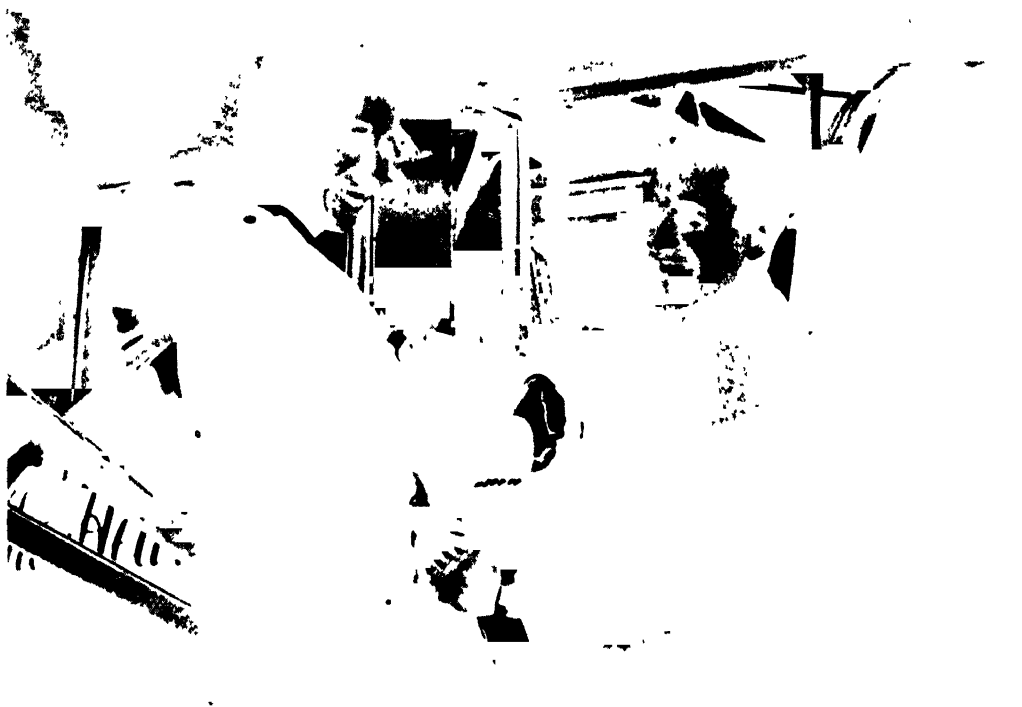
**ALFALFA.** The production of alfalfa hay in the United States in 1932 was above the average. Estimates by the Department of Agriculture placed the yield at about 26,000,000 tons as compared with 21,000,000 tons the preceding year and an average of 23,000,000 tons for the five years 1924-1928. The production of alfalfa seed, however, was far below the yields of recent years amounting to only 538,000 bushels, or 32 per cent less than in 1931 and over 50 per cent below the yield in 1930. The small seed crop was due to the reduced acreage of 275,000 acres, 24 per cent less than in 1931 and to an unfavorable season in the principal producing sections. The average yield of alfalfa hay per acre was 2.08 tons as compared with 1.82 tons the year before. The yields of the leading States in tons were as follows: California 2,836,000, Idaho 2,251,000, and Nebraska 2,223,000. These three States produced over one-fourth the tonnage of the entire country. Only seven other States produced over a million tons and these with the States mentioned yielded nearly 70 per cent of the country's crop. Nebraska again stood first in area with 1,170,000 acres, the only State with more than a million acres. California ranked first in average yield per acre, 3.4 tons, being followed by Washington with 3 tons.

During the fiscal year ended June 30, 1932, the United States imported 352,700 pounds of alfalfa seed all of which came from Canada. The seed laws of many States require that certain factors determining quality such as origin, percentage of purity, percentage of germination, and the number of noxious weed seeds per pound be shown on the label. Since the spread of sweet clover throughout the country and especially in alfalfa producing regions the admixture of sweet clover seed to alfalfa seed which is increasingly frequent has become a matter of concern to purchasers of alfalfa seed. The gross farm income from the production of alfalfa seed decreased from \$11,520,000 in 1930 to \$5,738,000 in 1931, or slightly over 50 per cent and production and market conditions in 1932 did not better the situation. Alfalfa meal production during the fiscal year reached only 177,301 tons as compared with 294,154 tons for the preceding year. Two varieties, Hardistan and Kaw, highly resistant to alfalfa wilt have been developed by the Department of Agriculture and the Kansas Agricultural Experiment Station and have been found to assure successful stands for several years in wilt infested areas.

**ALFALFA WEEVIL.** See ENTOMOLOGY, ECONOMIC.

**ALGERIA.** A colony of France in northern Africa, comprising the two great divisions of Northern Algeria and Southern Algeria. Northern Algeria has an area of 80,117 square miles and a population at the census of Mar. 8, 1931, of 5,978,883; Southern Algeria, an area of 767,435 square miles and a population of 574,618. Of the total 1931 census population of 6,553,451 (6,066,380 in 1926), 920,788 were European (762,852 French and 157,936 foreigners) and the remainder natives. The native population, entirely Moslem, increased from 5,202,000 in 1926 to 5,633,000. The chief cities, with their populations in 1931, were: Algiers (the capital), 257,122; Oran, 163,743; Constantine, 104,902; Bona, 68,778. For the five years 1924 to 1928 annual births and deaths numbered 163,900 and 108,917, respectively, the excess of births being 54,982





CAPT AND MRS (AMY JOHNSON) JAMES MOLLISON



AMELIA EARHART (MRS G P PUTNAM)

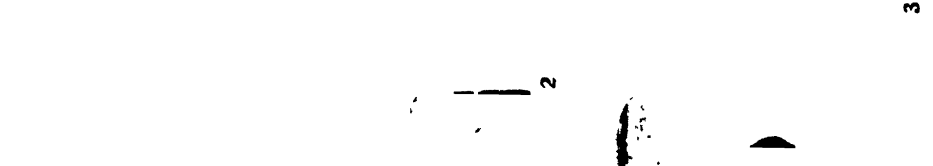
AERONAUTICS



1 Ostrakon of Aristides, 483 B.C.



2 Bronze discast ticket and ballot (4th century B.C.)



3 Terra cotta Statuette of a seated Goddess, 5th century B.C.



4 Olynthus Pebble Mosaic (400 B.C.) with Bellerophon and the Chimera

# ARCHAEOLOGY

annually. In 1930, there were approximately 129,000 pupils in elementary and secondary schools and 2010 students in the university at Algiers.

**PRODUCTION.** Algeria is primarily dependent upon agriculture, which is restricted to the coastal valleys and plains. In 1931, there were 14,945,000 acres of cultivated land, 442,000 acres of permanent meadow, 1,149,000 acres under trees and shrubs, and 9,479,000 acres of forests. Sheep, numbering 4,871,000, produced about 28,094,000 pounds of wool in 1931 (49,266,600 pounds in 1930). Other livestock included 872,000 cattle, 2,631,000 goats, 187,000 horses, 484,000 mules and asses, and 210,000 camels. The 1931 wheat crop was 25,649,000 bushels; barley, 27,069,000 bushels; oats, 8,212,000 bushels; corn, 238,000 bushels; potatoes, 2,786,000 bushels; grapes, 418,887,000 gallons of wine; olives, 6,103,000 gallons of olive oil; tobacco, 20,283,000 pounds; cotton, 2,390,000 pounds; dates, 500,444,000 pounds. Mineral production in 1931, in metric tons, with 1930 figures in parentheses, was: Iron ore, 911,000 (2,234,000); iron pyrites, 21,305 (16,228); zinc ore, 7727 (22,163); lead ore, 9164 (13,945); coal, 25,683 (17,173); petroleum, 1080 (1854); phosphates, 565,000 (864,000).

**COMMERCE.** The value of 1931 imports was 2.4 per cent less than in 1930, while exports declined by 13 per cent. Imports were valued at 5,573,400,000 francs (\$218,478,000), as against 5,711,200,000 francs (\$223,880,000) in 1930; exports at 3,704,500,000 francs (145,217,000) as compared with 4,272,100,000 francs (\$167,468,000) in 1930. France provided about 77 per cent of the total imports and took 72 per cent of the exports. Cotton fabrics, machinery, and metal manufactures were the leading imports and wine (340,920,000 gallons, valued at \$76,901,000) was the chief export. Declared exports to the United States in 1931 were valued at \$920,000; imports from the United States in 1929 were \$9,707,000.

**FINANCE.** Total expenditures, including disbursements of the War and Marine departments charged to France, generally exceed Algerian revenues by about 75,000,000 francs (franc equals \$0.0392 at par). For the fiscal year ended Mar. 31, 1932, ordinary revenues and expenditures were 1,199,056,329 and 1,195,401,883 francs, respectively; extraordinary revenues and expenditures, 973,615,000 and 951,115,000 francs, respectively. The separate Post Office budget estimates balanced at 261,079,413 francs. In the 1932-33 budget, revenue was estimated at 1,799,770,663 francs and expenditure at 1,799,640,616 francs. The public debt at the beginning of 1930 totaled 926,000,000 French francs, or \$36,299,000.

**COMMUNICATIONS.** Railway lines open to traffic in 1930 totaled 3009 miles, of which about 2000 miles were Government owned; railway receipts for the year aggregated 395,065,000 francs. In 1932, there were 31,409 miles of highways, including 4037 miles of surfaced national roads; 90 per cent of the highway system was built in the preceding decade. The telephone and telegraph systems are government owned. Vessels entering the ports in 1930 numbered 4920 of 8,306,000 tons; vessels clearing aggregated 8,393,000 tons.

**GOVERNMENT.** The central executive authority is the Governor-General. He directs all the services with the exception of the non-Moslem departments of public instruction, justice, worship, and the treasury, which are controlled by

the appropriate Ministries in Paris. The Governor-General, with the Minister of the Interior, prepares the budget which is voted by the so-called financial delegations and by the Superior Council. The Superior Council is composed of elected members and high officials. There is also a purely consultative council of government. The colony sends to the French Parliament one Senator and three Deputies from each of the three departments. The Parliament at Paris has the sole right to legislate for Algeria. Governor-General in 1932, M. Jules Carde, appointed Oct. 3, 1930.

**HISTORY.** A troop train carrying 500 officers and soldiers of the French Foreign Legion plunged into a ravine near Tlemcen on Sept. 14, 1932, killing more than 50 and injuring more than 100.

**ALIEN DEPORTATION.** See IMMIGRATION.

**ALKALOIDS.** See CHEMISTRY, INDUSTRIAL.

**ALL AMERICAN CANAL.** See CANALS.

**ALLEGHANYITE.** See MINERALOGY.

**ALLEGHENY COLLEGE.** A coeducational institution of higher learning in Meadville, Pa., nonsectarian in policy but under the patronage of the Methodist Episcopal Church; founded in 1815. The enrollment for the autumn of 1932 was 604, and for the summer session 105. The faculty numbered 44 members. The productive funds of the college amounted to \$1,500,000, and the income for the year 1931-32 was \$425,899. The Reis Library contained 87,000 volumes. This library was also doubled in size by a \$100,000 addition, making its capacity 225,000 volumes. President, William P. Tolley, Ph.D., D.D.

**ALLEN, HORACE NEWTON.** An American diplomatist and missionary, died in Toledo, Ohio, Dec. 11, 1932. He was born in Delaware, Ohio, Apr. 23, 1858. Upon his graduation from the Ohio Wesleyan University in 1881, he studied medicine at the Miami Medical College and went as a medical missionary (Presbyterian) to China. In 1884, at the time of the *coup d'état* of Kim Ok Kiun, he was at Seoul, Korea, and saved the life of a relative of Queen Ming. He was made court physician and established a hospital under government control. When the first Korean legation went to Washington in 1888, he acted as interpreter and secretary. On his return to Korea he soon became noted for his knowledge of Korean affairs and in 1890 was made secretary of the United States legation. In 1897 he was promoted to minister resident and counsel-general, and from 1901 to 1905 served as minister. His publications include *Korean Tales* (1889); *Chronological Index of the Foreign Relations of Korea from the Beginning of the Christian Era to the Twentieth Century* (1900; supplement, 1903); *Korea—Fact and Fancy* (1904); and *Things Korean* (1908).

**ALLIANCE FRANÇAISE, FÉDÉRATION DE L'.** An association of clubs and groups formed for the purpose of encouraging and furthering the study and cultivation of the French language, literature, art, and history in the United States and Canada. It was established in 1902 and in 1932 comprised more than 270 local branches, including French Alliances, affiliated societies, and French clubs in universities, colleges, and schools. Seven new groups were added to the Fédération during 1932. Each year the Alliance Française brings from France one or more lecturers who are prepared to speak before all the affiliated societies and clubs wishing to hear

them. It organizes also lecture tours for distinguished French travelers and for French lecturers who live in America, assists in organizing courses in the French language and literature in coöperation with the leading universities, and encourages its groups to engage in dramatic performances and debates in French. The official lecturers for the season 1931-32 were Julien J. Champenois, director in the United States during 1919-26 of the Office National des Universités et Écoles Françaises, and Léon Vallas, former professor of the history of music at the University of Paris, biographer of Claude Debussy, and editor of *Revue Française de Musique* and *Nouvelle Revue Musicale*. The Fédération's Assemblée Générale, attended by representatives of the various groups, was held in New York City Apr. 2, 1932. The official periodicals of the organization are *L'Écho de la Fédération* and *Bulletin Officiel*.

The officers in 1932 were: president, Frank D. Pavey; general vice president, William Nelson Cronwell; president of the executive committee, Albert Blum; treasurer, John F. Daniell; and general secretary, Roger Sherman. Headquarters are at 32 Nassau Street, New York City.

#### ALLOYS. See CHEMISTRY, INDUSTRIAL.

**ALSACE-LORRRAINE**, *äl'zäs'lör'än*. The provinces taken from France by Germany after the Franco-Prussian War of 1870-71 and restored to France by the Versailles Treaty (June 28, 1919), to date from the Armistice of Nov. 11, 1918; constituting at present the three French departments of Bas-Rhin (formerly Lower Alsace), 1848 square miles and 688,242 inhabitants; Haut-Rhin (formerly Upper Alsace), 1354 square miles and 516,726 inhabitants; Moselle (formerly Lorraine), 2403 square miles and 693,408 inhabitants. Total area, 5605 square miles; total population, 1931 census, 1,898,376. Alsace-Lorraine contains the only petroleum fields of commercial importance in France, as well as extensive iron-ore and potash deposits. Consult, Edmond Vermeil, "Religion and Politics in Alsace," *Foreign Affairs*, January, 1932.

#### ALTITUDE RECORDS. See AERONAUTICS.

**ALUMINUM**. New aluminum produced in the United States in 1932 amounted to 104,885,000 lbs. (52,440 short tons), valued at \$20,453,000, representing decreases of 41 per cent in quantity and 45 per cent in total value compared with 1931 according to statistics collected by the U. S. Bureau of Mines. Production in 1931 amounted to 177,544,000 lbs. and was valued at \$37,284,000, showing declines of 22 per cent in quantity and 27 per cent in value as compared with 1930. Secondary aluminum to the amount of 30,300 short tons was recovered during 1931; thus the total production of new and secondary aluminum for 1931 amounted to 119,072 tons. Figures are not available on the recovery of secondary aluminum in 1932. According to the *Engineering and Mining Journal*, the domestic price of new aluminum ingot 99 per cent pure was maintained at 23.3 cents a pound throughout the year. The open-market quotation at New York for virgin metal 98 to 99 per cent pure was held at 22.9 cents a pound.

There was a pronounced decline in consumption in 1932, which was partly offset by promising developments in certain uses in which declining consumption was less marked. Thus development in adapting the metal for architectural purposes continued. Aluminum sheet and insulating material have been used in wall con-

struction. Such walls are said to have an insulating value more than ten times that of an equal thickness of much heavier material, and their average weight is only 10 pounds a square foot.

The resistance of aluminum to acid corrosion by the atmosphere of cities encourages its use as roofing and as an ornamental metal on the exterior of important buildings. The same property of aluminum led to the extension of its use in the dairy industry. Aluminum in milk-tank trucks makes unnecessary an inner liner for tanks, decreases the dead load, and increases the pay load. Its use in milk cans is becoming more extensive; milk-bottle caps of aluminum foil that seal the bottle have been introduced. Aluminum foil is also used for wrapping butter and cheese.

In transportation aluminum is gaining wider application. Although its consumption in pleasure cars has declined, some manufacturers are understood to have reduced materially the weight of the chassis through use of aluminum. The tonnage of aluminum employed in trucks and busses has continued to increase. The metal makes possible the use of dump trucks and trailer units of large capacity. Considerable aluminum is used in the production of electric street cars, and an all-aluminum Pullman car was built.

A recent trial of duralumin skips and cages in three mines of the Rand in South Africa, according to *The Mining and Industrial Magazine of Southern Africa*, indicates economies resulting from use of this lighter metal. It is stated that, although the initial cost of duralumin equipment is more than double that of all-steel equipment, one of the skips has a capacity of 7 tons, instead of 6 tons, as do steel skips, while the gross load on the rope is 445 pounds less. A saving in current of £1000 per annum has been shown. For a given tonnage hoisting time is reduced nearly 20 per cent. No noticeable corrosion is recorded in skips that have been in service 12 months, although acid mine water corrodes steel cages.

The consumption of aluminum in aircraft is said to have declined sharply, but experimentation in this field continued. The welding of aluminum is being subjected to intensive research with especial reference to the requirements of aircraft.

Electrical conductors of a new type are being made of aluminum channels arranged face to face to form a hollow square in cross section. This type is more rigid and weighs much less than a flat bus bar.

Progress has been made in anodic coating of aluminum with a film of oxide that increases resistance to abrasion and corrosion. It also serves purposes of decoration, and as the oxide coating absorbs dyes the metal may be colored. This has already proved useful for packaging, and it is being applied to interior decoration.

In the past year there is said to have been extension in the use of aluminum paint for mill priming lumber and semi-fabricated products, such as sash and frames. The paint includes aluminum-bronze powder as a pigment.

A new alloy consisting of aluminum with 1 per cent each of manganese and magnesium is reported. Its field is expected to be between that of heat-treated strong alloys and that of simple wrought alloys.

Consumption of aluminum foil has increased,

The following quotation from *Metal and Mineral Markets* is of interest:

In Germany . . . the annual production (of aluminum foil) has reached almost 5000 tons. . . .

Among new applications, the use of crumpled foil as an insulating material is probably the most important. Extreme lightness—barely three ounces per cubic foot; high thermal efficiency; low heat storage; resistance to corrosion by fumes and moisture; and freedom from fire hazards are among the advantages gained; the material is easily applied, is clean, and vermin proof. Limited area of contact and the thinness of the sheets minimize conduction of heat through the foil itself. This material is rapidly finding wide application, in refrigerator systems on ships, railroad cars, and trucks, cases in which the light weight makes possible an important increase in pay load. Other uses are in household refrigerators, food industries, high-pressure steam installations, and home insulations.

Use of aluminum foil in printing is another new application demonstrated recently on the annual Leipzig Fair, the show place of German industrial and commercial progress. A printing plate, cheaper than the usual paper matrix, may be produced by writing on foil, either by hand or by machine. As many prints as desired, in several colors, may be reproduced from such a plate. Drawings may be made directly on the foil or by tracing from the original, and impressions from line cuts and type are also easily reproduced. The plates are waterproof, light proof, and true to type; they may be kept indefinitely without deterioration.

Models and statuary made from kneaded foil, for show cases and exhibits, produce most striking effects. Such applications as these, introducing the metal into entirely new fields, and involving no destructive competition with other metals, are encouraging signs. Smoothing out the curve of depression, they also offer hope of more speedy recovery when business again turns upward.

The European aluminum cartel, formed in 1926 by producers of Germany, France, Great Britain, and Switzerland, and subsidiary plants of Germany and Swiss companies in Italy, Austria, and Spain was reorganized as of Jan. 1, 1932. The new organization, called the Alliance Aluminum Co., with its office at Basel, includes all former members and the Canadian industry as well. The new cartel thus has achieved a world scope for all practical purposes, because the industry in the United States is chiefly concerned with the domestic market.

It was claimed that the price of £95 per ton, maintained by the cartel for two and one-half years until October, 1931, was too high, in view of the heavy decline in the prices of other metals and the contraction of demand for aluminum. The syndicate, therefore, on Jan. 1, 1932, reduced the fixed price charged by syndicate members to £80 a ton, gold. The original price, established in 1926, was £105; therefore the total reduction amounts to 24 per cent.

**AMANA COMMUNITY.** See COMMUNISM under *United States*.

**AMATEUR RADIO TELEGRAPHY.** See RADIO.

**AMERICAN ARCHITECTURE.** See ARCHITECTURE.

**AMERICAN ASSOCIATIONS AND SOCIETIES.** For various scientific and other organizations whose official titles begin with the word American, see under the important descriptive word of the title.

**AMERICAN BAR ASSOCIATION.** See LAW IN 1932.

**AMERICAN CHEMICAL SOCIETY.** See CHEMISTRY, INDUSTRIAL.

**AMERICAN FEDERATION OF LABOR.** See LABOR, AMERICAN FEDERATION OF.

**AMERICAN LAW INSTITUTE.** See LAW IN 1932.

**AMERICAN LEGION.** An organization of World War veterans, chartered by Congress in 1919. Its purpose is "to uphold and defend the

Constitution of the United States; to maintain law and order; to foster and perpetuate a 100 per cent Americanism; to preserve the memories and incidents of our association in the Great War; to inculcate a sense of individual obligation to the community, State, and nation; to combat the autocracy of both the classes and the masses; to make right the master of might; to promote peace and good will on earth; to safeguard and transmit to posterity the principles of justice, freedom, and democracy; to consecrate and sanctify our comradeship by our devotion to mutual helpfulness."

The Legion's fourteenth national convention was held in Portland, Ore., Sept. 12-15, 1932. There was an accredited delegate attendance of 1289, representing every State, the District of Columbia, nine departments outside the continental limits of the United States, and one foreign post, Brussels, Belgium. Unusual public interest was attached to the convention because of controversial issues and the fact that it was a presidential election year, although partisan politics are carefully avoided in any Legion connection. Among the distinguished guests present and addressing the convention were Secretary of War Patrick J. Hurley and Floyd Gibbons, the newspaper correspondent whose controversy over the ousting of "B.E.F." marchers in Washington earlier attracted national notice.

Among the outstanding mandates adopted by the convention were the following which the national legislative committee, meeting in November, selected as its major legislative programme: six pieces of disabled veterans' legislation, listed as presumptive class, to include all chronic, constitutional, and analogous diseases; extension or cancellation of limitations on filing insurance suits; dependency payments in permanent ratings to be not less than temporary rating; outpatient medical treatment for all World War veterans, not dishonorably discharged; extension to July 2, 1941, of the date prior to which a World War veteran must marry to entitle his widow to compensation of any pension; and condemnation of any attempt to write a pauper clause or needs clause into any legislation affecting veterans, their widows, or dependents. The legislative programme included also hospital construction, covering all requirements advocated by the Portland convention; immediate enactment of the Senate resolution to create a separate committee on veterans' legislation, such as now exists in the House; national defense; endorsement of the final recommendations of the War Policies Commission, the national legislative committee being instructed to obtain the enactment of bills already introduced to carry into effect the principle of universal draft in time of war; immediate payment of adjusted compensation; and support of legislation for the immediate repeal of national prohibition.

The accomplishments for the year 1932 up to the time of the national convention were reviewed in the report of Henry L. Stevens, Jr., the retiring national commander:

**Rehabilitation.** Money recoveries for veterans from the Government, effected through the work of the national rehabilitation committee of the Legion, during the fiscal year ending June 30, 1932, amounted to \$7,509,126, which was an increase of \$1,052,739 over the preceding fiscal year.

**Child Welfare.** Necessities of life were furnished direct to 2160 children of veterans in distress. Hundreds of thousands of dollars and other material aid were secured for veterans' children by local and department Legion officials from child welfare facilities in communities, counties, and States.

**Legislation.** An attempt by economy groups to make a horizontal slash of \$80,000,000 in benefits to disabled veterans and their dependents was successfully prevented. The rate on adjusted compensation loans was reduced; government term insurance was extended another five years; and codification and printing of old laws dealing with veterans of all wars was secured.

**Americanism.** Flag study sponsored by the Legion was used by 27,000,000 school children; over half a million participated in the junior baseball competition; and more than 35,000 school children received the Legion's school medal. There were also sponsored more than 200 worthwhile projects in community service.

**Employment.** More than 1,000,000 unemployed persons were placed in jobs, 3177 towns and cities reporting such Legion activities. A total of \$51,971,843 was pledged in private and public repairs and improvements under the so-called "made work" plan.

The membership of the American Legion on Dec. 2, 1932, was 930,163. The national officers elected for 1932-33 were: commander, Louis A. Johnson, Clarksburg, W. Va.; vice-commanders, Russell Meadows, Douglas, Ariz., Robert D. Flory, Albion, Nebr., William E. Easterwood, Jr., Dallas, Tex., John J. Maloney, Portland, Me., Charles A. Mills, Miami, Fla.; chaplain, the Rev. Irvin Q. Wood, Pocatello, Idaho; historian, Eben Putnam, Wellesley Farms, Mass.; treasurer, Bowman Elder, Indianapolis, Ind.; judge advocate, Remster Bingham, Indianapolis, Ind.; and adjutant, Frank E. Samuel, Indianapolis, Ind. National headquarters are at 777 North Meridian Street, Indianapolis, Ind.

**AMERICAN LITERATURE.** See LITERATURE, ENGLISH AND AMERICAN.

**AMERICAN SAMOA.** See SAMOA.

**AMHERST COLLEGE.** An institution for the higher education of men in Amherst, Mass., founded in 1821. For the autumn term of 1932 approximately 700 students were enrolled. The active faculty, exclusive of administrative officers, emeriti professors, and those on leave, numbered 75. The productive assets of the college amounted to \$9,000,000, and the income for the year was \$808,000. The library contained 180,000 volumes. President, Stanley King, LL.D.

**AMPHIBIA.** See ZOÖLOGY.

**ANABASINE.** See CHEMISTRY, INDUSTRIAL.

**ANALYSIS, CHEMICAL.** See CHEMISTRY.

**ANALYTICAL CHEMISTRY.** See CHEMISTRY.

**ANAPLASMOSIS.** See VETERINARY MEDICINE.

**ANATOLIA**, ân'a-tô'lî-â. An ancient geographical name for the land east of the Ægean Sea, now loosely applied to the western part of Asia Minor. See TURKEY.

**ANATOMY OF PLANTS.** See BOTANY.

**ANDORRA**, ân-dôr'râ. A tiny state in the Pyrenees, under the joint suzerainty of the French President and the Spanish Bishop of Urgel. Area, 191 square miles; population, 5231 in 1924; capital, Andorra-la-Vieja (population, 700). The Andorrans, who speak Catalan, are

governed by an elective council of 24 members, acting through a First Syndic. The two civil judges are appointed by France and the Bishop of Urgel, respectively. There is a customs union with France and a postal union with Spain.

**ANEMIA.** See FOOD AND NUTRITION.

**ANGLO-EGYPTIAN SUDAN.** A condominium governed by Great Britain and Egypt in the upper Nile region of Africa, extending south from Egypt and Libia to British East Africa and the Belgian Congo; bounded on the east by the Red Sea, Eritrea, and Ethiopia, and on the west by French Equatorial Africa. Area, estimated at 1,008,100 square miles; population recently estimated at 5,605,848. Capital, Khartoum, with 50,463 inhabitants; other cities, Omdurman, 103,669; Khartoum North, with adjacent rural district, 107,720.

In January, 1931, there were 89 elementary vernacular schools (Kuttabs) with 8348 pupils; 11 primary schools, with 1310 boy pupils; 21 girls schools, attended by 1946 pupils; and 768 native schools (Khalwas) aided by the Government, with 26,880 (1930) pupils. The Sudan furnishes most of the world's gum arabic, and exported, in 1931, 20,086 tons valued at ££602,753. The 1931-32 cotton crop was estimated at 200,000 bales (averaging 478 pounds); 106,000 in 1930-31. Area under cotton in the 1930-31 season amounted to 373,051 acres which yielded 513,820 kantars of 315 pounds of seed cotton. Senna, dates, ground-nuts, salt, ivory, hides and skins, and gold are other leading products. Live-stock in 1930 included about 1,505,000 cattle, 2,200,000 sheep, 400,000 camels, 22,000 horses, 200,000 goats, 5000 pigs, and 350,000 asses. Valuable forests border the Nile and its branches. Imports in 1931, including Government stores, were valued at ££3,761,013; and exports, including re-exports at ££1,717,078. The Egyptian pound averaged \$4.66 in 1931.

Budget estimates for 1931 balanced at ££4,398,618, including net receipts from railway and steamboat lines, compared with ££4,929,000 estimated in 1930. Railway lines open for traffic in 1930 totaled 1990 miles and linked the chief interior points with the Red Sea at Port Sudan and Suakin. There were about 225 miles of main highways besides 12,740 miles of roads passable to light motor cars in dry weather. A fleet of Government steamers sails the navigable arms of the Nile and its tributaries and there is a heavy trade by caravan.

Under the Anglo-Egyptian convention of Jan. 19, 1899, the Sudan is administered by a governor-general appointed by Egypt with the assent of Great Britain. The British and Egyptian flags are flown together. Since 1910, when a governor-general's council was created, laws have been made by the Governor-General in Council. The Sudan is divided into 13 Provinces, each under a governor. Following the assassination of Sir Lee Stack in 1924, Egyptian troops in the Sudan were evacuated and a force of Sudanese under British officers was organized under the direct authority of the Governor-General. Governor-General in 1932, Sir John L. Maffey. See EGYPT.

**ANGOLA** an-gô'la, or **PORTUGUESE WEST AFRICA.** A Portuguese colony on the west coast of Africa, situated between the Belgian Congo and Southwest Africa. Area, 486,071 square miles; population (1929), 2,500,000 including about 40,000 Europeans. Capital, New

Lisbon (Nova Lisboa); formerly known as Huambo; other important towns, Loanda, Cabinda, Ambriz, Novo Redondo, Benguela, Lobito, Mossamedes, and Porto Alexandre. The interior plateau lands are fertile and well watered. Lobito, considered the best natural port on the west coast of Africa, has replaced Benguela as the shipping point for southern Angola.

In 1930, there were 68 elementary schools for Europeans and 26 industrial and 20 agricultural schools for natives, with a total enrollment of about 5000. The principal products are coffee, rubber, wax, sugar, vegetable oils, coconuts, ivory, oxen, and fish. Mineral products include gold, diamonds, malachite, copper, iron, petroleum, and salt.

Imports in 1930 amounted to 245,633; 206 angolares (80 angolares = 100 Angolan escudos) and exports to 233,968,548 angolares. Trade is largely with Portugal. Budget in 1931-32 balanced at 142,759,000 angolares.

Railway lines in operation in 1930 totaled 1436 miles. The Benguela Railway from Lobito was linked with the Katanga Railway in the Belgian Congo in March, 1931, affording a shorter outlet for the mineral wealth of Katanga and Northern Rhodesia, and completing the final link in a transcontinental system connecting Lobito with Beira on the east coast and with Cape Town on the south (see CONGO, BELGIAN). There are 18,000 miles of roads, 5790 miles of telegraph line, 259 miles of telephone line, and 19 wireless stations. Government is in the hands of a governor-general, assisted by a partly elective consultative council. There is a military force of 740 Europeans and 6000 natives. High Commissioner and Governor-General in 1932, José Dionísio Carneiro de Sousa e Faro.

**ANHALT**, an'halt. A state of the German Republic. See GERMANY under *Area and Population and History*.

**ANIMAL DISEASES.** See VETERINARY MEDICINE.

**ANNAM**, an-nām'. An Asiatic protectorate of France, forming a part of French Indo-China. King Bao-Dai (became king on Nov. 6, 1925) is the nominal head of the government, and is assisted by a Council of Ministers, but actual power resides in the French Resident-Superior. A Chamber of Representatives with limited powers was established in 1926. Resident-Superior in 1932, A. E. Le Fol. See FRENCH INDO-CHINA.

**ANNIVERSARIES.** See CELEBRATIONS.

**ANORTHOSITE.** See GEOLOGY.

**ANSCHLUSS.** The movement for the political union of Austria and Germany.

**ANTARCTIC EXPLORATION.** See POLAR RESEARCH.

**ANTHROPOLOGY.** The year has not been especially fertile in the appearance of either novel views or the collection of new materials. This is due only in part to the curtailment of investigations by the current economic depression, but must be set down also to accident. Some years have been richly productive, others lean: 1932 was one of the latter. Publication during the year was only moderate. The principal sources for published material during the year have been, in Europe, the *Anthropos* group in Vienna, and in the United States, the Smithsonian Institution and the University of California.

The two most striking news features of the year were the discovery of a rich treasure hoard at Monte Albán in southern Mexico, and of a

group of skeletons of the fossil human race, Neanderthal, at Mount Carmel, Palestine.

In January it was announced that A. Caso had uncovered a Mixtec tomb at Monte Albán, Oaxaca, containing gold work, semi-precious stones, and turquoise inlay which for intrinsic value have never been surpassed in America. Additional finds were made throughout the year, and only a beginning was made in the Monte Albán area. In this connection an important decision was rendered by the Mexican Supreme Court; that the country's archaeological sites are under the jurisdiction of the Federal government, and not under that of the individual states. Heretofore the Federal government has fostered the investigation and preservation of prehistoric treasures, but on the discovery of the great gold hoard at Monte Albán, the state of Oaxaca laid claim to sole right of exploitation. There can be no doubt that the decision is in the best interests of Mexican archaeology, since the states have neither the experience nor interest in conserving their heritage.

The remains of seven members of the Neanderthal race of 50,000 years ago were uncovered in a cave on Mount Carmel, near Haifa, Palestine, by T. D. McCown. This discovery was made in early May, immediately on resuming excavation at the point at which last year the skeleton of a Neanderthal child was uncovered. One of the adult skeletons was found clasping to his breast a huge jaw of a wild boar. The importance of the discovery lies not only in the large number of skeletons found, but that the remains indicate that there was a local Palestinian variety of the Neanderthal race.

**THEORETICAL ETHNOLOGY AND LINGUISTICS.** The principal proponent of generalized culture-historical reconstruction in the United States is A. L. Kroeber. A recent paper (*Univ. Calif. Publ. Amer. Arch. Ethn.*, 29, no. 4) offers a reconstruction of a highly complex ceremonial development, the Kuksu cult of central Californian tribes. After indicating the intricate growth of the major part of the complex on the spot, Kroeber proceeds to trace its ultimate origin to Pueblo rituals in the Southwest, hence ultimately to Mexico. The fact that no traces of similar rituals are found in the intervening span of 600 miles is passed over lightly. It is sufficient to insist that rituals of this order could not develop independently in central California and the Southwest to convince this author that necessarily one must be derived from the other. The unsatisfactory aspect of this quite hypothetical reconstruction is not only the absence of convincing evidence, but that the task is allowed to rest at this point. The problems of the discrimination of learned and innate elements of culture, the processes of acculturation, and the like, which Kroeber states elsewhere are fundamental in anthropological inquiry have been further and further ignored in his recent contributions.

Even so, Kroeber's formulation is to be preferred to that of E. M. Loeb, who in *The Western Kuksu Cult* (same series, 33, no. 1) offers another reconstruction of the same complex. Loeb's method is wholly architectonic: starting with the assumption that certain elements are necessarily archaic (boy's initiation, ghost representation, death and resurrection ceremony, etc.), others are then conjecturally derived (as of later date) from the Northwest Coast and Pueblo centres of ritualism. In contrast, Kroeber's scheme has the merit of being essentially empirical.

While it is an open question whether statistical methods have any real value in the solution of ethnological problems, various anthropologists have from time to time tried their hands at inventing new statistical devices. The latest offering by Driver and Kroeber (*Univ. Calif. Publ. Amer. Arch. Ethn.*, 31, no. 4) presents several formulae for the *Quantitative Expression of Cultural Relationships*. Metrical measures are proposed to show the extent to which one culture or culture-complex resembles the comparable set of traits among another people. On the basis of the closeness of the measures historical reconstructions are formulated. It is doubtful that these mechanical devices will find any acceptance among anthropologists in general. Not only does such mathematical treatment lend a spurious air of accuracy to data which cannot be forced into statistical frame, but they ignore the fact that historical developments in culture are known to be exceedingly intricate. Further, the fundamental problems of the nature of culture growth are wholly lost sight of in this attempt to make history the be-all and end-all of anthropological research.

Much more to point is the question of the stability of native cultures involved in L. M. O'Neale's study of the attitude of northwest Californian basket weavers to their craft (same series, 32, no. 1). Basketry among the Yurok and Karok "is thoroughly molded by a compact body of established traditions"; a standardization which sets in when the craft is learned from the older generation. Technique, materials, forms, and proportions of baskets are all fixed within narrow limits. Individuality has its opportunity in the creation of designs, but even here the suitability of the design to the object it embellishes, the bare tolerance accorded novelties, and the very real technical difficulties in working out a new design in the particular basketry technique, all operate against individual initiative and change.

Some observations on racial abilities were made on western and central Australian natives by S. D. Porteus (*Psychology of a Primitive People*, New York). These are people who in the popular mind represent the very lowest stage of human development. "Summarizing the test results we may say that, considering their unfamiliarity with the test situation the aborigines' response to tests of prudence and planning capacity, discrimination of form and special relations in test material familiar to them was little if any inferior to that of whites. In tests scored on speed their performance rated low, mainly because working against time was contrary to their habit. In rote memory they were particularly deficient when the test was an auditory one, less deficient, but still very inferior, when it was visually presented. They are not unintelligent, but are certainly inadapted to a civilized environment." The last statement would be of great importance were it warranted by Porteus's experience, but it certainly is not.

The cooperative survey directed by the Committee on Research in Native American Languages continued through the year. A report by F. Boas summarizing the field investigations from 1927 to 1931 (*Science*, May 6, 1931) indicates that most of these concerned North American languages. Attention was necessarily given to those on the point of extinction, although it is recognized that investigations of dialectic differ-

entiation, within the larger language families, have most to offer linguistic science. During the current year field work was carried on among the Bella Coola (Brit. Col.) by S. Newman, Washo (Nevada) by W. Dyk, Maidu, Yuki, and Patwin (Calif.) by H. Uldall and P. Radin, Pawnee (Okla.) by A. Lesser and G. Weltfish, and Chitimacha (La.) by M. Swadesh.

Similar direction is being given linguistic investigations in Africa by the International Institute of African Languages and Cultures (London) under D. Westermann.

Among the larger publications on native languages should be noted A. G. Morice's *The Carrier Language* (Vienna), a Canadian Athapaskan tongue, and E. Sapir's *Southern Paiute, a Shoshonean Language of Utah* (*Proc. Amer. Acad. Arts Sci.*, 65). A useful classification of dialects and political divisions in central North America was provided by Lesser and Weltfish's *Composition of the Caddoan Linguistic Stock* (*Smithson. Misc. Coll.*, 87, no. 6).

PHYSICAL ANTHROPOLOGY AND PREHISTORY. That *Pithecanthropus erectus*, the ape-man of Java, is a true genus was confirmed by the recent discovery of three more thigh bones by E. Du Bois among the materials he discovered with the original *Pithecanthropus* remains in 1891. The original report described a single femur from which the erect posture of this ancient proto-human was inferred. The three new femora are identical with the first, thus not only confirming the inference, but disposing of the old arguments that the single original skeleton was that of an isolated aberrant type. During the year W. F. F. Openoorth and C. ter Haar announced the discovery in Java of remains of a race resembling the Neanderthal of Europe, which they named *Homo (Javanthropus) soloensis*. Du Bois has also stated that two other skulls found in Java suggest the origin of the Australian natives.

It was reported during the year that evidences of human handiwork had been found in the cave at Chou Kou Tien near Peking in which the early proto-human form Peking Man (*Sinanthropus*) was found in 1929 (Breuil: *L'Anthropologie*, 42, 1). These are fragments of charcoal together with worked pieces of quartz and bone. If it be established that *Sinanthropus* is an archaic type of human and that the geological level is early Pleistocene (Ice Age), this evidence will thrust the beginnings of human culture much further back, and assign them to an earlier human type, than has hitherto been believed. New skeletal finds in the same cave include small bones of the wrist, which are reported to be definitely human in character. In fact, G. E. Smith offers his opinion that even though *Sinanthropus* be regarded as having lived at an earlier date than Java Man (*Pithecanthropus*) or Piltown Man (*Boanthropus*), yet he was more nearly an ancestor of our own than either of these, his elders.

Controversy continued through the year over the significance of the Oldoway skeleton discovered in Tanganyika, east Africa, in 1913 by H. Reck. It has been claimed by L. S. B. Leakey (*Stone Age Cultures of Kenya Colony*, Cambridge) that the skeleton was as old as the Pluvial deposit (corresponding to the Ice Age of Europe) in which it was found. Objection was raised that the skeleton would not have been articulated were it an original component of the water-borne gravels. Leakey admitted the remains were probably a burial on the spot, but insisted that the



superimposed strata were also Pluvial. Doubt was thereupon expressed that the stratum in which it was imbedded was significantly older than the higher levels (see *Nature*, v. 129 and 130). Early in the year Leakey reported finding a human jaw bone and three skulls with tools of European Chellean type in a fossil bed near Lake Victoria, not far from the Oldoway site. Their bearing on the original find is not clear.

The uncovering of a group of Neanderthal skeletons in the Cave of the Kids on Mount Carmel, Palestine, by T. D. McCown was hailed as one of the most important discoveries of fossil man yet made. In early May seven complete adult skeletons were found in the cave, immediately adjoining the child's skeleton discovered by McCown last year, and associated with industrial remains of the Mousterian culture epoch. At the close of the year D. Garrod discovered another adult skeleton in the Cave of the Oven at the foot of Mount Carmel. G. G. MacCurdy writes, "The specimens [of Neanderthal race] hitherto found in Europe have been so few and fragmentary that there was little evidence to suggest that the race or species might include a number of varieties. . . . The seven individuals just found . . . will, on account of their relative completeness, throw new light not only on the species as a whole, but also point to a Palestinian variety of the Neanderthal species." They differ from the European examples in that prognathism is confined largely to the upper jaw, the chin is not so receding, dentition is different, and the frontal and parietal portions of the skull are more highly developed (*Science*, June 17, December 23).

A revision of the relation of man to the primates was implied in the view of G. S. Miller (*Smithson. Misc. Coll.*, 85, no. 10) that human hairlessness is not the result of specialized development, but represents a probable survival of an ancient primate pattern. It is commonly assumed that human hairlessness, grayness, baldness, etc., are the result of artificial covering of the body. While the human hair pattern (i.e., distribution) is not exactly duplicated in other primates, all the elements can be found among them. For example, a partially denuded forehead appears in Celebean macaques, and a full form in the orang; most non-human primates have a bare area around the mouth, but the orang and the African guenon are definitely bearded like certain modern human races.

On the subject of racial differences F. G. Benedict concludes that there is positive evidence of a *Racial Element in Human Metabolism* (*Amer. Jour. Phys. Anth.*, 16, 463). The Maya of Yucatan were found to have a basal metabolism above the standard of Caucasians, with Australians, Tamils (Madras), and Chinese women below that standard.

A study of *The Anthropometry of the American Negro* by M. J. Herskovits (*Columbia Univ. Publ. Anth.*, 11) shows that the long continued crossing of whites and negroes has been arrested. A type is evolving which is relatively homogeneous. One partial factor is a strong tendency for dark men to marry light women. "This serves to set up a mechanism which, if continued, will bring about more Negroid features for this type in the future."

ETHNOGRAPHY. Relatively little significant or comprehensive work appeared in the investigations of Old World natives. Nevertheless, publication of briefer reports was brisk and will by

mere accumulation prove their value in the future.

The ethnographic survey of Polynesia undertaken by the Bishop Museum (Honolulu) has now reached the point where attention is directed to the smaller outlying islands. Such is T. R. Hiroa's *Ethnology of Tongareva* (Penrhyn Is.), an atoll northeast of Tahiti. At the same time more detailed information is appearing from the major groups. For example, E. S. C. Handy covers the topics *Houses, Boats, and Fishing in the Society Islands* (*Bull. Bishop Mus.*, 90) which are, of course, far from trivial concerns in the life of these islanders. A grammar and dictionary of the Marquesan language was published by R. I. Dordillon (Institut d'Ethnologie, Paris).

A good summary of the *Ethnology of Melanesia* (*Field Mus. Guide*, 5) by A. B. Lewis gives adequate attention to material existence. A special study of *The Sorcerers of Dobu* (London), an island of the D'Entrecasteaux group in western Melanesia, was made by R. F. Fortune and a systematic treatment of the distribution of certain forms of weapons in Melanesia was made by F. Speiser (*Zeitschrift für Ethnologie*, 1932, 74). From adjacent New Guinea, G. Bateson reported on the *Social Structure of the Iatmul People of the Sepik River* (*Occana*, 2, 245, 401). An account of the *Neo-Calédoniens* (Institut d'Ethnologie) was furnished by M. Leenhardt.

Activities originally engendered by the Australian National Research Council are now bearing fruit. There appeared a number of reports on Australian natives, especially on their social organization: e.g., on the Kimberley Division (n. w. Australia) and the Worimi, a Kattang people of New South Wales by A. P. Elkin, and on the totemic system of the Karadjeri tribe by R. Piddington.

Dutch anthropologists continued to proliferate material on the East Indies. Publications of the year were by Adriani on the Toradja (central Celebes), by Korn on customary law of Bali, by Ypes on inter-tribal relations of Tobo- and Dairi-Bataks (Sumatra). An account of the native industries of Java, Madura, Bali and Lombok was issued by the Java-Institute, Batavia. C. von Furer-Haimendorf offered material on the social organization of the Nagas of Assam (*Zeitschrift für Ethnologie*, 1932, 8) and B. Markowski on *Die materielle Kultur des Kabulgebietes* (Leipzig) in Afghanistan.

New African material is available from several localities. To his earlier account of the peoples of Ashanti (west Africa) proper, R. S. Rattray added a lengthy description of *The Tribes of the Ashanti Hunterland* (London). Several accounts of Congo natives appeared: one on the Bandas of the Ubangi-Shari by P. Daigre, another on the Bene-Nsamba, a Baluba group of the Katanga district (*Anthropos*, 27, 153, 525); a third by P. Schebesta on *Hambuti*: pygmies of the Congo (Leipzig). From farther north, J. F. Crazzolara published on the Shilluk of the upper Nile (*Anthropos*, 27, 183) and A. H. Bernatzik on Portuguese Guinea (*Aethiopen des Westens*, Vienna).

The problem of the antiquity of man in America continues a hardy perennial. This year provided its quota of reputedly ancient human remains, but as usual all the cases must be carefully sifted before they can be accepted. Near Clovis, New Mexico, arrowpoints were found in the vicinity of varied fossil remains, including the

mammoth. It is considered significant these were of the type found at nearby Folsom, where they occurred among the remains of an extinct species of bison. At Flagler Beach, Florida, an arrow-point was found underneath a mammoth jaw, with other artifacts a few feet distant (*Science*, May 13, 516; Nov. 25). Three finds of arrow-points with fossil remains of *Bison occidentalis* and mammoth, both extinct forms of Pleistocene age, have been reported from Nebraska. The association seems clear, but the age of the beds in which they occurred is in doubt (*Nature*, July 16, 87; July 30, 181). The most interesting find was that of a human skeleton lying beneath twelve feet of varved silt in the bed of the now extinct glacial Lake Agassiz in Ottertail county, Minnesota. The silting evidently took place at an early stage in the lake's history. A. E. Jenks reports that the skeleton is proto-Eskimo. With it were found an antler dagger and a shell pendant (*Science*, June 10, 607).

Stratified remains which bear on this question were reported at Signal Butte, western Nebraska, by the Bureau of American Ethnology. W. D. Strong found on the mesa top "three levels of human occupation separated in each case by some two feet of barren aeolian deposit. The uppermost occupation is prehistoric and contains pottery and artifact types suggesting some definite connection with the upper Republican culture of central Nebraska. The middle level is quite definite but thin: pottery is absent. The lowest level is thick, consisting of a series of open hearths and cache pits dug down into the underlying sand and gravel. Bone and chipped stone artifacts are abundant, polished stone rare, and pottery totally absent. The most abundant type of stone projectile points in the lowest level, while smaller, are of the same general form as those which have been found with extinct mammals in Nebraska. The lowest occupation level rests on water borne material laid down when the butte was still connected with the main escarpment to the south. Whether a time break occurs between the water borne materials and the earliest human occupation remains to be determined, but an early post Pleistocene dating for this horizon seems probable."

Works on the living tribes of the northern half of the continent have been relatively few during the year. A needed summary of *The Indians of Canada* (Ottawa) was published by D. Jenness. F. Boas added *The Religion of the Kwakiutl* of British Columbia (*Columbia Univ. Publ. Anth.*), given wholly in the form of statements of the natives, recorded in the vernacular. It was announced that F. de Laguna had found evidences of the ancient extension of the Alaskan Eskimo as far south as Cook's Inlet in a region occupied in historic times by Indians.

The investigation of the distribution of elements of native culture in eastern United States was continued by J. Cooper and R. Flannery, who report that most of the area east of the Mississippi has now been covered. Rituals of the Delaware (N. J.) and Fox (Ill.) were described by F. Speck and T. Michelson. Precise information on the tribes of the southern United States was augmented by J. R. Swanton's *The Social and Ceremonial Life of the Choctaw Indians of Mississippi* (*Bull., Bur. Amer. Ethnol.*, 103).

A possible time scale for the archeology of east central United States on the basis of prehistoric climates was suggested by P. B. Sears

(*Amer. Anth.*, 34,610). Interpreting pollens found in peat bogs as indicative of the flora of various periods and hence of the climate, after the method of Swedish botanists, he finds that in post-glacial times there has been a series of climatic shifts. These were successively, cold humid, cool dry (about 8000 years ago), humid (6-5000), warm dry (3000), transition (2-1000), present more humid climate. These agree fairly well with the prehistoric climates of northern Europe both in sequence and antiquity. Primitive cultivation of corn would thus have been possible in the Ohio valley through the last six thousand years, with optimum conditions in the warm dry period of roughly three thousand years ago. Coincidentally semi-steppe conditions made their appearance in the Western prairies, rendering corn cultivation impossible there. This scheme offers possibilities of assigning the successive prehistoric cultures now known in the Ohio valley to the several climatic periods.

A number of valuable ethnographic accounts go far to fill the gaps remaining in the survey of the Pacific States. Among them I. T. Kelley's *Surprise Valley Paiute* (n.e. Calif.) prove to have definite linkage with their Nevada relatives. A brief set of notes on the Tolowa (*Amer. Anth.*, 34) round out our knowledge of the northwest Californian type of culture. From the lower Sacramento valley is A. L. Kroeber's account of *The Patwin and their Neighbors*, heretofore poorly represented in reports. E. W. Gifford's *North Fork Mono* are a local Shoshonean group of the eastern foothills of the San Joaquin valley. From still further south appeared C. D. Forde's description of *Yuma Ethnography* (lower Colorado River). E. W. Gifford also published an account of *The Southeastern Yavapai*, linguistic relatives of the Yuma but occupying the mountains of central Arizona where they were subject to Apache influence (*Univ. Calif. Pub. Amer. Arch. Ethn.*, vols. 28, 29, 31).

Despite more or less systemic investigations among the pueblos of New Mexico and Arizona for 50 years, it is only at this late date that specific information is available on agriculture and land ownership. Among the most westerly group, the Hopi, C. D. Forde (*Jour. Roy. Anth. Inst.*, 61, 357) found this basic economy was essentially a male occupation, although the ownership of land rests with the matrilineal clans. That is, fields within the clan plots descend from mother to daughter whose husbands and sons are the cultivators. This parallels feminine ownership and transmission of houses. Some conflict with orthodoxy is found in the recurrent practice of men transmitting lands to relatives within their own clans.

The earliest date definitely assigned to a pueblo ruin is 797 A.D. This is the date at which a beam in a pit house was cut, according to F. H. Roberts. While inferentially many small ruins of the Southwest are earlier, this dating proves this archaic type of Pueblo ruin much closer to the known dates of true Pueblo ruins (the earliest of which are 861 A.D.-919 A.D.) than was believed.

Since many interpretations of North American Indian cultures rest on assumed connections with ancient Mexico, the well-nigh complete absence of information from northern Mexico has been a real handicap. R. L. Beals has now provided a *Comparative Ethnology of Northern Mexico Before 1750* (*Ibero-Americana*, 2), based on histori-

cal documents. In view of the disappearance of most of the native tribes little more can be expected from this quarter. Dealing with the same region Sauer and Brand described *Prehistoric Settlements of Sonora* (Berkeley, Calif.) with special reference to the terraced, entrenched hill structures.

One of the most impressive discoveries of relics ever made in pre-Columbian Mexico was that of a treasure-filled tomb at Monte Albán, Oaxaca. The first find, announced in January, was that of 10 Mixtec chiefs in a burial chamber originally erected by the Zapotecs, joint occupants of Oaxaca with the Mixtecs. Heaped over the bodies were cups and vases of jade, onyx, and rock crystal, with personal ornaments and utensils of gold. Many of these, as well as one skull, had been elaborately inlaid with turquoise. Numerous intricately carved bone objects were also part of the hoard. Other important additions to the Monte Albán collections were discovered throughout the year. According to the discoverer, A. Caso, the remains probably date from not long prior to the Spanish conquest. The scientific importance of the find lies in its addition to our scanty knowledge of the Mixtecs (*National Geog. Mag.*, Oct., 1932, 487).

The archaeological studies by the Carnegie Institution of Washington in Yucatan include the clearing of ruins at Chichen Itzá. An expedition to Calakmul, south-central Campeche, "brought knowledge of a very large, strategically located and hieroglyphically very fully documented Old Empire city." Excavations at Uaxatun, n. Peten, Guatemala, proved highly important in the discovery of much needed deposits of stratified refuse, on the basis of which the history of ceramic types can be unraveled. Attention was also given to allied ruins of the Guatemalan highlands. Ethnological studies were directed to the two extreme situations in Yucatan, at the wholly native village of Chan Kom and the modern city of Merida, for the purpose of discovering how modern civilization penetrates these Mayan communities. The medical survey concerned itself with studies of the incidence of tropical diseases and with investigations of basal metabolism (referred to above) and nutrition.

Importance attaches to J. E. Thompson's *Archaeological Investigations in the Southern Cayo District, British Honduras* because it is concerned not so much with the monumental ruins usually exploited in Central America, but with much needed evidences on domestic life (*Field Mus. Nat. Hist.*, Publ., 301). The same author with T. Gann presented a survey of this general field in *The History of the Maya* (London).

A brief *Ethnographical Survey of the Miskito and Sumu Indians of Honduras and Nicaragua* by E. Conzemius (*Bull., Bur. Amer. Ethnol.*, 106) was concerned primarily with the material life of these Central American peoples. Serviceable data on the *Indians of the Paraná Delta, Argentina* by combining archaeological with historical investigations was furnished by S. K. Lothrop (*Annals N. Y. Acad. Sci.*, 33, 77). R. Karsten published an account of the *Indian Tribes of the Argentine and Bolivian Chaco*.

*The Origin of Indian Civilization in South America* (Göteborg) lies in special developments from that basic, rudimentary culture which the first Indian immigrants brought to the continent, according to E. Nordenskiöld. The groundwork

still remains intact in the extremities of both Americas and in a somewhat modified form in the Gran Chaco and southern United States. If any of the higher civilizations of Middle America received an impetus from Oceania, as is commonly held and which Nordenskiöld doubts, that influence must be exceedingly ancient. It seems rather that the Andean and Central American civilizations have been reared on a common basis, largely in parallel but with a good deal of mutual influence. Central American influence on Peru lies very far back in time, while Peruvian influence to the north must be of late date. Nordenskiöld's interpretation brings an authoritative statement on what has for so long been an ethnographic "dark continent." With respect to Oceanic connections, R. B. Dixon makes a reasonably convincing case for the introduction of an important food plant, the sweet-potato, into Polynesia and eastern Melanesia in pre-Columbian times (*Amer. Anth.* 34, 40), since botanists place its origin in Central or South America. J. Tello has also recently discovered evidence of the great antiquity of this plant in Peru. Dixon is noncommittal as to whether it was carried westward by Indians or brought back by Polynesian voyagers to the New World.

**EXPEDITIONS.** The Göteborgs Museum (Sweden) reported expeditions to the Rio Juruá, South America, by C. Nimuendajú and to the Cuna of Panama by R. Pérez Kantule. The expedition of S. Hedin in China for the Naturhistoriska Riksmuseet (Stockholm) was completed this year, while S. Linné excavated a Toltec ruin at San Juan Teotihuacan, Mexico. Archaeological investigations on the southeastern Greenland coast by the Danes K. Rasmussen and T. Mathiasen and between Scoresby Sound and Ammassalik by E. Mikkelsen were reported. For the Koloniaal Instituut (Amsterdam) H. J. T. Bijlmer collected skulls in New Guinea and made anthropometric studies of the natives of southwest New Guinea and Halmahera. The University Museum (Cambridge, England) reports expeditions in India, Malaya, Siam, the Oceanic islands, Tanganyika, Natal, and West Africa. The Staatliches Museum für Völkerkunde (Berlin) sent F. Lessing to China and G. Waldschmidt to Further India. The Anthropos group (Vienna) supported ethnographic investigations by Bernatzik in the southeastern Solomon Islands, Lukas in Nigeria, Nadel in the western Congo, and Wölfel in the Canary Islands. L. Cipriani of the Museo Nazionale di Antropologia (Florence) made an expedition to the Taureg and Tebu of the Sahara. The Institut d'Ethnologie (Paris) reports studies on nomadism in Syria by Weulersse; in Africa on the Peul of Senegal by Gaden and by the Dakar-Djibouti expedition in Erythrea, in the Sanga region, and the Cameroons; in the Malay States among Negritos and maritime peoples by Cuisinier; in Bolivia by Dijour; and among the Guayaki of Paraguay by Velard.

The University Museum (Philadelphia) had a dozen field expeditions. Most of those in the Old World were concerned with Near Eastern archaeology: at Ur; Assyrian remains at Tell Billah and Tepe Gawra, Iraq; in Persia; at Beisan (Palestine), Meydum (Egypt), Lapithos (Cyprus), Minturo (Italy), with another in southeastern China. In the New World expeditions were dispatched to the Matto Grosso (Brazil), Piedras Negras (Guatemala), New Mexico, and Cook's Inlet (Alaska). For the University of Pennsylvania,

F. Speck visited the Delaware (Ontario and Okla.) and the Montagnais of Lake St. John, Quebec: A. I. Hallowell visited the Saulteaux of Berens River, Quebec. Archaeological studies by the American Museum of Natural History (New York) were made by W. C. Bennett at Tiahuanao, Bolivia, and Maracay, Venezuela; by G. C. Vaillant in the Valley of Mexico; and by J. Bird in shell-heaps of Tierra del Fuego. Ethnological studies in New Guinea were made by M. Mead, among the Pueblos (New Mexico) by C. Wissler, with anthropometric investigations in Assam and Burma by P. Mitra, and a study of race mixture in Hawaii, Japan, and China by H. Shapiro. The Museum of the American Indian (New York) undertook archaeological work in Honduras (G. Mason), Cape York, Greenland (J. Bird), in New York and New Jersey (Coffin and Turbyfill), and Cuba (R. R. Bennett), with ethnological work in Alaska (G. T. Emmons). Columbia University sponsored investigations of rituals among Navaho (New Mexico) by G. Reichard and Tsimshian (Brit. Col.) by V. Garfield; ethnology of Papago (Arizona) by R. Underhill, Lake of the Woods Ojibway by R. Landes, Western Dakota by E. Deloria, in Guatemala by R. Bunzel, Botocudo (Brazil) by J. Blumensohn, and Baganda (East Africa) by M. Mandelbaum. G. Wagner completed work on the Yuchi language (Okla.) and O. Klineberg continued investigations of selective migration. Ethnological field work of Yale University included investigations among the Tenina (Alaska) by C. B. Osgood, among Haida (Brit. Col.) by G. P. Murdock, Karok (Calif.) by V. McConnell, Canadian Sioux by S. Mekeel, and Maricopa (Arizona) by L. Spier.

Investigations of the Peabody Museum, Harvard University, include archaeological studies of Pueblo ruins in southeastern Utah by J. O. Brew, of Neolithic and later sites in Yugoslavia by V. J. Fewkes and in County West Meath, Ireland, by Hencken and Movius. Ethnological expeditions were made by F. Johnson to the Guaimi of Chiriqui, Panama, and by G. T. Bowles to western China and eastern Tibet. Anthropometric investigations were made by Erich in Montenegro. The University of Michigan had V. H. Jones collecting ethnobotanical data in the Pueblos and ethnographic work by M. R. Gilmore among the Arikara (North Dakota) and L. White among the Hopi (Arizona).

At Washington the Bureau of American Ethnology prosecuted archaeological work under F. H. H. Roberts in ruins of Pueblo I and II types at Allantown, Arizona; under W. D. Strong in Nebraska (cited above) and in Arikara villages at the mouth of the Grand River, South Dakota; under W. M. Walker in mounds at Jonesville, La. Ethnological studies were made by M. W. Stirling among the Jivaro of Ecuador, by J. P. Harrington among the nearly extinct tribes of southern California, by J. N. B. Hewitt among the Iroquois of Ontario. T. Michelson continued linguistic research among Cheyenne and Fox (Okla.). The U. S. National Museum had two expeditions to Alaska: A. Hrdlicka collecting in prehistoric sites on Kodiak Island and J. A. Ford at Point Barrow. Other archaeological investigations were made by F. M. Setzler in caves near Alpine, Texas; H. W. Krieger in Cuba; and J. T. Russell in caves of the Pyrenees. The Catholic University of America supported the ethnological work of J. M. Cooper among the Algonkians about James Bay, n. Canada.

Ethnological activities of the University of Chicago included investigation of social organization of the Winnebago and Sauk-Fox (Wisconsin) by R. Commons and S. Tax, of ritual and language of Navaho and Apache (New Mexico) by B. Haile and H. Hoijer, of economic life of Tlingit (Alaska) by K. Oberg, of acculturation and linguistics in Yucatan by R. Redfield and M. Andrade, of Chorti ethnology (Guatemala) by C. Wisdom. Archaeological work was continued in Illinois under T. Deuel and on the upper Mississippi by F. Cole. The Field Museum (Chicago) reports a joint expedition with Oxford University to the ruins of Kish, Mesopotamia, where early Sumerian and Sassanian remains were found.

In their local field (Washington and Oregon) the University of Washington sponsored studies of social organization among the Moses-Columbia by L. V. W. Walters, of general ethnography of Umatilla and Walula and of Cayuse language by V. F. Ray, and Coos ethnography by M. Jacobs. Ethnological field work of the University of California included E. W. Gifford among the North-eastern Yavapai (Arizona), I. Kelley among Southern Paiute (Utah), and in California among the Kern River Shoshoneans by E. W. Voegelin, Wappo by H. Driver, and a study of the 1870 Ghost Dance by C. Du Bois. Linguistic studies of the Kern River Shoshoneans and the Crow (Montana) were made by C. Voegelin and R. H. Lowie. The Southwest Museum (Los Angeles) reports archaeological investigations in the southern Californian desert by W. H. Campbell and in caves of White Pine county, Nevada by M. R. Harrington. Navaho (New Mexico) weaving was studied by C. Amsden.

**NECROLOGY.** Baron Erland Nordenskiöld of Göteborg, Sweden, who died July 5 (aged 54), was the foremost anthropologist in the South American field. Apart from explorations in the Argentine Chaco, Bolivia, and Panama, he was concerned largely with the collation of data from the whole continent, especially its material culture. To him is owing the only appreciable ordering of the chaos of this ethnological "dark continent." Sir Everard im Thurn, whose name is associated with the same continent, died October 8, aged 80. He served as Governor of Ceylon and Fiji after extensive explorations in British Guiana. John Roscoe, an English missionary who produced the standard accounts of the Baganda and kindred peoples of East Africa, died December 5, aged 61. R. R. Schuller, known for his work in Central America, died at Barranquilla, Colombia, January 18. Two American losses of the year were Francis La Flesche, himself an Omaha Indian, noted for his investigations of the Omaha and Osage tribes (September 5, aged 75), and Daniel Folkmar, responsible for the racial classification of the Immigration and Census Bureaus (July 21, aged 71).

**ANTIGUA.** See LEEWARD ISLANDS.

**ANTIOCH COLLEGE.** A nonsectarian coeducational institution in Yellow Springs, Ohio, founded by Horace Mann in 1853 and reorganized in 1920 by Arthur E. Morgan with the aim of embodying anew the educational philosophy of its first president. The number of students enrolled for the fall of 1932 was 548, of whom 354 were men and 194 women. The faculty for 1932-33 numbered 99. The productive funds of the institution amounted to \$206,529, and the operating income for the year was \$350,684. The

library contained approximately 39,771 volumes. President, Arthur E. Morgan, D.Sc.

**ANTIQUES.** See **ART SALES.**

**ANTI-SALOON LEAGUE OF AMERICA.**

A federation of churches and temperance organizations in the United States, united against the beverage liquor traffic. Its object, as stated in its constitution, is the extermination of the beverage liquor traffic, and it is pledged to avoid affiliation with any political party as such, maintaining an attitude of neutrality on all questions of public policy not directly concerned with the traffic in strong drink.

The League was established in 1895 by a coalition of the Anti-Saloon League of four States and the District of Columbia. At the end of 1932 it embraced 48 State or territorial Leagues and had affiliation with 45 other national temperance organizations, as well as with the World League Against Alcoholism (q.v.).

During 1932 the work of the League, which was conducted by more than 2000 representatives, included a widespread educational campaign on the evils of the use of alcohol and the duty of observance of the law, carried on through the press, the pulpit, the lecture platform, by radio and the drama. Its legislative programme comprised the presentation of testimony at hearings before Congressional committees on bills relating to prohibition, its enforcement, or its modification. None of these various measures was enacted except an amendment to the Revenue Bill to tax malt, wort and grape concentrates.

The League issued statistics, based on official reports, demonstrating that consumption of intoxicants had dropped to a small fraction of its former total and giving the consequent economic, social, moral and physical benefits of prohibition to the people of the nation. The League centred its activities on the organization of local and State groups for the encouragement of enforcement authorities and to secure the support of popular opinion for prohibition. In addition to many thousands of leaflets, documents and books distributed, it published *The American Issue*, in Westerville, O., with a monthly circulation of about 1,000,000 copies and with State editions in 22 States.

The officers of the League in 1932 were: President, Bishop E. G. Richardson, Philadelphia, Pa.; secretary, S. E. Nicholson, Media, Pa.; honorary treasurer, Foster Copeland, Columbus, O., treasurer, H. B. Sowers, Westerville, O.; general superintendent, Dr. F. Scott McBride, Washington, D. C.; director of the department of education, Dr. Ernest H. Cherrington, Washington, D. C.; attorney, Edward B. Dunford, Washington, D. C.

**ANTI-SEMITISM.** See **JEWS**; also, **POLAND.**

**APARTMENT HOUSES.** See **ARCHITECTURE.**

**APPLES.** See **HORTICULTURE.**

**APPLIED PSYCHOLOGY.** See **PSYCHOLOGY.**

**AQUEDUCTS.** With the ever increasing demand for additional water supply for our great urban centres and the correspondingly increased cost of securing such supplies, it has become evident that groups of cities, rather than single cities, will undertake the great aqueduct constructions of the future. This movement toward the formation of "metropolitan water districts" has been growing in recent years. Boston early formed such a district; the Greater New York movement united several adjacent cities into a single water supply unit. More recently, thirteen cities have combined in the Colorado River

project. The recently organized State Water Policy Commission of New Jersey is planning for the future supply of proposed metropolitan districts, or areas, within that State. There is thus a well defined trend toward the consolidation of the water problem, and of economic resources to meet it, which is one of the most interesting developments in the field of public works which has occurred in many years.

In the domain of construction and design the ever-pressing need for economy, augmented by the current depression, has accelerated the development of welded pipe, and has turned attention to the need of providing protective coatings for steel pipe lines and even for the older and more durable cast iron mains.

Recent **YEAR BOOKS** have called attention to the four major aqueduct projects now under way or proposed. Of these, the Boston and San Francisco works are nearing completion; plans for a supply from the Western Catskills have been held up due to the financial difficulties in New York, and the Los Angeles project, authorized by a 5 to 1 vote on Sept. 29, 1931, has been made possible by action of the Reconstruction Finance Corporation.

The attention of hydraulic engineers throughout the world will undoubtedly be centred on the Colorado River-Los Angeles project for several years to come. It will be the longest aqueduct in the world, and, in the words of the *Western Construction News*, "Not since the Panama Canal has there been an hydraulic project to challenge the ingenuity of engineers or require such vast preliminary expenditure of human energy and money as the Colorado River Aqueduct."

**LOS ANGELES.** With no other adequate source of supply available and with the further development of the southern coastal plain of California absolutely dependent on an assured water supply, the Metropolitan Water District of Southern California has been planning for some nine years to go 239 miles to the turbid Colorado for supply. This great project, to take six years to build, to employ a maximum of 16,000 men, and to cost \$220,000,000 is now under construction. It is said that more than 150 possible routes have been studied in planning the line from the Colorado to the terminal storage reservoir which will serve the 13 cities of the Metropolitan District, of which Los Angeles is the largest. Over 40 distribution schemes have been analyzed in projecting the 157 miles of line required to distribute the supply over the area to be served.

Beginning at a point on the Colorado about 155 miles below the Hoover Dam, the water will be pumped, conveyed through grade conduit, tunnel, canal, and pressure pipe lines, across deserts, through mountains, and over valleys to furnish a supply of 969 million gallons daily (1500 cu. ft. per sec.). It is estimated that this will suffice for a population of 7½ millions, and, although the present population of the district is only 1½ millions, it is expected that the future growth and demand will require the full capacity of the aqueduct before the year 2000.

Although some of the vast preliminary road and power line constructions needed to reach the isolated area crossed by the aqueduct, was begun late in 1931, taxpayers' suits and financial difficulties hindered the sale of the authorized bonds and the future of the project seemed doubtful. The legality of the bond issue has since been established, however, and the pledge of the Re-

construction Finance Corporation to bid for a maximum of \$40,000,000 of the district bonds, assures the first two years of construction.

Calls for bids have been issued for the construction power line from the coast to the San Jacinto Tunnel, for a field headquarters at Banning, and for the San Jacinto Tunnel itself. This tunnel, for which a contract was signed at \$7,331,815 on December 12, will be almost 13 miles long (67,408 ft.) and 16 ft. in diameter. It is the first of three great tunnels (the West and East Coachella tunnels will follow) and it is proposed to excavate it from both headings and by two adits. As now planned the main aqueduct consists of 84.88 mi. of tunnel, 54.58 mi. of cut-and-cover aqueduct, 75.04 mi. of lined canal, and 24.52 mi. of concrete pipe. The total pumping lift of 1583 ft. is to be powered primarily from purchases from the Hoover Dam power plant but a small amount of power will be developed at drops on the aqueduct line itself.

Clearly the tunneling on this great work will be a controlling element of construction. Remembering the tunnel records made in the Roger's Pass and Cascade Tunnels (see 1928 YEAR BOOK) it will be interesting to note whether these remarkable records will be exceeded in the Colorado River aqueduct.

**SAN FRANCISCO.** Financial difficulties almost caused a shut down on the great Hetch Hetchy project early in the year. Bonds remained unsold and only a most extraordinary agreement between the forces engaged on the project and an emergency "Purchase Syndicate" avoided this calamity. Briefly, the syndicate bought the city bonds (\$1,500,000  $4\frac{1}{2}$  per cent) at par and as required to meet the monthly pay rolls. The employees contributed 10 per cent of their wages to the syndicate thus making good the 10 per cent discount necessary to secure a market for the bonds.

As noted in the 1931 YEAR BOOK, an emergency pipe line was under construction to make the Hetch Hetchy water available before the completion of the Coast Range tunnels. It is understood that this line, and the completion of the  $47\frac{1}{2}$  mile San Joaquin siphon, have met the emergency brought on by the 1931 drought. The final \$6,500,000 bond issue required to complete the Coast Range Tunnels and thus finish the system, was authorized by a vote of 2 to 1 in May. Bids on June 6, showed that the city forces were lowest, and, although outside contracts are required for all works over one million in amount, this bid was accepted. City forces are therefore carrying forward the 6.3 miles of tunneling and the 16 miles of tunnel lining which still remain before this great undertaking will be fully completed.

**ARABIA.** A peninsula in southwestern Asia situated between the Red Sea and the Persian Gulf. The area is estimated at from 1,000,000 to 1,200,000 square miles, the higher figure including the Syrian Desert and the Sinaitic Peninsula. Estimates of the population range from 4,000,000 to 7,500,000. The inhabitants represent every stage of transition from the purely nomadic Bedouin tribes, occupying a large part of the interior, to the well-developed civic life of the large towns. The divisions of Arabia are defined as follows:

**KINGDOM OF SAUDI ARABIA.** The Kingdom of Saudi Arabia was, on Sept. 27, 1932, the official name of the territory formerly known as

The Kingdom of the Hejaz and Nejd and its Dependencies. Ruler in 1932, King Abdul Aziz Ibn Saud.

Hejaz occupies the western coast of Arabia between Trans-Jordan on the north and Asir on the south, the latter boundary touching the coast at about  $20^{\circ}$  N. latitude. The estimated area is about 150,000 square miles, although the land frontiers have never been definitely defined, and the population, largely composed of nomads, is placed at from 800,000 to 1,000,000. The chief cities, with their estimated populations, are Mecca, the capital of the Hejaz and the holy city of Islam (85,000); Medina (30,000), site of Mohammed's tomb; and Jidda (25,000), the seaport for Mecca. Mecca is visited annually by about 100,000 Moslem pilgrims from abroad, who represent the chief source of revenue for the government. The standard gold currency is the pound sterling, which is equivalent to 10 riyals in native currency. Agriculture is confined to the mountain oases and valleys, which produce fruits, dates, and some cereals. Hides, wool, gum, and clarified butter are the leading Bedouin products. Some Arab horses are exported. Imports of the Hejaz are estimated at from \$13,000,000 to \$15,000,000 annually. The southern section of the railway from Amman, Trans-Jordan, to Medina, has been out of commission since 1925.

Nejd occupies the highland of Central Arabia, with an indefinite area and a population estimated at 3,000,000. Riyadh, the capital, and Hufuf have populations of about 30,000 each. Dates, wheat, barley, fruits, hides, wool, horses, and camels are the chief products.

The Nejd was governed in patriarchal fashion by the King, acting through Emir Saud, his eldest son, who resided at Riyadh as Viceroy. The Hejaz had a Constitution issued Aug. 29, 1926, which vested all administrative powers in the King. By a decree of Dec. 9, 1931, King Abdul Aziz created a Council of Ministers for the Hejaz, composed of a President, together with the Minister of Foreign Affairs, Minister of Finance, and a Minister of the Consultative Council. There were six Departments of State and advisory councils of notables and officials approved by the King, including a consultative legislative assembly at Mecca, municipal councils in Jidda and Medina, and numerous tribal councils.

**ASIR.** A province on the west coast between the Hejaz and Yemen, formerly ruled by the Idrisi dynasty but since 1926 a protectorate of the Kingdom of Saudi Arabia. Estimated population, 1,000,000; capital, Sabya. Under an agreement reached between the Idrisi and Ibn Saud, Asir was practically annexed to the Hejaz in 1930. A dispute between Ibn Saud and the Iman of Yemen concerning the frontier between Asir and Yemen was reported to have been settled by a general treaty concluded on Dec. 15, 1931.

**YEMEN.** The Imamate of Yemen is an independent Arab state occupying the Red Sea coast between Asir and the British protectorate of Aden. The area is about 75,000 square miles and the population between 2,000,000 and 3,000,000. Sana', the capital, has about 25,000 inhabitants. Barley, wheat, millet, coffee, and hides are the principal products and exports. Revenues total about \$5,000,000 annually. Ruling Imam in 1932, Yahya Hamid ed-Din, who succeeded his father Muhammad in 1904.

A highway about 200 miles long was under

construction between Sana' and Hodeida, a port on the Red Sea. From Hodeida for 50 miles in a northeasterly direction the highway passes the Tehama, a low coastal plain. Then for the next 150 miles it winds over a mountain range to Sana' (altitude about 7500 feet). A second highway was under construction from Hodeida to Sana' which will extend in a curve to the south of the straight line between the port and the capital, and so pass around the mountain range. Motor vehicles using the new highways were expected to make the trip in 10 hours, as against five to six days required by pack animals.

**THE HADRAMAUT.** A region of fertile valleys to the east of Aden protectorate, the greater part of which is ruled by the Sultan of Makalla. The territory is under loose British protection and control.

**OMAN.** An independent state occupying the coastal fringe of southeastern Arabia; under the protection of Great Britain. Area, about 82,000 square miles; population, estimated at 500,000, chiefly Arabs but with a considerable Negro element along the coast. Muscat, the capital, has about 10,000 inhabitants, most of whom are Negroes or Baluchis. Exports, consisting of dates, dried limes, pomegranates, and dried fish, are exchanged principally with India. In 1930-31 imports were valued at £282,478 and exports at £132,797. Revenues total approximately 800,000 rupees (the rupee averaged \$0.3369 in 1931) annually. The reigning Sultan in 1932 was Seyyid Sir Taimur bin Feisal, who succeeded to the throne Oct. 5, 1913.

**KUWAIT.** An Arab territory fringing the northwestern coast of the Persian Gulf, with an estimated population of 50,000. The Sheik, Ahmed ibn Jabir al Subah, is subsidized by the British government. Capital, Kuwait.

**BAHRAIN ISLANDS.** An island archipelago in the Persian Gulf 20 miles from the Arabian coast, having an area of 250 square miles and a population of 120,000 ruled by Sheik Hemad bin Isa al Khalifa; under British protection. The chief islands are Bahrain (27 miles long and 10 miles wide); Maharag (4 miles long and ½ mile wide); Sitra (3 miles long and 1 mile wide); Nebi Saleh (about 2 miles in circumference). Capital, Manama (population about 25,000). The islands are the centre of the pearl-fishing industry of the Persian Gulf.

For other Arab or partially Arab states, see also IRAQ, PALESTINE, TRANS-JORDAN, SYRIA, and ADEN.

**HISTORY.** Another of the periodic tribal rebellions against the King, Abdul Aziz, broke out toward the end of May, 1932, under the leadership of Sheik Ibn Rifada el Awad of the Billi tribe, who was driven into exile in 1925 upon the overthrow of King Hussein of the Hejaz. A number of tribes, discontented as a result of economic suffering caused by drought and the decline in the number of pilgrims visiting Mecca, joined the revolt. Their forces were crushed in an all-day battle on July 31. Ibn Rifada and about 360 of his adherents were reported killed. The British government strengthened its forces in Akaba as a result of Ibn Rifada's revolt. Akaba, a port on the Gulf of Akaba of strategic importance in the defense of the Suez Canal, was annexed to Trans-Jordan in 1925 after the British prevented its occupation by Ibn Saud. The latter was reported as determined to incorporate Akaba within his kingdom.

Further fighting was anticipated in Arabia as a result of King Abdul Aziz's reported declaration that he did not recognize the Balfour Declaration in favor of a Jewish national home in Palestine. Also, the powerful Ruallah tribe of Southern Syria decided to assist in overthrowing the Ibn Saud dynasty of the Kingdom of Saudi Arabia and placing a member of the Hashimite family—that of King Hussein—upon the throne. An official mission from the Saudi Arabia Kingdom, headed by Emir Feisal, second son of King Abdul Aziz, visited most of the capitals of Europe, including Moscow and London, in the spring of 1932.

**ARBITRATION, INTERNATIONAL.** For an account of the earlier treaties (1908-1930) see the NEW INTERNATIONAL YEAR BOOK for 1930, pp. 45-47.

In 1931 the United States signed a treaty with Switzerland that embraced the arbitration and conciliation provisions which, in respect of other countries, are each the subject of separate treaties. Negotiations have been initiated for similar arbitration treaties with, Great Britain, Japan, Persia, Siam, Spain, Turkey.

Likewise in 1928, conciliation treaties similar to the Bryan treaties, were signed on the part of the United States, with: Albania, Austria, Czechoslovakia, Finland, Germany, Lithuania, Poland. These treaties have become effective by exchange of ratifications. During 1929, conciliation treaties were concluded by the United States with: Belgium, Bulgaria, Egypt, Estonia, Ethiopia, Hungary, Luxemburg, Rumania, Yugoslavia. These have become effective by exchange of ratification.

During the year 1930, conciliation treaties were concluded by the United States with Greece and Latvia. Negotiations have been initiated for similar conciliation treaties with Japan, Persia, Siam, and Turkey.

The policy which the American Government entered upon in 1928, has been to conclude arbitration treaties with countries with which the United States had Bryan Peace Treaties, but no arbitration treaties in force, at that time, and to conclude both arbitration and conciliation treaties with countries with which the United States did not have a treaty of either character in force.

The United States is a party to the two conventions for the pacific settlement of international disputes, signed at The Hague on July 29, 1899, and Oct. 18, 1907, respectively, the first of which is in force between the United States and fourteen countries, and the second of which is in force between the United States and twenty-nine other countries. The United States is also a party to the convention for the limitation of force for the recovery of contract debts, signed at The Hague Oct. 18, 1907, to which twenty other countries are parties.

Guatemala, Honduras, Nicaragua, Costa Rica, and the United States, are parties to a convention for the establishment of international commissions of inquiry, signed at Washington on Feb. 7, 1923. The United States is also a party to the treaty to avoid or prevent conflicts between the American States, which provides for the establishment of international commissions of inquiry, and which was concluded and signed at the Fifth International Congress of American States on May 3, 1923. Seventeen countries have ratified or adhered to the treaty; Brazil, Chile,



Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Mexico, Panama, Paraguay, Peru, United States, Uruguay, Venezuela. This treaty is often called the Gondra treaty, in recognition of its principal author, a delegate from Paraguay.

On Jan. 5, 1929, a Pan American Arbitration treaty and a Pan American conciliation treaty were signed at Washington by Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, United States, Uruguay, Venezuela.

**WAR CLAIMS.** The War Claims Arbiter Under Settlement of War Claims Act of 1928 reported to the U. S. Secretary of the Treasury that the work of the arbitration had been completed and that, by virtue of two certifications of awards, the terms of office of the Arbiter and of the officers and employees appointed by the Arbiter had expired.

The two certifications were in the claim of Berlin-Karlsruher Industrie-Werke Aktiengesellschaft in Docket No. 316 and the claim of Pallas Apparte Gesellschaft m.b.H. the only claims of German nationals which were the subjects of awards pending before the Arbiter after the first certification of awards.

On Aug. 2, 1928, upon the expiration of the time limit for filing claims with the Arbiter, the docket included 1180 cases. Comprised in these 1180 cases were 105 claims for the value of ships, five claims for the value of personal property contained in ships, one claim on account of a radio station, and 1069 claims, involving approximately 6000 patents, 108 applications for patents, and 454 trade-marks. Under the first Arbiter, who took office on Apr. 3, 1928, there were dismissed on jurisdictional grounds eleven claims for the value of ships and 165 patent and trade-mark cases, and awards were entered under Section 6 in two patent cases totaling \$3100 as the basic amount for the two cases, which, with interest from July 2, 1921 to Dec. 31, 1928, both dates inclusive, as provided by the Act, amounted to \$4,262.72.

Therefore, when James W. Remick took office as War Arbiter, succeeding the late Edwin B. Parker on Jan. 13, 1930, there were pending 1004 cases which included 94 claims for the value of ships, 5 claims (one of which was subsequently dismissed) on account of personal property contained in ships, one claim for a radio station, and 904 patent claims, involving approximately 5000 patents and 100 applications for patents. Of the 904 patent claims, 423 were dismissed by the present Arbiter and awards entered in 481 patent claims as hereinafter described.

The Arbiter awarded, as the value under the Act of the 94 ships, \$74,243,000, of which \$53,994,909.09 was the basic amount and \$20,248,090.91 was the interest under the Act. One of the five claims for the value of personal property contained in ships was dismissed on jurisdictional grounds and awards were entered in the four remaining cases amounting to \$9933, of which \$7224 was the basic amount, and \$2709 was the interest under the Act. The grand total of the awards in favor of German nationals under Section 3 of the Act on account of the 94 ships and the four claims for personal property in ships amounted to \$74,252,933, of which \$54,-

002,183.09 represented the basic amount, and \$20,250,799.91 constituted the interest under the Act.

Awards in favor of German nationals were entered by Arbiter Remick pursuant to Section 3 in 313 cases involving 3788 patents, 34 applications for patents, and one radio station, in the basic amount of \$9,079,830 with interest of \$3,405,557.83, making a total of \$12,485,387.83. The sum total of awards to German nationals under Section 3 on account of ships, patents, and one radio station was \$86,738,320.83 including interest, which falls short of the \$100,000,000 maximum appropriation authorized by Congress under Section 3 by \$13,261,679.17.

Under Section 6 awards were made in favor of Austrian nationals in 138 dockets, involving 194 patents, in the basic amount of \$663,740, with interest amounting to \$248,947.94, making a total including interest of \$912,687.94. Awards were entered under Section 6 in favor of Hungarian nationals in 31 dockets, involving 30 patents, in the basic amount of \$39,125 with interest amounting to \$14,674.56, making a total including interest of \$53,799.56. The amounts of awards mentioned in the two preceding sentences include the two cases in which awards were made under Section 6 by the first Arbiter. One of these cases, involving two patents, resulted in a basic award in favor of an Austrian national in the sum of \$3000, with interest amounting to \$1125.21, making a total including interest of \$4125.21. The other case which involved one patent resulted in a basic award in favor of a Hungarian national in the sum of \$100, with interest amounting to \$37.51, making a total including interest of \$137.51. The total amount, including interest, awarded under Section 6 in favor of Austrian and Hungarian nationals is \$966,487.50, which falls short by \$33,512.50 of the maximum appropriation of \$1,000,000 authorized by Congress.

The expenditures made by the War Claims Arbiter from the beginning of the Arbitration on Apr. 3, 1928, to its close on Dec. 15, 1931, amounted to \$136,862. Pursuant to the allocation required by subsection (1) of Section 6 of the Act the Arbiter decided that 83 per cent of this amount should be borne by the German Special Deposit Account, 16 per cent by the Austrian Special Deposit Account, and 1 per cent by the Hungarian Special Deposit Account.

**GENERAL AND SPECIAL CLAIMS.** The U. S. Department of State reported that the only arbitrations now in progress (1932) are the general arbitration of the pending claims of the United States and Panama, and the arbitration of the claims of American citizens against the German government arising out of the World War. The arbitration of general and special claims against the government of Mexico which had been in progress since 1924 was suspended during the latter part of 1931 because of the expiration of the two Conventions between the United States and Mexico from which the respective arbitral commissions derived their jurisdiction.

The only arbitration convention which is now awaiting the approval of the United States Senate is the Special Claims Convention between the United States and Mexico extending the life of this Special Claims Commission. The approval of the Senate to the extension of the General Claims Commission between the United States



and Mexico was given in the form of a Senate resolution.

The status of the *I'm Alone* case was not materially changed during 1932. The United States counsel were awaiting the brief to be filed on behalf of Canada. See *NEW INTERNATIONAL YEAR BOOK*, 1930, p. 46.

Robert E. Olds, formerly Under Secretary of State was appointed a member of The Hague Arbitration Tribunal in succession to the late R. W. Bowyer.

The Anglo-German mixed arbitral tribunal was provisionally dissolved as of February 7, by exchange of notes between Germany and Great Britain.

The Mexican Senate approved the award of the King of Italy, in favor of France, dated Jan. 28, 1931 in the arbitration between France and Mexico over Clipperton Island.

The claims of the United States against Germany based on the *Black Tom* and *Kingsland* cases, and involving \$40,000,000 for alleged sabotage in the World War, was settled in favor of Germany by a decision of Associate Justice Owen D. Roberts of the U. S. Supreme Court, acting as umpire in the German-American Mixed Claims Commission.

Eugene Borel, Arbitrator in the United States—Sweden arbitration, rendered a decision in favor of the United States in a claim based on the alleged detention of two Swedish motorships by the United States during the World War.

The Court of Claims decided the case of *Flensburger Dampfer-Compagnie* (a steamship corporation operating under the laws of Prussia) versus the United States.

The report of Robert W. Boynge, American agent of the Mixed Claims Commission (U. S. and Germany) on claims from June 30, 1928—June 8, 1932, was published as Senate Document 146, Seventy-Second Congress, Second Session.

**ARBITRATION, LABOR.** See *LABOR ARBITRATION AND CONCILIATION*.

**ARBOR DAY.** See *CELEBRATIONS; FORESTRY*.

**ARCHÆOLOGICAL INSTITUTE OF AMERICA.** A society for the promotion of archaeological investigation and research, founded in Boston in 1879 and incorporated by Act of Congress in 1906. It has largely accomplished its purpose through its schools and a number of important committees, including the American School of Classical Studies at Athens, the School of Classical Studies of the American Academy in Rome, the American Schools of Oriental Research in Jerusalem and Bagdad, the School of American Research in Santa Fe, N. M., the American School of Prehistoric Research at Peabody Museum, Yale University, and the Committee on Medieval and Renaissance Studies. In 1932 it had 55 affiliated societies, or chapters, with a membership of 3425.

The thirty-third general meeting of the institute was held at Syracuse, N. Y. Dec. 28-30, 1932. In connection with its study of the Mythology of All Races, the institute published *Semitic Mythology*, by Stephen H. Langdon. The official organ is the *American Journal of Archæology*, a quarterly, while *Art and Archæology*, a non-technical monthly, is published by the institute's Washington society. The officers in 1932 were: President, Louis E. Lord, Oberlin College, Oberlin, Ohio; first vice president, David M. Robinson, Johns Hopkins University; general secre-

tary, Albert Billheimer, New York University; treasurer, Rollin H. Tanner, New York University; and recorder, Horace W. Wright, Lehigh University.

**ARCHÆOLOGY.** The last few years have shown a growing interest in the exploration of the ancient sites in Syria, Palestine, and Mesopotamia. The past year has been no exception to the rule. Egypt, Greece, and Italy have of course continued to receive considerable attention.

**EGYPT.** South of the great temple at Abou Simbel in Egypt the flight of steps which led down to a tomb were found covered with the skeletons of horses, camels and dogs which had been sacrificed at the funeral of the owner of the tomb. In another tomb were found the remains of four horses wearing elaborately silver-mounted harnesses. Nearby were the skeletons of four men whose manner of death was indicated by the ropes still found about the necks. In still another chamber were discovered the bones of forty-six dogs and a colt as well as those of a strangled groom.

Near Beni-Salame, 30 miles from Cairo, have been found the evidences of a neolithic settlement dating about 5000 years B.C. The people who lived here ate wild game such as the boar and gazelle but they also kept cattle and seemed to have developed agriculture to a fair degree, for threshing floors and storage bins were found. The houses took the form of oval clay huts half sunk in the ground. Entrance was through a hole in the top.

One of the most important discoveries at Gizeh was that the fourth pyramid which so much resembled a mastaba belonged to queen Khent-Kawes. The inscription on the door jamb of the chamber which was cut in the solid rock describes the queen as "King [perhaps Ruler] of Upper and Lower Egypt and mother of the King of Upper and Lower Egypt, daughter of the God." Nearby were uncovered a series of rock-cut burials which formed a street that ran out probably into the desert. The largest was that of queen Bunefer; the others were those of royal priests.

At Meydum has been found a relief portrait of king Seneferu who built the pyramid at this place. This is the only known contemporary likeness of this prince. In the 18th dynasty cemetery some 30 tombs were opened and were found generally to have a "T" shape with a rectangular pit and a small chamber at the bottom. One tomb contained vessels with eye-paint, alabaster jars and some Ægean ware of the late bronze age. . . . To the north of the pyramid lies a large Ptolemaic cemetery in which interments reaching down to Christian times were opened.

Interesting discoveries have been made at Tel el Amarna, the capital of the Pharaoh Ikhnaton, the so-called heretic king. Work was concentrated upon the great official buildings, namely the small temple called Hat Aten or "Castle of the Disk," the private palace of the king and the public or state palace. The two palaces were connected by a bridge in which was a window from which the king showed himself to his people. The private palace was surrounded by a garden in terraces approached from the north by a gateway which was flanked on either side by flower beds. It was from this garden that the bridge led to the state palace. In the eastern part of the house were magazines. In this part was found a fine sculptor's trial piece and a wooden ushabti case in which were the handles of two walking-sticks. These were in the form of human hands. Not the least interesting was the evidence

discovered which seems to indicate that toward the end of his career Ikhnaton made efforts to effect a reconciliation with the orthodox priesthood and that Nefertiti the queen stood out against this move and actually withdrew to her own palace. The inference to be drawn seems to be that she may have been the force which led the king into his monotheistic beliefs.

**SYRIA AND PALESTINE.** An interesting start was made this year by Americans in digging at Antioch. Here a fine floor mosaic of the second century of our era was uncovered. It showed a reclining figure of Dionysos stays and dancers, and another panel showing the Judgment of Paris.

At Beisan, ancient Beth-shan, diggings in the level of the time of Seti I uncovered a large building, controlling the way to the top of the tell, which was found to contain an inner hall and a group of narrow buildings on the north, east, and south sides. Excavations at Gaza, conducted by Sir Flinders Petrie, have brought to light three superposed palaces dating from the years 3100, 2300 and 2100 B.C. In the earliest building was found a bath lined with plaster and approached by steps. In a foundation deposit of the last palace was discovered the skeleton of a horse which had been sacrificed and parts eaten at the ceremony. From the palace a secret passage was found to lead out into the desert affording a way of escape in time of siege. In a cave on the western side of Mt. Carmel were uncovered the skeletons of three people of the Neanderthal type. The floor of the cave was covered with the bones of animals and Mousterian implements.

Excavations by Liverpool University at Jericho have brought to light undisturbed royal tombs, evidence from which indicates that these kings in the fifteenth century were subject to Egypt. The latest dated deposit is from the time of Amenhotep III. One tomb of the time of Thothmes III and Hatshepsut contained as many as five hundred vases.

Garstang, who has been working at the site of Jericho, suggests Hatshepsut as the princess who discovered the infant Moses. In other words, the tombs of the kings contain considerable pottery and scarabs which point to the time of the exodus as that of Hatshepsut.

Some four hundred yards west of the city 25 bronze age graves were opened. From them were obtained about 1500 objects of that period. It was discovered that in the middle bronze age, that is, about 2000 B.C., the site of Jericho was surrounded by a strong mud brick wall with the gate protected by a massive tower. About 1800 B.C. the city covered about twelve acres and contained about three thousand people. In the sixteenth century the place, which had flourished under the rule of the Hyksos kings, fell before the power of Egypt.

At Mizpah excavations have brought to light many Cypriote vases antedating the year 1000 B.C. showing that contact with the Mediterranean was close. The temple of the queen of heaven, mentioned in Jeremiah, was cleared out, giving the first well-preserved gate discovered in Palestine.

From Ras Shamra, in northern Syria, has been recovered in the necropolis, what is probably the earliest record of a financial crash. The information is supplied by a tablet which appears to be warrant for the arrest and extradition of the minister of finance who had apparently brought on the disaster by his misdeeds in office. The

king who had issued the warrant was, it seems, much incensed to learn that the offender had been allowed to go free on bail after his arrest.

Of especial interest is the discovery at Samaria that Ahab's "House of Ivory" was something more than a myth. In the palace were found ivory panels which might well have served as ornaments for the king's bed or the walls of the rooms. One fragment, about 4.5 cm. in height shows two crouching lions. Others show a decided Egyptian influence, combined with influences from Mesopotamia.

Excavations at Sechem have uncovered massive cyclopean walls with a tower gate having a tower at the four corners of the structure. The walls can be traced for an unbroken circuit of such an extent as to include a city of 15 acres. In a tomb discovered in the necropolis of Tell en-Nasbeh has been found a fine agate seal in the form of a human eye bearing on the back an inscription in old Hebrew characters which reads "Belonging to Jaazaniah, servant of the king." Below the inscription is a figure of a crowing cock. This Jaazaniah was one of the officers of king Jehoiakim's army at the time Nebuchadnezzar captured Jerusalem.

**MESOPOTAMIA.** Excavations conducted at Bagdad by the University Museum, Philadelphia, have revealed that the palace was dedicated to Shalmaneser, son of Ashurnasirpal. From the second stratum has been taken a tablet of the time of Tiglath Pileser I. This refers to goods shipped to Nineveh through a broker named Yakub.

In the throne room of the palace of Sargon at Khorsabad has been found a huge monolith base of the throne measuring 12 by 15 by 5 feet. Sculptures on the sides show the king triumphant. The throne base had two small flights of steps. In the palace were three temples; those of the Moon-god, the Sun-god and Ningal the wife of Sin the Moon-god.

At Nineveh the excavators have dug down to the virgin soil and as a result of their work have been able to establish five prehistoric periods by means of the pottery found at the different levels. The earliest which was coarse plain ware carrying incisions is placed not later than 5000 B.C.; the second shows brilliantly painted ware done in three colors with affiliations with the early pottery of Carchemish; the third was marked by infant burial urns of great polished ware and seal impressions of animals done with great delicacy; the fourth contained red slip ware and seal impressions dating about 4000 B.C.; the fifth dating about 3000 B.C. supplied wheel-made vases and Sumerian seal impressions.

At Nuzi, about 200 miles north of Babylon, has been found the oldest known map in the world. It dates about 2500 B.C. and is small enough to be held in the palm of the hand. Three points of the compass are indicated together with the garden land of a man named Azala. Place names, a river, and neighboring mountains are shown. At Persepolis a foundation document has been found which tells of the completion of the Hall of the Hundred Columns by Artaxerxes. Diggings have shown that the elaborate drainage system of the platform was carefully laid out before any of the buildings were erected.

Finds of great importance have been made at Tel Asmar, some 50 miles north of Bagdad, where pottery with figures of elephants, rhinoceroses and crocodiles were recovered. These creatures were unknown in Babylonia at this time, 2000

B.C., and it is argued that the objects must have come from the Indus valley thus establishing a connection between Mesopotamia and the East.

In ancient times the city of Tel Asmar, or rather, the city on that site was connected with the river by canals. The name of the place was Eshnunna. Explorations on the site have afforded information reaching from the third dynasty of Ur to the time of Hammurabi's conquest in the twentieth century. From some 1400 clay tablets found on the site it was discovered that the kings of Eshnunna were vassals of Ur at the time of the third dynasty.

At Tepe Gawra the University Museum of Philadelphia found a town dating from the fourth millennium B.C. The arrangement shows a carefully laid out plan with the streets grouped around a market place. To the north were the shrines, in the centre the citadel, and to the south the residential district. All the walls were decorated with offsets. The place dates about 3700 B.C. making it the oldest town known. From the third millennium comes a fine seal representing the marine abode of Ut-apeshtim, the Babylonian Noah.

Work has continued at Ur. On the outskirts of the pre-dynastic cemetery was found a grave the pit of which had been filled in at three different times. At the bottom level were found perfect traces in the clay of the coffin which had been constructed of reeds with a wooden frame. The roof was gabled. The date of the burial is a little before the time of Sargon of Akkad, 2630 B.C. Other work on this site has resulted in the clearing of the base of the ziggurat and the resulting clearing of buildings of the first dynasty. A very thick terrace wall of heavy, dressed stones enclosed a group of rooms built of mud bricks as to the walls and with beaten clay floors. The clearing away of a massive wall, under the temenos wall of Nebuchadnezzar, revealed a complete temple with its entrance hall, paved court and three sanctuaries. The front was decorated with the regulation vertical grooves seen in Mesopotamian architecture.

GREECE. The American school of Classical Studies has successfully conducted its second campaign on the site of the ancient agora. The work was carried on in four city blocks two of which had been attacked in the 1931 campaign. In the northern sector, which lies just under the Theseum, were found traces of the Royal Stoa, identification of which was confirmed by this year's digging. In this quarter was discovered a building which is thought to have been used by the administrative officers of the Stoa. In the second sector, which lies to the southeast of the first, was located a wide street with buildings on each side. A long building which appeared on the east has been tentatively called the Stoa of Zeus Eleutherios. During the course of the campaign were found several fine Greek sculptures the most beautiful of which is a bronze female head somewhat over life size. This was discovered in a well together with Megarian bowls and lamps of the early third century. Another was a marble statue of a woman reminding one, as to pose, of the Nereids of Xanthos. It dates not later than the early fourth. The third is the statue of Hadrian which was located last year. The pottery recovered covers a wide range of dates from Middle Helladic down. Not the least interesting of the finds was an inscribed fragment of pottery bearing the name Aristides and

referring to the famous person of that name who was ostracized. Another interesting discovery was that of a dicast's bronze identification ticket and a bronze disk used in voting.

The Germans have continued their work in the Ceramicus where they have found many inscriptions. One gives a list of the Argives who fell at Tanagra in 458 B.C. In the neighborhood of the Sacred Gate of Themistoclean times the gateway and the Eridanos enclosure have been laid bare. Besides this a pre-Mycenaean cemetery, which was discovered in 1927, has been examined and 24 burials opened. This dig disclosed that there was no break here between late Mycenaean and proto-geometric times, that is in the 11th-12th centuries.

At Perachora (Corinth) excavations have brought to light beautiful bronze vessels of the seventh and sixth centuries. At Corinth itself two marble heads of Roman date have come to light. One, that of a woman, wears a turreted crown and probably represents the city of Corinth.

The Swedes have been working at Agia Irini in Cyprus where they have found a cult place dating about 1200 B.C. Originally the place had an open area surrounded by a row of priests' houses. In the course of the centuries the site was modified. One change took place about 1000 B.C. although the god still continued to be represented by the bull. A second change occurred about 700 when a new altar was erected. In the neighborhood of 600 still another change was made. At this time the temenos was considerably enlarged. Many terra cotta figures were found on the site varying from 20 cm. to life size. In all there were about 2000. They were arranged in concentric rows around the altar.

Also at Vournos in Cyprus an American expedition, under Dr. B. H. Hill, has located a palace and many unusual ritualistic vases with plastic figures on them. Some of the scenes suggest analogies with Minoan hinting at the survival of cult practices. The same expedition opened a number of prehistoric and geometric tombs. These burials belong to the Middle Bronze age (c. 1800 B.C.). From one grave over 325 fine bronzes were taken. Mostly in perfect condition they include ax-heads, knives, swords, daggers, pins, needles, tweezers, and rings.

At Troy Americans, working under Professor Blegen and Professor Sempel, with the assistance of Dr. Doerpfeld, ended their first campaign July 1. Two untouched sites within the citadel were dug to a depth of 3 meters. The upper layers, of Roman date, represent Troy IX. Below this came two prehistoric levels one at a depth of 1.70 m. the other at 2.75. In the upper one of these were found parts of a four-roomed house in one room of which was a domed oven of crude brick. Remains of another house were found at the other level. It is possible that this house belongs in the late part of the fourth city while the other belongs in the fifth.

This year Prof. D. M. Robinson, of Johns Hopkins University, continued his important work on the site of Olynthus. The excavations were concentrated upon the residential area. Here the city was found to be laid out in a regular fashion with some 13 streets crossing three main avenues at right angles in the true Hippodamean fashion. The city blocks were found to be of exactly the same size (86.5 by 35.5 m.) each containing 10 houses. The houses are very important for the history of domestic architecture since they are

the only houses of the late fifth and early fourth centuries of any importance yet found. The general plan shows the rooms opening on several sides of a court with the more important facing the south to get the warmth of the winter sun. These buildings had a second story.

Not the least important of the finds here were several fine mosaics of colored pebbles which were used as floors. These were found generally in the *andron* which was the important part of the house. The designs include geometric patterns, combats, and fantastic creatures. That showing Bellerophon on Pegasus slaying the Chimæra is the earliest mosaic known to contain a mythological scene.

ITALY. At Anzio, the site of ancient Antium, has been found a fine Hermes of the first century A.D. and a sculpture showing an Amazon riding down a fallen Greek. At Ardea was found proof that the site was occupied from the Early Iron Age down to the second century B.C. At Cecina one of the most important Etruscan tombs has been discovered. It is circular with a vaulted ceiling about 7 feet in height with the centre supported by an octagonal column. A square vestibule leads into the circular part of the tomb.

Professor Maiuri believes that he has found at Cumæ the actual grotto of the Cumæan Sibyl. The cave consists of an excavated tunnel running north and south along the top of the hill. It is 20 feet in height and 10 in width at the level of the floor, and 40 feet in length. At regular intervals, on the side to the sea, are lateral tunnels cut through to the outside of the hill, thus admitting light. Half way along the main tunnel three more lead out to three pools in which the Sibyl bathed before giving her prophecies. The grotto terminates in a large room in which are three arched niches.

At Herculaneum two complete *insulae* have been cleared. On the eastern side these extend as far as the city limits. The houses found proved to be very fine, with verandas and terraces looking toward the sea. The supports for these terraces were strong buttresses resting on the native rock. On the sea front of the houses were rooms opening on the loggias where one could rest and view the sea. Two houses of this patrician type were found, one has been named the "House of the Mosaic Hall" the other the "House of the Stags." Among the more humble houses were discovered two-family dwellings with light partitions of frame and plaster.

At Lake Nemi the second ship of Caligula has been completely recovered. The vessel is 233 feet long and 79 wide, and has a gallery for 100-150 rowers on each side. This gallery is 15 feet wide amidships and 26 at each end. Because it has been more deeply buried in mud than its companion, this ship is better preserved. In the centre of the deck is a small temple. Near the second vessel was found also a small boat 33 feet long by 4 feet 8 inches wide.

The excavations at Ostia have brought to light a fragment of an ancient *Fasti Annales* which, in a way, corresponds to our modern newspapers. This one, from the time of Trajan, contains many laudatory references to his works, such as that on the Appian Way, his rebuilding of the temple of Venus Genetrix, and the dedication of his column.

In the "House of Menander" at Pompeii three skeletons were found in an upper room where they had been caught by the disaster of the year

79. The house has now been practically completely cleared, and in it was discovered, besides the bodies just mentioned, a cart, the iron fittings for which are almost intact.

In Rome the excavations have now laid bare the whole of the Basilica Ulpia and have also revealed a Greek and a Latin library which stood near the basilica. The shops near the forum of Julius Cæsar have been cleared. In front of them are the round bases for columns which supported a double aisled portico. In the forum itself the houses which stood in the west part have been removed revealing a narrow strip of pavement.

At Tivoli the villa of Horace has been completely excavated showing a building some 140 feet wide and 363 long. In it were 24 rooms, 3 swimming pools, hot, warm and cold baths, and a garden covering 2900 square yards.

GENERAL. At Zara in Dalmatia has been found the forum of Augustus. At the site of Heraclea, in France, in the delta of the Rhone, excavations have uncovered the ruins of many houses and streets. In Bubenac, a suburb of Prague, a Roman settlement of the first century of the Christian era has come to light. In the centre of the city of Tarragona, in Spain, a circus of Roman times has been found. At Barcombe Mills, near Lewes, in England, a perfect bit of Roman road has been uncovered. It was part of the main road from London to Lewes. At St. Albans, ancient Verulamium, a Roman house with mosaic floor showing the head of a sea god has been found.

**ARCHITECTS, THE AMERICAN INSTITUTE OF.** The national organization of the American architectural profession, founded in 1857. Its objects are to organize and unite in fellowship the architects of the United States; to combine their efforts so as to promote the æsthetic, scientific, and practical efficiency of the profession and to make it of ever-increasing service to society; and to spread an understanding of art and service among the people.

Among the activities of the institute are devising methods, in coöperation with the architectural departments of the leading universities, for improving and extending architectural education not only in the universities but in the lower schools. It has perfected a model law for the registration of architects and assists its chapters in securing the enactment of proper registration laws in the various States. In collaboration with the Bureau of Standards, the American Engineering Standards Committee, the American Society for Testing Materials, the National Fire Protection Association, and similar organizations it has developed a service for architects which will give them for their actual problems data relative to building materials and data obtainable from no other source. It maintains a service to inform the prospective builder of the value of the architect's services from the æsthetic as well as the practical point of view.

The institute is governed by officers and a board of directors elected by, and responsible to, the delegates from the 67 chapters assembled at the annual convention. The directors and executive committee hold quarterly meetings in various parts of the United States, and the regional directors keep in active touch with the work of local chapters throughout the year. The membership in 1932 numbered more than 3400 of the 10,000 practicing architects in the United States.

The sixty-fifth annual convention, held in Washington, D. C., Apr. 27-29, 1932, reaffirmed

the stand taken by the 1931 convention that the operation of State, municipal, and other bureaus for the designing of buildings and monuments was an invasion of the field of individual professional activity and that these governments should discontinue as competitors in business with their private citizens. There was also urged by the retiring president, Robert D. Kohn, improvement of social conditions through large-scale housing operations. The officers elected for 1932-33 were: president, Ernest J. Russell of St. Louis, Mo.; first vice-president, Charles D. Maginnis of Boston, Mass.; second vice-president, Horace W. Peaslee of Washington; secretary, Frank C. Baldwin of Washington; treasurer, Edwin Bergstrom of Los Angeles, Calif.

The property maintenance capital of the institute in 1932 amounted to approximately \$73,000, the income being devoted to the maintenance of The Octagon, the historic colonial building owned by the institute. The organization's property and funds totaled \$507,019, of which \$53,817 belonged to the Waid Education Fund, the income being used to defray expenses of lecturers sent to various chapters and schools. The institute publishes *The Octagon, a Journal of the American Institute of Architects*; *Handbook on Architectural Practice*; *Autobiography of an Idea* and *A System of Architectural Ornament* by Louis H. Sullivan; *Bertran Grosvenor Goodhue—Architect and Master of Many Arts*; *Charleston, S. C.* (vol. i, Octagon Library of Early American Architecture); *Standard Contract Forms and Standard Filing System*; and documents on the ethics of the profession. Headquarters are in The Octagon, Washington, D. C.

**ARCHITECTURE.** Architecturally, the year 1932 was a disappointment. Depression conditions, almost world-wide, not only reduced building everywhere, but even in housing, the most socially necessary and promising field, compelled a drastic reexamination of the question, and in some cases a regrettable lowering of standards. Thus in Germany many municipalities, as well as the Prussian Government, began to experiment with "self-help" housing for the unemployed—mere shacks, often at scarcely decent subsistence levels, without plumbing or electricity. It is the plan to have these built largely by the unemployed themselves on agricultural land in a desperate attempt to make the unemployed self-supporting. It is noteworthy that in design the greater number return to old German traditional forms. Similarly, in America, the West Side Chamber of Commerce of New York City conducted an examination into what could actually be built to-day on American city land at its grossly inflated values, for the lower income groups, who cannot afford more than \$6.00 per month per room. The result, designed by Howard Burton, is a complete *reductio ad absurdum* of present conditions—a scheme of endless north-south rows of flats 20 feet apart, and 4 and 5 stories high. Such a scheme could not be better named than "How to create new slums"; yet without drastic governmental action it is all that is possible under the present system. Now the tragedy of such things as this proposal, or the German self-help housing is, that if built on a large scale, and if successful, they would constitute a definite turning back the clock, a definite abandonment of even the hope of a decent living standard on the part of those whose standard is low enough already.

**THE UNITED STATES.** The building industry of this country has suffered from the depression perhaps more severely than any other. In the first eight months of the year, for instance, according to Dodge Reports, total construction contracts were roughly \$929,800,000, as opposed to \$2,311,600,000 for the corresponding period of 1931, a decline of about 60 per cent! And of this amount nearly half consisted of roads, sewers, and similar projects. The large projects completed or carried on during the year, like Rockefeller City, New York, and the Century of Progress Exposition, Chicago, were begun or decided on prior to the depression. And the Government programme of public works has lagged disappointingly. The Reconstruction Finance Corporation has been so busy making "financial" loans to Banks, Railroads, and so on, that its loans to "self-liquidating projects" (of which much had been hoped, especially along housing lines) are as yet but scanty. Even the Hillside Housing Project in the Bronx, New York City, designed by Clarence S. Stein, which had been promised a large loan, aroused such discussion because of its effect on the local real-estate situation, that it is in a deadlock.

An important event during the year was the traveling exhibition of Modern Architecture, sponsored by the Museum of Modern Art in New York City. This lavish presentation by photographs and models was unfortunately not made inclusive; it was, with a few exceptions, limited to that class of stark functionalist designers who have created what they term "The International Style"—Le Corbusier, Miès Van der Rohe, Gropius, Howe, and Lescaze, etc. The exhibition thus became unduly propagandist in tone, rather than informative. The whole controversy with regard to the International Style, with its insistence upon lack of ornament, and the forced expression of modern methods and materials (some as yet by no means perfected) bids fair to be of considerable historic importance. Needless to say, the protests against the "International" attitude by those who believe architecture is still a matter of individual creation, still a fine art, were numerous and, in some cases, eloquent.

The end of the year saw the opening of the first two units of Rockefeller City (by Reinhard and Hofmeister, Corbett, Harrison, and MacMurray, and Hood and Foulhoux), the Radio City Music Hall, and the "Roxy" Theatre, the first seating over 6000, the second slightly over half as many. Architecturally, their interiors proved more exciting and more satisfactory than the exteriors. The Music Hall is a great trumpet shaped auditorium, with walls and ceilings blended into one curve. Breaks in this surface allow concealed lighting and ventilation, and the entire effect is most impressive. The Theatre is totally different, with vertical walls of wood veneered on metal, a horizontal ceiling, and a great chandelier; the effect, despite its size, is definitely intimate. Both are furnished with ample and luxurious lounges, etc., in which many of the best of the modern New York designers had a hand. The Music Hall and its appurtenances were under the general control of Donald Deskey; the Theatre under that of Eugene Schoen. It is not necessary to enter here into more discussion of the wider social, economic, and artistic implications of the whole group. These were touched upon in the article on Architecture in last year's **INTERNATIONAL YEAR BOOK**, and the whole mat-

ter analyzed forcefully in one of Walter Lippmann's articles for the New York *Herald-Tribune*.

Work on the Chicago World's Fair progresses. During the year the Hall of Science, by Paul Cret, the Electricity Building, by Hood and Foulhoux, the Transportation Building by Corbett, Harrison, and MacMurray, and the Administration Building by Holabird and Root were all substantially completed. Extended comment must await the opening of the Exposition; in the meantime, however, it is possible to note the curious fact that allies this Chicago group to Rockefeller City—the total absence of any monumental group plan. Thus the buildings are not arranged so that each helps the other, and the total effect is more impressive than that of the mere sum of the aggregates, but they are treated as mere individual entities, almost unrelated.

The work on the complex of Governmental buildings to fill the "Triangle" between Pennsylvania Avenue and the Mall in Washington, D. C. still continues. Here again the general plan is crowded and confused, apparently working for individual small centres of interest rather than any large and clearly apprehended effect. The existence of this quality in the three largest projects in recent American architecture (the Washington Triangle, Rockefeller City, and the Chicago World's Fair) cannot but arouse the disturbing question: have we American architects forgotten how to plan? Have we been so obsessed with the mere practical question of furnishing square feet (usually too many) of building on square feet of land (usually too few) that the tremendous opportunities of group arrangement to give group effect have simply faded from consciousness?

One group of buildings completed during the year forms a welcome exception—the War Memorial Buildings in San Francisco—a Veteran's Memorial Building, and the San Francisco Civic Opera House, both by Arthur Brown, Jr., with G. Albert Lansburgh collaborating on the Opera House. Despite the purely academic style of these buildings, in a conventional Doric order, they form one monumental whole with the City Hall, and create a mass effect of dignity and space unusual in this country. The plans of the individual buildings are clear, simple, and direct, that even the over-heavy interior detail cannot hide a certain nobility of conception.

The Louisiana State Capitol, at Baton Rouge, La., by Weiss, Dreyfous, and Seiferth is another example of a plan more beautiful than the details of its execution. The style is that type of modernized classic that seems more and more to be the accepted official style of the country. The building in general mass, as in style, is obviously influenced by Goodhue's epoch-making Nebraska Capitol; like the older building the Louisiana Capitol has a high office Tower instead of a dome, and depends much on incidental monumental sculpture. Lorado Taft, Lee Lawrie, Ellerhausen, and others furnished this: in the main the result is dignified, clear, and effective. The interiors are also effective and imaginative, but one questions as inharmonious the use of archaeological forms in the Senate Chamber.

Among other public buildings, the auditorium of the State Education Building in Harrisburg, Pa., by Gehron and Ross deserves mention for its simple dignity and its stunning decorations by Eric Gugler; and the City Hall at Kalamazoo,

Mich., by Weary and Alford, for its dignity and direct use of the modernized classic. The Water Tower in Washburn Park, Minneapolis, Minn., by H. W. Jones, has colossal figures decorating its buttresses, and shows exceptional thought applied to a practical necessity. The Veteran's Memorial Bridge at Rochester, N. Y. by Gehron and Ross is a superb arched bridge with great power in its simplicity, and the American Legion Memorial Chapel at Lakehurst, N. J. by Paul Cret, is a simple French Gothic building with a walled fore-court.

The Olympic Stadium at Los Angeles, Calif., by John and Donald Parkinson was more than adequate for the games for which it was built, and its monumental handling of its concrete walls and great arched entrance is characteristic of the underlying classicism of much of the best American work, even when without any trace of archaeological detail, and in a modern material. The Joslyn Memorial (an auditorium and museum) in Omaha, Neb. by J. and A. McDonald shows the same desire for classic dignity; its scale is beautifully handled, and its flanking masses well enframe the central colonnade.

Paul Cret's Folger Shakespeare Library, in Washington, is a monumental and attractive addition to the Washington buildings, with a quiet and dignified exterior, necessarily kept harmonious with the ruling classic of the city. The interiors are generally in the Elizabethan style, and there is a small theatre built as closely as possible in the style of the theatres of Shakespeare's own time. This extreme contrast in style and effect between outside and inside is regrettable if the building is considered as pure architecture, but it is a necessary result of the requirements and the site.

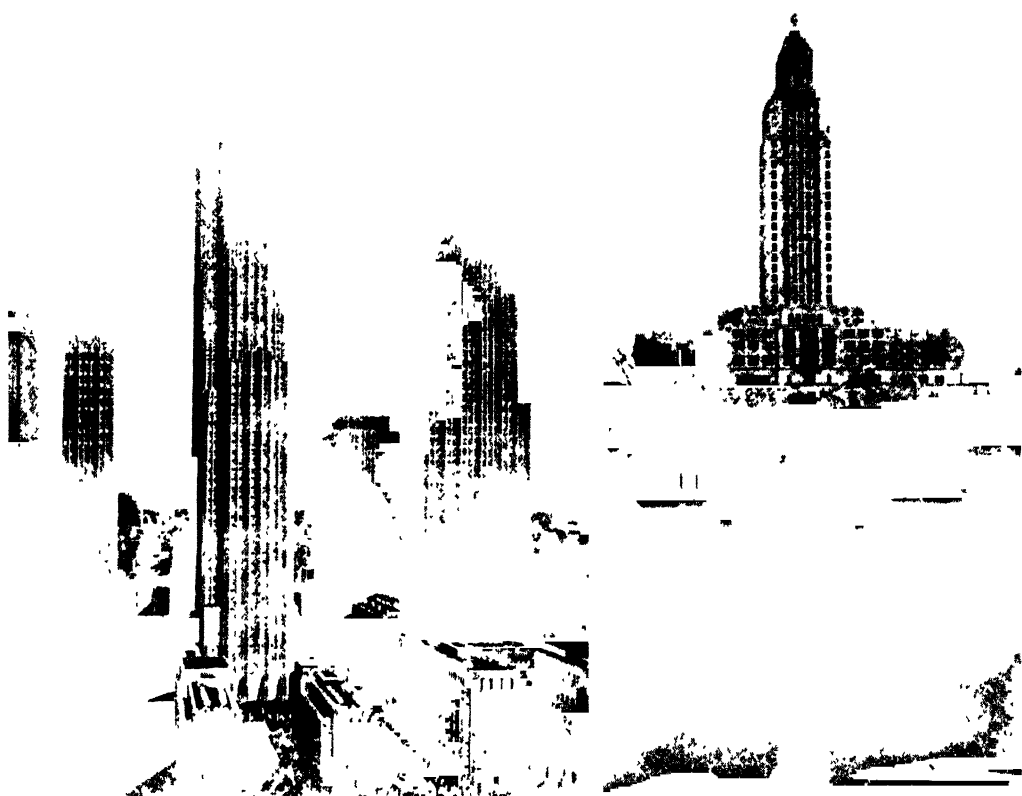
Three theatres of semi-civic type deserve mention. The Pilgrimage Play Theatre at Hollywood, Calif., by W. L. Woollett is an outdoor theatre with an enclosure of concrete using imaginative and fantastic forms, and the Guild Hall at East Hampton, Long Island, and the Kalamazoo Civic Auditorium, Kalamazoo, Mich., both by Aymar Embury II, are good examples of the small theatre with adjacent museum and reception rooms, etc. The East Hampton example has a charming colonial exterior surrounding a theatre unduly fantastic and frivolous; the Kalamazoo building is in a quiet modern style.

In educational work, the year was marked by the continuation of building at Princeton, by C. Z. Klauder, in the typical collegiate gothic style for which he is famous; by the completion in Rollins College, Winter Park, Fla., of the Annie Russell Theatre (by Kiehel and Elliott) and the Knowles Memorial Chapel (by Cram and Ferguson) in the usual undistinguished Florida Spanish; by the opening of the Cornell Law School, Ithaca, N. Y., the gift of Myron C. Taylor, built from the designs of Jackson, Robertson, and Adams in a simple collegiate Gothic; and in Chicago, by the International House (for foreign students) by Holabird and Root, in which the Gothic and modern styles seem contending for mastery, and the magnificent University of Chicago Field House, also by Holabird and Root, enclosing a vast arena 368 feet by 165 feet. Noteworthy also are the Harvard Biological Laboratories, Cambridge, Mass., by Coolidge, Shepley, Bulfinch, and Abbott, whose starkly simple brick exterior is relieved by a great frieze of animals cut into the brick from the design of Katharine



*Wide World*

UNITED STATES SUPREME COURT BUILDING, WASHINGTON, D. C.

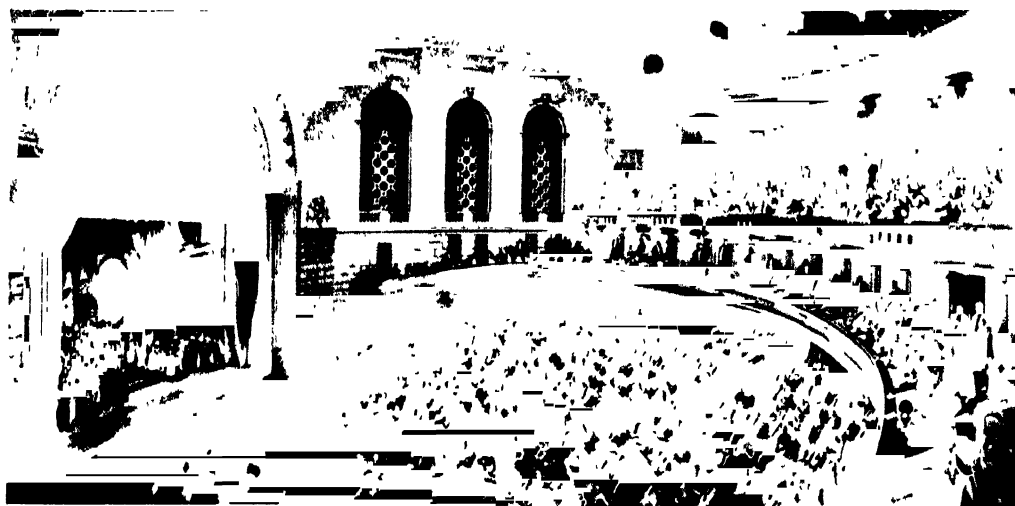


ROCKEFELLER CITY  
New York, N. Y.

*Copyright, International*

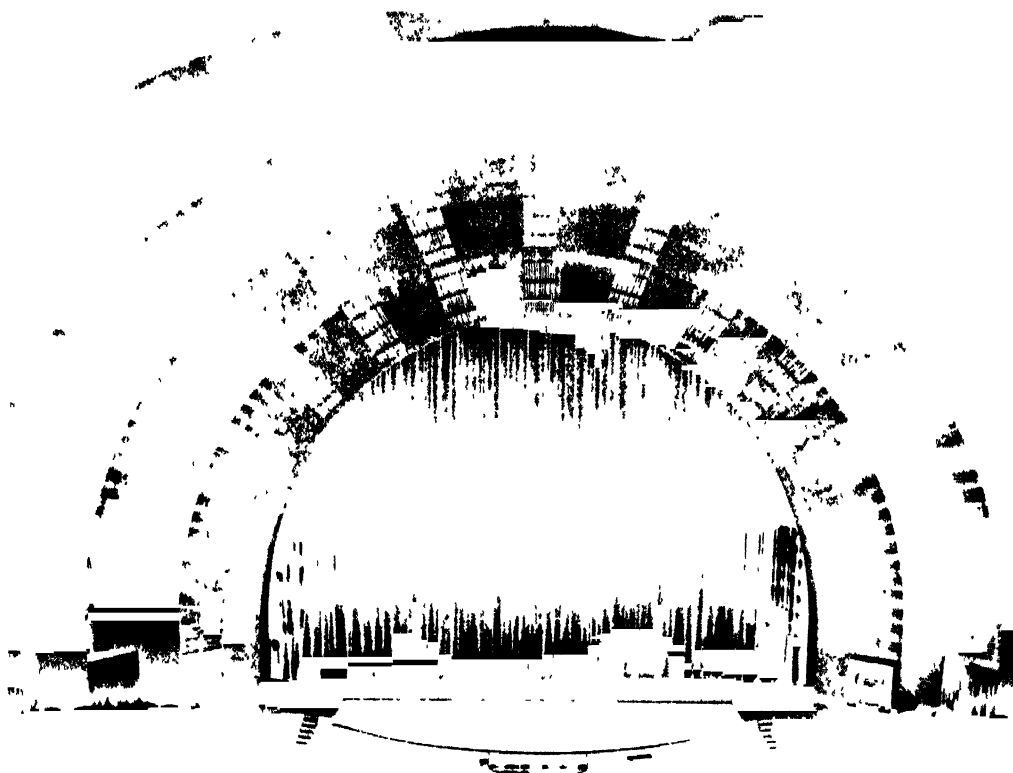
STATE CAPITOL  
Baton Rouge, La.

NOTABLE ARCHITECTURE IN 1932



*Wide World*

OPERA HOUSE, SAN FRANCISCO, CALIF



*Wide World Studios*

MUSIC HALL, ROCKEFELLER CITY, NEW YORK, N Y



W. Lane; and the Slovak Girls' Academy, Danville, Pa., by H. Sternfeld, interesting for its imaginative and generally successful attempt to find a logical modern treatment for rough stone walls, and for its slim and interesting tower. The Santa Barbara School for Boys, Carpinteria, Calif., by R. D. Johnson, is a delightfully simple airy group with a modernized Spanish flavor.

**ECCLESIASTIC WORK.** The completion of the Washington, D. C. Episcopal Cathedral nave, by Frohman, Robb, and Littell, showed a charming and successful piece of archæology, of the high quality the previous work in Washington led one to expect; but as a serious contribution to the stream of American church architecture it leaves much to be desired; creation along those lines must be sought elsewhere. The Washington example is too bookish, too much the museum piece.

The Church of the Precious Blood, Astoria, N. Y., by H. L. McGill is interesting in its frank use of concrete trusses, and of rich marbles and metals inside, as well as a general freshness of composition; in quieter and less forced ways, G. B. Kaufman's Westwood Community Church, Los Angeles, is equally fresh. The Memorial Terrace Mausoleum, Glendale, Calif., by F. A. Hanson, with D. C. Allison as consultant mixes many styles without conviction, and the Mission Dolores Church of H. A. Minton is adequate California Spanish archæology.

The continuing colonial tradition in American churches is best represented by the Glenn Memorial Church, Atlanta, Ga., by Hentz, Adler, and Shutz, whose interior is more consistent than its exterior; and by the new building of the All Souls Unitarian Church in New York City, by Hobart Upjohn, daring in the powerful scale of its lofty spire and of its simple and monumental interior. It is altogether a most satisfactory solution of a discouragingly difficult problem—the design of a church for a congested city site in such a way as to dominate the much larger neighboring apartment houses.

**HOSPITALS, CLUBS, ETC.** The outstanding event of the year in this class of buildings was the opening of the vast plant on the East River in New York City of the combined New York Hospital and Cornell Medical Centre, by Coolidge, Shepley, Bulfinch, and Abbott. This enormous group of gleaming white buildings is remarkably impressive especially from a distance. Many details can be adversely criticized—an erratic use of pointed arches, for instance, and of other archæological elements in such a modern whole—yet if architecture really is the organization of space, surely this is a great architectural work. Its great masses are superbly organized and the main composition has a remarkable æsthetic directness, clarity, and simplicity.

Other hospitals deserving notice are the Springfield Hospital, Springfield, Mass. by Stevens and Lee and C. F. Neergaard, and the Kings County Hospital, Brooklyn, N. Y., by Leroy P. Ward.

The Woman's City Club, of St. Paul, Minn., by Magnus Jemme, has a most interesting plan of related polygons, and is a delightfully straightforward expression of modern materials, such as steel window sash. The Midland Country Club, Midland, Mich., by Frantz and Spence, is also modern, well planned, and with attractive interiors, but its modernity of feeling seems some-

how not quite at home in its rural surroundings.

**COMMERCIAL AND INDUSTRIAL BUILDINGS.** As might be expected, few important office buildings were built during this year. The cities seem to be largely overbuilt in office space, due to the frenzied construction during the boom years of extravagant and over-easy credit. Of office buildings completed during the year by far the most important architecturally was the Philadelphia Savings Fund Society Building, by Howe and Lescaze. Here for the first time the cantilevering and the horizontal emphasis and the elimination of all ornament of the "International Style," were applied to a skyscraper. The result is an exterior that somehow looks experimental; the relationships of vertical and horizontal, of tower and banking room below seem unintegrated, forced. Yet there is a simple directness about it all that is obvious, and the interiors are beautiful in proportion and noble in material. The whole building is bound to produce controversy, but it is bound to produce stimulation as well. The type is not a cheap type to build; its apparent economy is apparent only; and the question is necessarily aroused as to where simplicity and functionalism become artificial and forced.

Among the more conventional office buildings, the Lincoln-Liberty Building, Philadelphia, by J. T. Windrim, and 75 Federal Street, Boston, Mass., by Thomas M. James, are much alike in their simple verticals and somewhat incoherent setbacks. The Architects Building, Philadelphia, by members of the Philadelphia Chapter of the A.I.A. under the executive direction of V. D. Abel, is noteworthy on account of its direct unassuming simplicity, and the Valley Bank and Trust Co. Building, Phoenix, Ariz., by Morgan, Wells, and Clements, and H. H. Green, because of its rich delicacy. The Richman Building, Detroit, Mich., by Albert Kahn, frames its windows in one great rectangle frame. The South Western Bell Telephone Building at San Antonio, Tex., by I. R. Timlin, shows the almost necessary conflicts aroused by using the Spanish Baroque details on a vertically treated building. The best bank buildings of the year are the Los Angeles Branch of the San Francisco Federal Reserve Bank, by John and Donald Parkinson, nobly simple, and the delightful State Mutual Building and Loan Association, at Los Angeles, by W. Richards, with a sculptured base.

The Paramount Theatre, at Oakland, Calif., by Miller and Pflueger, with rich surface relief on the interior plaster walls, is gay and more skillful in composition than most such interiors; and the Cinema Art Theatre, Chicago, Ill., by Armstrong, Furst, and Tilden is noteworthy for its charming and direct simplicity, both outside and in. One interesting innovation in moving picture theatres was tried experimentally during the year—the sloping of the auditorium floor up toward the stage instead of the reverse. In this manner gallery slopes can be much reduced, and with the correct placing and angle of the screen the result is said to be increased comfort for all the audience.

**DOMESTIC.** Houses, in the main, continue conservative in style, so that it is the more modern types which seem romantic rather than the quieter traditional examples. Yet popular taste seems more erratic than for years. One type of taste swings madly into an extravagant "stage scenery" type of romanticism, full of artificial ir-

regularities, and false textures all represented at their worst by the "Wonder House" constructed as an ideal dwelling in the Wanamaker store in New York City; the same romanticism, the same love of the artificially antique can be seen used more skillfully—with disarming charm—in such houses as that of Gilbert Browning, Greenwich, Conn., by F. J. Forster and R. A. Gallimore. By contrast with this "escape" romanticism, most of the houses of colonial or Georgian inspiration seem straight-forward and modern; such are the Goodrum House, Atlanta, Ga., by Hentz, Adler, and Shutze, and the beautifully simple small houses on Colony Hill, in Washington, D. C., by H. W. Peaslee. The group for E. A. Bailey on Lookout Mountain, near Los Angeles, Calif., by Roy Selden Price, is a sort of fantasy on a colonial theme. Perhaps the best and most quietly effective houses, perfectly modern in their frank use of materials and their frank expression of plan, and yet based on a local tradition, are such variations of the wooden California ranch house as that of Clarence P. Day, San Marino, Calif., by H. R. Kelley, or that of J. D. Kern, Brentwood Heights, Calif., by John Byers. Equally fresh, simple, and expressive is the Rosengarten Estate, Chestnut Hill, Pa., by Willing, Sims, and Talbott. The most interesting of the purely modernist houses is that of F. V. Field, New Hartford, Conn., by Howe and Lescaze.

**HOUSING, ETC.** Housing activity was largely confined to studies, to proposals of projects, and to experimental buildings. Among the studies those of Henry Wright, on relative costs of serviced and non-serviced apartments, and on optimum types for different land values were especially interesting. The Lower East Side Planning Association of New York City, conducted a study of possible tenement developments in that area by Harland Bartholomew and Associates, City Plan and Landscape Engineers, and John Taylor Boyd, consulting architect. This study proved conclusively the wastefulness of the present block sizes, and the advantages of a larger unit, the "super-block." Among the projects the chief was Clarence Stein's group of many apartment houses, the Hillside Housing, for the Bronx, New York (already mentioned). Experiments along the line of the factory built house continued widely, both under corporation and individual auspices, but few important results were published. Buckminster Fuller continued his study of buildings hung from a central supporting mast—a method extraordinarily efficient in the use of materials, but giving rise to endless structural and maintenance problems as yet unsolved. Bowman Brothers of Chicago published various schemes based on isolated supports; a house of frameless steel sections, field welded, and one with an enamelled sheet steel exterior were built by other architects. This whole field of research is obviously still in its infancy.

**ENGLAND.** The amount and quality of building in the British Isles held up remarkably well despite the financial stringency, a fact that may reflect some essential differences between the credit systems of England and the United States. This is true of both public and private work. Public work includes the great Ulster Parliament Building, at Stormont, Belfast, by Arnold Thornby. It is a disappointing building in a sort of obviously official and heavy handed classic, well planned but far from exciting. Much more interesting is the Southampton Civic Centre by

E. B. Webber, simpler in detail, but with sufficient interest in massing to create a true monumental effect; its quiet and delicate Roman detail is merely incidental. The greater ostentation of the columns of the Sheffield City Hall, by E. V. Harris, makes a less effective exterior; but the interior is magnificent. The New Lambeth Bridge, London, by Sir George Humphreys, Sir Reginald Blomfield, and G. Topham Forrest, is a dignified addition to the London bridges: it has five gracefully arched spans. The Shakespeare Memorial Theatre, at Stratford on Avon, by Evelyn Scott, Chesterton, and Shepherd, has a beautiful plan, based on the precedent of the best modern German theatres, which should make it an excellent acting theatre. In style it is entirely without archaeological flavor; its quiet brick masses growing so naturally from the plan are admirable; they seem to "belong." The decoration consists of effective sculpture by Eric Kennington, and the richness of the incidental materials around doors, windows, and the like.

Of the commercial buildings, the most interesting is the Daily Express Building, Fleet Street, London, by Herbert O. Ellis and Clarke. It is entirely faced with black glass, with stainless steel strips covering the joints and working harmoniously with the window divisions. It is a daring, subtle, and successful design. In an entirely different vein, the monumental classic buildings that are arising along the embankment in London are making over the river aspect of the city. Whatever one's opinion of the use of Roman and Renaissance details to-day, it is undeniable that that group of great white façades over the water is most impressive. Among the London buildings of this type may be noted Unilever House, by Sir John Burnet, Tait, and Lorne; the National Provincial Bank, by Sir Edwin Cooper; Shell Mex House (more modern in detail, though similar in spirit) by the Messrs. Joseph; and Brettenham House, by Wm. and Edward Hunt. Broadcasting House (mentioned last year) by G. Val Myer, is impressive with its swelling curves, and its sculptured groups by Eric Gill, but it is chiefly remarkable for its varied and daring interiors by Raymond McGrath, Wells Coates, Edward Maufe, Dorothy Trotter, and S. Chermayeff. In Liverpool the classic Martin's Bank, by H. J. Rowe, deserves notice for its superb plan.

In industrial work, the New Boot's Factory, at Beeston, Nottingham, by Sir Owen Williams, is a straightforward expression of cantilevered construction with continuous windows, interestingly light and airy, and the Victoria Coach Station, London, by Wallis Gilbert and partners effectively combines horizontal strip-windowed wings with a vertical polygonal entrance tower. Moore's Garage, Kensington, by Robert Sharpe, combines an L-shaped building with a service station in the angle; the curved corners and continuous windows of the building give it a definite and unusual architectural value.

There was considerable activity in School and College construction during the year. Sir G. G. Scott added to Magdalen College, Oxford, a new quadrangle in quiet unassuming collegiate gothic; at Cambridge, Benson Court was built for Magdalene College by Sir Edwin Lutyens, in a more manneristic style, neither old nor modern. Other educational work deserving notice comprises a charming new Library for Wesleyan Theological College, Richmond, by E. Maufe; the Modern School for the Blind, Liverpool, by Mino-

prio and Spenceley; the double brick quadrangle for the Stamford Senior Boys School at Stamford by Percy Howard; the simple brick Residence Hall for Armstrong College, Newcastle on Tyne, by A. Dunbar Smith, and especially the extremely successful Manchester Grammar School, by Worthington and Jones, which so simply combines the charm of simple brick work with a slight and unforced Georgian flavor.

The recent advances in freedom in English Church design continued; especially interesting was St. Andrew's Church, Luton, by Sir G. G. Scott, with side aisles carried through the buttresses of the nave arches. St. Nicholas, Burnage, Manchester, by Welch, Cachemaille-Day and Lander, has an interesting simple exterior, but interiors over-heavy and forced; and St. Columba's Church, Liverpool, by B. A. Miller, is a daring and interesting experiment, not entirely successful, in varying the height of nave from low at the entrance to high at the sanctuary. E. Maufe's winning competition design for Guildford Cathedral is superficially Gothic in style; but this apparent trace of archæology is apparently only, and the whole conception is superbly original.

In house work, the most interesting is undoubtedly that done in a freely creative style. English architects of houses, as of commercial buildings, seem rapidly working out an independent way of designing that is as unrelated to the current cant of the "International Style" as it is to the past. In some cases it resembles slightly some of Mendelsohn's early work, but it nearly always retains something of the Georgian solidity. Marshall Sisson's brick house in Cambridge is characteristic, as is Broadlands, Ascot, by Minoprio and Spenceley, and the Hendon Sculptor's studio by John Pym. The bungalow at Bewdley, by Pritchard, Godwin, and Clist, is more like the International style work, while Frederick Etchell's lovely London house, with an interesting courtyard plan, has a façade delicately Georgian.

The most interesting housing work of the year was all in London, consisting of Levita House, St. Pancras, for the London County Council, by G. Topham Forrest, and the further housing estates in St. Pancras on Drummond Street and Brent House at Hackney, both by I. B. M. Hamilton. These are of the usual London type, with outdoor communicating balconies, and are beautifully planned around large gardens and smaller service courts. Aldford House, Park Lane, by Val Myer and Watson-Hart, is an interesting example of the recent luxury apartments being built in London.

The most important Canadian work includes the Confederation Building in Ottawa, by T. W. Fuller, in the somewhat unfortunate Romantic Château Type already set in the Canadian capital; the heavy official classic National Research Building in Ottawa by Sproatt and Rolph; the General Hospital, St. John, New Brunswick, by Pond and Pond, and Martin and Lloyd; St. Paul's Hospital, Vancouver, B. C. by Gardiner and Mercer, and the dignified Civic Auditorium at Winnipeg, Manitoba, by Northwood and Chivers, Pratt and Ross, and J. N. Semmens. The Extension of the Royal Ontario Museum in Toronto, by Chapman and Oxley, is a delightful piece of neo-Byzantine in rough stone and polychrome ornament. The General Electric Building, in Montreal, by Ross and MacDonald, is a simple piece

of modern commercial design with beautiful proportions; somewhat similar in spirit is the North American Life Building in Toronto, by Marani, Lawson, and Morris.

At Delhi, in India, a vast building around six courts was built from the designs of C. and F. Blomfield. Despite an open and effective plan, the building itself proved disappointing through the attempt to use the usual "British Empire" type of classic, with none of the original imagination shown in the earlier Delhi buildings.

FRANCE. In general, French official buildings continued disappointing in their use of an arid, rectangular, wire-drawn modern classic, with neither the dignity of Renaissance work nor the freshness of the modern. The new Service Technique des Constructions Navales, in Paris, is typical. The Ministry of Merchant Marine, Paris, by A. Ventre, is rather fine in a blocky manner; the courts, in a pure "International Style," are more interesting. The Municipal Salle des Fêtes, at Arles, by Castel and Dallest, has good interiors, rich and imaginative. The new station at Versailles-Chantiers, by A. Ventre, is also excellent, both in plan and in its simple arched entrances. The new Havre Station is less interesting.

The great block of industrial loft buildings on the Rue Balard, Paris, by J. Demaret, is interesting in its continuous sweeping horizontals like those so much used by Mendelsohn, in Germany; somewhat similar, though less consistent, is the Store called the "Trois Quartiers," by L. Faure-Dujarric. The Decré store, in Nantes, by the late H. Sauvage, is interesting in its all glass front. Several interesting moving picture theatres were completed during the year; especially the huge Gaumont Palace, by M. H. Belloc, and the lovely and unconventional Cinéma Victor Hugo, by Ch. Siclis, both in Paris. The Tribune of the Race Course at Compiègne, by P. Claparade, strikes a note of humorous anachronism in its false half-timbered front to a modern concrete grand stand. In the destroyed sections of France, much of the rebuilding is strangely hesitant in style, full of half-hearted attempts to follow local tradition without a deep understanding of it. Thus the Chamber of Commerce Building at Cambrai, by Herscher and Leprince-Ringuet, in brick and stone, succeeds only in aping an outworn art-nouveau; the Hôtel de Ville at Montdidier by Duval and Gonse, despite an excellent plan, has a similar character.

In apartment house and domestic work, the new buildings are almost entirely purely modern in planning and style. The Paris Apartment House by Ginsburg and Lubetkin is typical in its large windows across a narrow front. A new apartment, pent house and terrace by LeCorbusier and P. Jeanneret has great "chic"; it is thoroughly elegant in conception and detail. R. Mallet-Stevens' villa at Seceaux much resembles earlier work of his; the villa at Garches by A. and G. Perret is more classic in conception, with a beautiful plan, and attempts to give a frank expression of its concrete structure. In ecclesiastical work, the most noteworthy was a series of Churches and Augustine Monasteries by the well known Don Bellot, especially the church—quite modern in detail—at Audincourt (Doubs).

GERMANY. The depression resulted in an enormous diminution of work completed in Germany during the year. Little important governmental building was done except in schools; among

these must be mentioned the Hanover buildings by K. Elkhart, the Waldorfer School, Hamburg, by F. Schumacher, and schools at Gutach-in-Breisgau and Königstein, by M. Weber. All are, like the majority of contemporary German buildings, entirely free from traditional forms; those of Schumacher and Weber have the greatest human charm. Max Taut's great school in Berlin-Lichtenberg is, on the other hand, despite its interesting plan forms, harsh and arid.

The chief commercial building of the year was E. Fahrenkamp's enormous Shell Oil Building in Berlin, more interesting than successful, with horizontal strip windows and curved corners. Max Taut's recent Berlin office buildings are less manneristic, less forced, though equally modern. The Hamburg Shell Building, by R. Brünig, is an adequate addition to the city. H. and E. Gildermeister's Nordwollehaus, in Bremen is superbly simple, dignified, and gracious. The Roentgen Ray Factory at Hamburg-Fuhlsbüttel, by K. Schneider, the Mine Buildings at Herne, by Strunck and Wentzler, and the Klosters Electric Works by the Brunold Brothers, all exemplify the expected careful planning and creative thought which is characteristic of recent German industrial work.

In domestic work, modern trends reign supreme, but little is of the stark International Style type. His own Düsseldorf house by H. Jungmanns, for instance, is full of the influence of Frank Lloyd Wright's free creation. Elsaesser's great Frankfurt palace for a millionaire is full of imagination, as is the house on the Alster by Fahrenkamp. A house on the Taunus, by P. Behrens, is a superb creation, beautifully planned, with quiet, gracious, and luxurious interiors; it seems to belong to its site.

The amount of city housing fell off enormously during the year, reflecting the severe public credit stringency. Of the groups built, the apartments at Augsburg (the Lessinghof) by T. Wechs, at Munich by Otho Kurz, and at Berlin-Neuköln, by A. Klein, are the best. Noteworthy also is a little community of high-gabled small houses built for the Reichsheimstätten at Oberrnigk, Breslau, by M. Schemmel.

Other German buildings deserving notice are the eccentric but effective Heilig-Geist Church at Frankfurt, by M. Weber; the Sonnenblick Sanatorium at Marburg a.d. Lahn, by Hebebrand and Kleinertz; the Children's Clinic of the Essen City Hospital, by E. Bode; the Hamburg Golf Club at Altona-Rissen, by Elingius and Schramm; and the Café and Dance Hall at Bad-Tolz, by Moll and Von der Velden.

ITALY. Italian taste still wavers, with rather deplorable results, between a heavy Baroque Renaissance and more modern types. Turin, as might be expected, is the centre of the most baroque forms; the Building of the Campagna Anomina d'Assicurazione di Torino, by E. Decker, and the Orthopedic Pavilion of the Maria Vittoria Hospital, both at Turin, are typical. Roman work tends to be more restrained, more monumental; the influence of the high Renaissance is stronger. Thus the Ministry of Aeronautics, Rome, by R. Marino, achieves a kind of brutal dignity that is effective; the interiors are large and well done. The same architect's Elementary School in Rome is somewhat similar in character; the Pontifical School of the Brothers of Nostra Signora della Misericordia, in Rome, by A. Calza-Bini, and M. DeRenzi, is more quietly Renaissance. There were

also effective rather Renaissance apartment houses by R. Perullo and S. de Rose, and by V. Gavalleri, and more modern (and more interesting) apartment houses in Rome by P. Aschieri, and at Ostia by M. Marchi, with interesting balconies and setbacks.

The extremely fresh and imaginative modern design of the Giovanni Berta Stadium at Florence, by P. L. Nervi, makes beautiful use of its concrete, with daring and beautiful cantilevers. The Club House of the A.M.I.L.A. on the Lake of Como, by P. Lingeri-Tremezzina, is an effective work in the International style; equally modern is the beautiful Hotel Monte Verità, at Ascona, by the German E. Fahrenkamp.

OTHER COUNTRIES. In Holland, the most important work comprised Unilever House, Rotterdam, by H. F. Mertens, with typically interesting brickwork; the building for Het Volk, Amsterdam, by J. Buijs and J. Lürsen; the stunning Department Store De Bijenkorf, at The Hague, by W. M. Dudok; and good simple housing at The Hague, "Hogenhoucklaan," by F. Lourysen.

Switzerland saw much building, revealing influences from both the German and French modern schools, and also a charmingly direct and non-stylistic approach characteristic especially of Switzerland itself. The great Medical School at Berne University by Salvisberg and Brechbühl shows the more radical type; the same architects' Suva Insurance Building in Berne is less forced. Interesting schools were the Primary School in Berne—Bumplitz, by K. Indermühle, a high school at Zurich by A. Frölich, and the Friesenberg School at Zurich by Henauer and Wilschi. The Golf Club "Zumickon," at Zurich, by the same architects, is imaginative and charming, as are the two new business buildings on the Marktgasse at Berne, one by Trachsel and Abühl, and one by Gerster, which preserve the old arcades and eaves line of the street. The "International Style" is represented by the Temporary Building of the Disarmament Commission of the League of Nations, at Geneva, by A. Guyonnet, and the Clarté Apartments at Geneva by LeCorbusier and P. Jeanneret, which consist of four superposed duplex apartments, with an almost continuous glass frontage. Charming houses in a freer vein at Zurich, by W. Moser, and at Lucerne, by A. Meili, also deserve notice.

The most interesting Swedish buildings were the Concert Hall at Helsingborg by Sven Markelius, with an interesting arrangement of café and entrance hall; the Riksförsäkringsanstalt in Stockholm, a dignified executive office building around an oval court, by Hedberg and Nelson with a façade by A. F. Kyrkogata; and housing near Stockholm by Björn Hedvall, Sundahl, and Thundström, and the lovely group at Malarsee by Sven Wallender. In Denmark the Sea Baths at Bellevue, by Arne Jacobsen, and good houses in and near Copenhagen by A. Jacobsen, K. Holmgaard, and V. Luritzen deserve note; as do the houses in Oslo, Norway, by A. Pederson, and at Trondheim, Norway, by A. Bugge. The high quality of Finnish architecture continued. Especially interesting were U. Ullberg's Pantlaneinrättning and his Petri-Pauli Församlingshus, both in Viborg; and the large Helsingfors apartments, as well as the Trade School, by V. Vahakallio. Other important works were the Coöperative in Rauno, by Aulanko and Huttunen, the Lutheran Church, Helsingfors, by H. Ekelund; sanitaria by Jung and Jung and by E. Forsman,

and the University Dental Clinic, Helsingfors, by the late A. Lindgren.

In Hungary the outstanding work was the great memorial square in Szeged, by B. Rerrich, surrounded by a memorial arcade, the Bishops' Palace, and the University. Notable also was the village of experimental houses at Budapest, by Ligeti and Molnar.

The great event of the year in Russia—and one perhaps with a significance wider than now appreciated—was the *volteface* of the Russian Government with regard to architectural style. It involved an official abandonment of the "International Style," and the doctrine of the building as a machine, claiming that the essence of building was not a mechanical but a humanistic matter. It condemned all buildings designed along the lines of Le Corbusier, Gropius, etc., and also the American sky-scraper school, as purely bourgeois manifestations, expressing only the slavery of the individual to machines and profits; and it urged a more free, more decorative approach, using more sculpture and mural painting, and founded on a thorough appreciation of the architectures of the past. As a result, the design for the great people's palace, the competition of which was held last year and won by the American, Hamilton, is to be completely junked and the whole question reexamined.

South American Architecture remains as a whole undistinguished. A Municipal Library in Rio de Janeiro, by E. Bahiana, is well above the average; it is designed in a sort of American Modernism. The Centro de Almaceneros Minoristas, by Danero and Manfredi, has an attractive modern little theatre, and the School of the Republica Oriental de Uruguay, by the government school architect, is commendably simple. The most interesting South American work to-day is undoubtedly that which is most radical, and which approaches most closely the International Style. Examples are the excellent Hindu Club at Buenos Aires, by A. V. Vilar, with a clever plan, and an outdoor swimming pool; and a house in Belgrano, near Buenos Aires, by A. Prebisch.

**ARCTIC EXPLORATION.** See POLAR RESEARCH.

**ARDEALITE.** See MINERALOGY.

**ARENS, FRANZ XAVIER.** An American musician, died in Los Angeles, Calif., Jan. 28, 1932. He was born in Neef, Germany, Oct. 28, 1856, but was brought to the United States at the age of 10. Later he returned to Germany to attend the Royal Conservatory of Music in Dresden. He studied under Rheinberger, Wüllner, Abel, Janssen, and Kirchner. Following his graduation in 1885 he became conductor of the Philharmonic Orchestra of Cleveland, Ohio. From 1890 to 1892 he was again in Europe in charge of the "American Composers' " concerts. He conducted the Indianapolis Music Festival from 1892 to 1896 and took part in the musical activities at the World's Columbian Exposition of 1893. On removing to New York City in 1897 he became conductor of the New York Manuscript Society's concerts, and in 1900 he founded the People's Symphony Concerts for the purpose of bringing the best music to the masses. From the beginning these concerts, which Mr. Arens conducted at Cooper Union, were successful, and the movement spread to other cities. In 1910 he formed a chamber-music organization, called the People's Symphony Auxiliary Club, the concerts of both organizations being held at the Washington Irving

High School. He retired in 1926, living thereafter in California.

**ARGENTINA.** A federal republic occupying, with Chile, the southern third of South America; consisting of 14 Provinces, 10 Territories, and the Federal District. Capital, Buenos Aires.

**AREA AND POPULATION.** With an area of 1,153,119 square miles, Argentina had an estimated population on Apr. 8, 1932, of 11,050,000, compared with 7,885,237 at the census of 1914. With the exception of about 30,000 Indians, the inhabitants are of European antecedents. Over 30 per cent of the Argentinians live in 10 cities. Buenos Aires alone had an estimated population of 2,195,200 on Apr. 8, 1932. Other leading cities are Rosario (estimated, 1931), 480,936; Córdoba, 1930, 253,182; La Plata, 1928, 165,813; Avellaneda, 1930, 209,512; Tucumán, 91,216. For the five-year period 1925-29, births and deaths averaged 304,465 and 135,912, respectively, exclusive of the Territories. Immigration in 1931 declined sharply to 56,333 from 124,006 in 1930; emigrants numbered 53,677 (59,734 in 1930). Immigrants are mainly Spaniards, Italians, and Slavs. The new British settlement of Victoria, on the Paraná River, was founded in 1932.

**EDUCATION.** Although primary education is free, compulsory, and secular, 21.98 per cent of all voters were illiterate in 1930 (35 per cent in 1916). Primary schools in 1931 numbered 11,330, with 1,509,373 pupils; secondary, normal, and special schools, 456, with 62,674 pupils. There are national universities at Córdoba (2500 students), Buenos Aires (12,532), La Plata (3000), Tucumán (600), and Santa Fé (National University of the Litoral, with branches in Rosario, 4000).

**PRODUCTION.** Argentina ranks among the first five nations of the world in agriculture and stock raising, the products of which are for the most part exported. Due to the lack of adequate mineral, fuel, and water-power resources there is no basis for extensive industrial development. Manufacturing is confined principally to the preparation of foodstuffs. The area of land under crops and cultivated grasses totaled 62,479,000 acres, or 9 per cent of the total area, in 1928-29. Nearly 30 per cent of the entire country is suitable for cultivation but the system of land tenure, under which some 17,000,000 acres of farm land are held in estates of 25,000 acres or over, prevents the proper utilization of the soil. There are about 2,600,000 acres of orchards, vineyards, and yerba maté, 304,000,000 acres of pasture land, and 186,000,000 acres of forests. Production of the chief crops for the 1931-32 season, with 1930-31 figures in parentheses, follows in metric tons: Wheat, 6,149,000 (6,421,837); oats, 1,006,000 (765,108); corn, 9,464,320 (9,744,780); and linseed, 2,171,000 (1,784,807). Alfalfa, cotton, potatoes, sugar, vegetable oils, and tobacco are other leading products. Production of quebracho-extract for export (140,996 tons in 1930) is an important industry.

Livestock at the census of July 1, 1930, included: Cattle, 32,211,855; sheep, 44,413,221; horses, 9,858,111; swine, 3,768,738. Meat refrigeration is the leading industry. There were exported in 1931 553,519 metric tons of frozen and chilled meats, compared with 565,100 tons in 1929. Flour mills have an annual average output of about 7,000,000 sacks. The dairy and textile industries have expanded, the latter under high tariff protection. Petroleum production in

1931 increased to 11,608,000 barrels, from 8,908,792 barrels in 1930. State-owned old fields produced the bulk of the supply. Mining is of limited importance the principal metals worked being gold, silver, copper, and tin. Tungsten, coal, borate, salt, and limestone are also found.

COMMERCE. Argentina's unfavorable trade balance in 1930, amounting to \$111,326,200, was changed in 1931 to a favorable balance of \$120,351,774. The 1931 exports increased slightly to \$621,341,697 from \$595,681,055 in the previous year, while imports declined approximately one-third to \$500,989,923 from \$717,007,262 in 1930. According to the Argentine economist, Dr. Alejandro E. Bunge, exports in 1931 were 70 per cent greater in volume than in 1930, while the nation imported only 15 per cent of the total goods consumed, as against 40 per cent a few years earlier. Imports in 1931 came chiefly from the United Kingdom, \$102,836,816 (\$142,165,722 in 1930); United States, \$82,873,130 (\$158,224,646); Germany, \$59,169,496 (\$84,373,127); Italy, \$41,609,307 (\$66,980,611); France, \$30,717,727 (\$43,196,776). Exports went principally to the United Kingdom, \$239,117,771 (\$217,635,816); the Netherlands, \$65,140,686 (\$55,501,467); Belgium, \$57,097,574 (\$54,982,818); France, \$52,488,845 (\$39,894,862); Germany, \$51,008,313 (\$52,533,412). Of the total 1931 exports, \$218,705,673 represented live animals and meat products and \$376,379,337 farming products. The leading imports, in order of value, were fuel and lubricants, textiles and their manufactures, alimentary substances, iron and steel and their manufactures, and machinery and vehicles. The above figures were converted to dollars from gold pesos at the gold peso's par value of \$0.97.

Preliminary figures for 1932 placed exports at 566,366,000 gold pesos (640,588,000 gold pesos in 1931) and imports at 367,956,000 gold pesos (516,484,457 in 1931). As compared with 1931, exports declined 11.6 per cent and imports 28.8 per cent. The favorable balance of trade in 1932 was 198,410,000 gold pesos (124,073,994 gold pesos in 1931).

FINANCE. The budget for the calendar year 1932, as approved by the Chamber of Deputies in March, 1932, was estimated to balance at 839,263,376 paper pesos (about \$209,815,844 at 1932 exchange rate). Due to an unexpected decrease in national revenues, the Minister of Finance on Nov. 10, 1932, estimated a deficit for the year of 50,000,000 pesos (about \$12,850,000). The Treasury's statement of actual payments and receipts during the calendar year 1931 showed total receipts of 820,244,000 paper pesos (1,266,980,000 in 1930) and total expenditures of 833,366,000 paper pesos (1,250,294,000 in 1930). Including other charges applicable to the 1931 account, the deficit for the year was estimated at 109,000,000 paper pesos, as against a deficit approximating 378,000,000 paper pesos in 1930.

The annual report of the Corporation of Argentine Bondholders, issued in July, 1932, placed the foreign debt at 993,719,000 paper pesos (about \$248,430,000), the internal funded debt at 1,403,853,000 pesos (about \$350,943,000), and the floating debt at 1,474,000,000 pesos (about \$370,000,000). This made a total national debt of 3,871,572,000 paper pesos (about \$967,893,000). In the same report, the total public debt of the 14 Provinces was placed at 1,174,710,764 paper pesos (about \$293,677,691) and that of the 21 municipalities at 371,113,570 paper

pesos (about \$92,778,392). The total internal and external debt of the nation, Provinces, and municipalities in 1932 amounted to a per capita debt of \$167, compared with \$289 for the United States and \$930 for the United Kingdom.

Argentine currency consists of gold and paper pesos, with a par value for the former of \$0.9648 and for the latter of \$0.4245. The average exchange value of the gold peso in 1931 was \$0.6674; of the paper peso \$0.2936.

COMMUNICATIONS. Railways in operation at the beginning of 1931 totaled 25,435 miles, of which 5922 miles were state owned. On Aug. 20, 1932, a 283-mile stretch of line across Northern Argentina, connecting Tucumán with Córdoba and Mendoza, was opened to traffic. The line opened to active settlement a fertile frontier region adapted to the production of grain, linseed, and cattle. Highways in 1931 extended about 128,690 miles, of which 2000 miles were good motor roads. Air lines connected Buenos Aires with numerous cities in the Republic and others throughout South and North America. Vessels entering Argentine ports in the foreign trade in 1930 numbered 2557, of 9,886,812 tons.

GOVERNMENT. The Constitution, which was suspended from Sept. 8, 1930, to Feb. 16, 1932, vests executive power in a president elected for six years, and legislative power in a national congress, comprising a senate of 30 members elected for nine years, and a chamber of deputies of 158 members elected for four years. The Governors of the Provinces exercise extensive powers independently of the central executive. President in 1932, Gen. Don Augustin P. Justo, who was elected Nov. 8, 1931, and succeeded Provisional President José Francisco Uriburu on Feb. 20, 1932. Vice President and President of the Senate, Señor Guilio Roca.

## HISTORY

POLITICAL DEVELOPMENTS. The internal political situation was sufficiently stabilized by General Justo's overwhelming victory in the elections of Nov. 8, 1931, to permit the reestablishment of constitutional government early in 1932. Final results of the voting, announced by the National Electoral College on Jan. 30, 1932, gave General Justo 234 electoral votes to 124 for his opponent, Dr. Lisandro de la Torre. Provisional President Uriburu immediately convoked the provincial electoral colleges for February 5 to replace with elected Governors the Federal interventors who since the 1930 revolution had governed 12 of the 14 Provinces. On February 20, General Justo was formally installed in the Presidency. True to his pledge, Provisional President Uriburu stepped aside when the work of his *de facto* régime was ended. Widely acclaimed by his countrymen, he retired to Paris, where he died on April 29 (see URIBURU, JOSÉ FRANCISCO).

Constitutionalism became effective with General Justo's inauguration, General Uriburu having paved the way with decrees pardoning former President Hipólito Irigoyen and authorizing the return of many exiled political enemies. The new President immediately restored the Constitutional guarantees suspended by the Provisional government, ended the régime of martial law, and convened the newly elected National Congress in special session on March 28 to deal

with the critical financial condition of the government.

Although Argentina alone among the South American republics continued to meet the service of interest and amortization on its foreign debt, the financial and business situation was menacing. The government had a floating debt so large it could no longer be covered from general revenues. There was a large budget deficit. Salaries of public employees were badly in arrears. And the peso was depreciating alarmingly in the exchange market. The difficulties confronting business was indicated by bankruptcies involving the record sum of 369,618,792 paper pesos during 1931, a sum 60 per cent greater than in 1930.

The Government's programme for meeting its financial needs included taxes on incomes, inheritances, and sales, drastic economies in the public services, and the release of 3000 conscripts in June, despite the completion of only half of their term of military service. Extensions until 1933 were secured on \$20,000,000 of 6 per cent notes due to American bankers on April 1 and July 1, 1932. On April 27 all purchases of foreign exchange were made subject to governmental permit. On May 25 a patriotic loan of 500,000,000 pesos paper was launched to pay back salaries of public employees and other domestic bills.

Supported by the National Democrats and Radical Antipersonalistas, General Justo had a majority in both houses of Congress in support of his programme. The National Democrats held 64 and the Radical Antipersonalistas 26 of the 158 seats in the Chamber, the remainder being divided among the Independent Socialists (44), Progressive Democrats (13), and Socialist Alliance (11). In the Senate there were 15 National Democrats and 11 Radical Antipersonalistas against 2 Independent Socialists, and 2 Progressive Democrats. Accordingly, the bulk of the government's tax and economy proposals were passed by Congress. Additional taxation was envisaged in a national highway law signed by the President on October 5. It was similar in many respects to the Federal aid highway laws of the United States.

While approved by the Left groups, who dominated the Chamber, these measures aroused the hostility of the taxpayers, the conservative elements, and many army officers, who had supported General Justo in the Presidential election. Talk of another coup against the government among these elements brought the radical and labor elements to the President's defense. On June 13, a mass meeting of all the Leftist parties, excluding the Irigoyen and Alvear Radicals, pledged themselves to oppose any effort to overthrow President Justo by force. A number of taxpayers' strikes were organized by agriculturalists, breeders, and industrialists. The Government, however, tempered the radicalism of the extreme Left groups. It successfully opposed a measure for inflating the currency. In the second half of the year favorable crop prospects and sustained cereal prices served further to allay conservative discontent.

The Irigoyen, or Personalista, Radicals, who had been ousted from power by the popular revolution of Sept. 6, 1930, remained unreconciled to the Justo government. On December 16, police agents in Buenos Aires nipped in the bud an elaborate conspiracy for the overthrow of the government. The former Radical Presidents

Hipólito Irigoyen and Marcelo T. de Alvear were arrested along with a score of Radical leaders. A state of siege, suspending all constitutional guarantees except the right of trial before civil courts, was authorized by Congress on December 17 for 30 days, despite the opposition of Socialist deputies, who were prevented by troops from leaving the Chamber and breaking a quorum. Applied at first to Buenos Aires, the state of siege was extended to all the Provinces on December 19 on the ground that the Radical organizations in a number of Provinces were involved in the plot.

According to documents made public by the government following its raids on Radical centres throughout the city, the plotters planned to turn the city over to criminals and terrorists for 48 hours in revenge for its repudiation of the Radical régime in 1930. Unable to gain the support of the army, the conspirators determined to seize power by means of bands of civilians armed with hand grenades. An official cabinet statement alleged that the revolutionists planned "to kidnap and kill high public officials, take possession of public buildings housing vital services, (and) destroy others with hand grenades. . . ." Over 4000 bombs and hand grenades were seized by the police. The connection of the Anti-personalista, or Alvear wing of the Radical party with the conspiracy was not clear, the government disclaiming responsibility for the arrests of Señor de Alvear, Honorio Pueyrredón, former Ambassador to the United States, and other Anti-personalista leaders. At the end of the year they were still in custody of the judges investigating the plot.

Meanwhile, an extra session of Congress had been in session from November 21 to consider new legislation proposed by the government, including the establishment of a government monopoly of the oil industry and government control of the meat-packing business and the production, sale and exportation of grain. Congress was asked also to approve a 1933 budget carrying expenditures of 865,113,500 paper pesos and revenue estimates of 870,254,000 pesos, or about \$216,278,375 and \$217,563,500, respectively. Finance Minister Hueco's budget called for new taxes to bring in an additional 41,000,000 pesos (about \$10,500,000) of revenue. On December 21 Congress rejected the tax-increase proposals, in response to nation-wide protests and threats of further tax-payers' strikes. Previously (December 13) Congress had rejected a Socialist bill to suspend sinking-fund payments on Argentina's foreign and internal debt. Bills passed by Congress authorized the construction of a new trans-Andean railway connecting Salta, in northern Argentina, with Antofagasta, Chile, and re-established commercial relations with Chile. The railway between Mendoza, Argentina, and Los Andes, Chile, which had been closed for eight months in connection with a tariff dispute, was reopened on December 5.

While the Socialists were not directly implicated in the Radical conspiracy, the coercion exercised by the government on December 17 in securing authorization for a state of siege caused the Socialist Deputies to absent themselves from the Chamber, which was thereafter unable to function for lack of a quorum. The increasingly difficult financial system led the Bank of the Nation to secure the services of Sir Otto Niemeyer, vice governor of the Bank of England, as adviser on the banking and exchange situation. Early in



December, it was reported that the Provinces of Buenos Aires and Córdoba and the city of Tucumán were attempting to negotiate moratoriums or agreements for reduced interest and amortization payments with foreign bankers. Buenos Aires Province officials announced December 24 that British and French bankers had agreed to an arrangement whereby the Province would save 27,000,000 pesos (about \$8,939,000) annually for three years on debt service. New York bankers had not accepted the plan.

A notable development of the year in the domestic field was the passage by Congress of a law extending to women the same political rights and duties as men, including the suffrage but excluding the obligation to bear arms. On October 21, an Argentine court ordered the release of 134 members of the notorious Zwi Migdal Society imprisoned since 1929 as a result of a campaign against white slavers. The court ruled that the society could not be considered an illicit association under Argentine law.

**FOREIGN RELATIONS.** The outbreak of the Bolivian-Paraguayan conflict in the Chaco Boreal, threatening to upset the status quo in South America, confronted Foreign Minister Saavedra Lamas with a delicate and potentially dangerous situation (see BOLIVIA under *History*). In general, the sympathies of the nation were on the side of Paraguay. Argentina's economic ties with Paraguay were closer than those with Bolivia and an Argentine mission had been training the Paraguayan army. The Foreign Office played a leading part in the efforts of the neutral powers to restore peace. Nevertheless in a secret note to the Commission of Neutrals at Washington, the Foreign Minister vigorously opposed proposals for the establishment of a neutral blockade or boycott to enforce peace. He declared that the League of Nations was the sole organization legally authorized to undertake such measures. His stand blocked effective action in the dispute by the 18 other Pan-American governments.

This stand was significant, in view of the action of the Chamber of Deputies on September 28 in approving a bill authorizing Argentina's full membership in the League of Nations. The bill carried a reservation against the recognition of the Monroe Doctrine as a regional agreement, such recognition being accorded the Monroe Doctrine in Article XXI of the League covenant. The action of the Chamber cleared up Argentina's ambiguous position with relation to the League. It was regarded as a member by the League Secretariat, although dues had not been paid since 1928. But due to President Irigoyen's action in joining the League without consulting Congress, his action was held unconstitutional from an internal viewpoint.

On November 17, Foreign Minister Saavedra Lamas published the text of a proposed South American anti-war pact, which Argentina had submitted to other South American countries in June and which he said had been accepted by several.

A serious threat to Argentina's important cattle-raising and meat-packing industry developed in July, when representatives of South Africa and Australasia at the Ottawa Conference of the British Commonwealth of Nations demanded that Great Britain grant them tariff and other concessions which would permit an increase in their meat shipments to the British

market. Alarmed by this possibility, Minister Saavedra Lamas proposed the negotiation of reciprocal tariff conventions to the United States and other countries active in Argentina's foreign trade. The American Ambassador replied that the American tariff law did not permit the President to enter reciprocal agreements of this kind.

In the agreement finally reached at Ottawa, the British government declined to do more for the Dominions than to restrict British purchases of Argentine meats to the 1931 level. However, the unfriendly attitude evidenced toward foreign investments in Argentina (in which British capital predominated) toward the end of 1932 produced a change in British policy. Argentina was informed that this feature of the Ottawa agreement would be continued for only 18 months and that unless reciprocal advantages were forthcoming from Argentina her meat exports to Great Britain would thereafter be curtailed in favor of the Dominions. It was announced October 28 that President Justo would send a special embassy to London, headed by Vice President Julio Roca, to negotiate a commercial agreement.

Periods of strained relations with Uruguay and Peru also marked the year. Uruguay severed diplomatic relations July 13, following charges that Argentine officials had kept under surveillance a Uruguayan cruiser and its officers sent to Buenos Aires July 9 to participate in the Argentine Independence Day celebration. It had been rumored that Gen. Severo Toranzo, commander of the Argentine Army under ex-President Irigoyen and an exile in Uruguay, was on board the cruiser. The severance of relations produced extraordinary demonstrations of mutual regard between the two peoples. Uruguay sent a confidential agent to Buenos Aires to discuss the resumption of normal relations and this was accomplished by a protocol signed September 12. See URUGUAY. Strained relations with Peru resulted from widespread protests in Argentina against the action of the Peruvian government in holding the Peruvian Aprista leader, Haya de la Torre, on charges of conspiracy and sedition. Petitions for his release, formulated by the Argentine Chamber of Deputies and various organizations, led the Peruvian Ambassador in Buenos Aires to protest against these interferences in Peru's internal affairs. See PERU under *History*.

The cordial relations with the United States reestablished by the Provisional government of General Uriburu were maintained throughout 1932. In July, the Foreign Minister rejected a Peruvian proposal for concerted Latin-American reprisals against the tariff policy of the United States (see PERU). A similar response was given to proposals for a Latin-American customs union, designed chiefly to counteract the economic preponderance of the United States.

**ABRIEL DAM.** See DAMS.

**ARIZONA, POPULATION.** According to the Fifteenth Census, the population of the State on Apr. 1, 1930, was 435,573, as against 334,162 in 1920. Phoenix, the capital, had (1930) 48,118 inhabitants.

**AGRICULTURE.** The table on page 59 gives the acreage, production, and value of the principal crops for 1932 and 1931.

**MINERAL PRODUCTION.** The profound depression of the copper-mining industry was particularly felt in Arizona, not only by reason that this State was the Union's leading copper producer and preëminently devoted to this



Crop	Year	Acreage	Prod. Bu.	Value
Cotton	1932	113,000	82,000 <sup>a</sup>	\$3,157,000
	1931	176,000	115,000 <sup>a</sup>	4,238,000
Hay	1932	147,000	373,000 <sup>b</sup>	2,380,000
	1931	139,000	379,000 <sup>b</sup>	3,407,000
Wheat	1932	29,000	609,000	329,000
	1931	24,000	672,000	497,000
Corn	1932	41,000	615,000	400,000
	1931	36,000	576,000	488,000

<sup>a</sup> Bales. <sup>b</sup> Tons.

branch of the mineral industry, but also because the decline in the State's copper output was more severe than for the country as a whole. Arizona's production attained only 400,344,909 pounds of copper for 1931, slightly more than two-thirds of the 570,897,080 for 1930 and less than half of the 820,206,475 for 1929. It fell further, to 183,887,000 lbs. for 1932. As decline in price went hand in hand with decline in quantity, the fall in the totals by value was even more marked; the copper product, by value, declined from \$36,522,387 (1931) to \$11,217,107 (1932). The production of gold, which in some other regions afforded a slight compensation for the reduced activity in other metal-mining, continued to fall in 1931, attaining for that year 136,805 fine ounces, as against 148,681 for 1930; in value, \$2,828,000 for 1931 as against \$3,073,000 for 1930. For 1932 it fell further to 66,980 ounces; by value, \$1,384,000. Production of silver diminished to 4,070,860 fine ounces for 1931, from 4,910,394 for 1930; and in value, more substantially to \$1,180,549 for 1931, from \$1,890,502 for 1930. For 1932 it dropped in quantity to 1,974,946 ounces; in value, to \$556,935. Outside of \$516,886 produced of stone, chiefly of inexpensive grades, no other mineral product attained to so much as \$500,000 for 1930. The total value of the State's mineral product was, duplications eliminated, \$82,933,802 for 1930; for 1929, \$157,959,792.

**FINANCE.** State expenditures in the year ended June 30, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments \$7,960,042 (of which \$2,256,452 was for local education); for interest on debt, \$89,280; for permanent improvements, \$6,386,756; total, \$14,442,078 (of which \$7,081,019 was for highways, \$1,406,166 being for maintenance and \$5,674,853 for construction). Revenues were \$13,546,724. Of these, property and special taxes furnished 43.3 per cent; departmental earnings and compensation to the State for officers' services, 3.5; sale of licenses, 21.6 (in which was included a gasoline sale tax that produced \$1,878,150). Funded debt outstanding on June 30, 1931, totaled \$301,157. Net of sinking-fund assets, the debt was \$269,539. On an assessed valuation of \$718,579,181 the State levied in the year ad-valorem taxes of \$5,830,021.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 2472.46. Some 21 miles had been abandoned in the year previous.

**EDUCATION.** The work of the public schools during the year was handicapped, according to report in the *Journal* of the National Education Association, by almost universal reduction in teachers' salary schedules and suspension of automatic increases in their salaries; also by some curtailment in the teaching forces. School budgets in preparation at the end of the year were re-

ported as effecting curtailment of expenditure at the prevailing rate of about 15 per cent.

**CHARITIES AND CORRECTIONS.** Under the law as existing in 1932 a Board of Directors of State Institutions exercised control of the State institutions having the care or custody of persons. Each institution was administered by a superintendent under the authority of this board. The board consisted of three members: the Governor (who was president of the board), the State Treasurer, and a secretary (C. M. Zander), who was executive officer and purchasing agent. The institutions thus controlled were: State Prison, Florence; State Hospital for the Insane, Phoenix; Pioneers' Home, Prescott; State Industrial School, Fort Grant; State School for Girls (juvenile offenders), Randolph.

**LEGISLATION.** A special session of the State Legislature, which adjourned on January 11, provided for the needs of the State, excepting relief for the unemployed, as recommended by Governor Hunt. It placed a tax on chain stores but defeated bills to impose an income tax and a tax on luxuries.

**ELECTIONS.** The State cast a strongly Democratic vote on November 8, on both Presidential and State tickets. Dr. B. B. Moeur, Democrat, was elected Governor. Carl Hayden, Democrat, was reelected to the United States Senate. The voters ratified the repeal of the State prohibition law.

The popular vote for President was: Roosevelt (Dem.), 79,264; Hoover (Rep.), 36,104.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, George W. P. Hunt; Secretary of State, Scott White; Treasurer, Mitt Sims; Auditor, Ana Frohmler; Attorney-General, K. Berry Peterson; Superintendent of Public Instruction, C. O. Case.

**Supreme Court:** Chief Justice, Alfred C. Lockwood; Associate Judges, Henry D. Ross, A. G. McAlister.

**ARIZONA, UNIVERSITY OF.** A coeducational State institution of higher learning in Tucson, Ariz., founded in 1885. The 1932 autumn enrollment totaled 1926; the registration for the summer session of 1932 was 484. The faculty numbered 190. The income for the year 1931-32 was \$1,465,907. The university receives both Federal and State support. The library contained approximately 93,000 volumes. President, Homer LeRoy Shantz, Ph.D., Sc.D.

**ARKANSAS, POPULATION.** According to the Fifteenth Census, the population of the State on Apr. 1, 1930, was 1,854,482, as against 1,752,204 in 1920. Little Rock, the capital, had (1930) 81,679 inhabitants.

**AGRICULTURE.** The following table shows the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod. Bu.	Value
Cotton	1932	330,000	1,260,000 <sup>a</sup>	\$38,430,000
	1931	356,000	1,907,000 <sup>a</sup>	52,633,000
Corn	1932	1,993,000	35,874,000	10,045,000
	1931	1,954,000	43,965,000	16,267,000
Hay	1932	697,000	691,000 <sup>b</sup>	4,258,000
	1931	726,000	873,000 <sup>b</sup>	6,778,000
Rice	1932	150,000	6,900,000	2,553,000
	1931	177,000	9,558,000	4,206,000
Oats	1932	114,000	1,596,000	367,000
	1931	160,000	4,160,000	1,123,000
Potatoes	1932	37,000	2,627,000	1,681,000
	1931	43,000	3,655,000	1,901,000
Sweet potatoes	1932	38,000	2,660,000	1,277,000
	1931	32,000	2,624,000	1,601,000

<sup>a</sup> Bales. <sup>b</sup> Tons.

**MINERAL PRODUCTION.** There occurred another sharp diminution in the State's production of petroleum, its chief mineral product, to the quantity of 14,791,000 barrels for 1931, from 17,390,000 for 1930; and to the total value of \$7,200,000 (1931), from \$17,390,000 (1930). Gasoline produced from natural gas amounted to 26,282,000 gallons for 1931, as against 30,637,000 gallons, in value \$1,757,000, for 1930. Of natural gas itself, the figures on production for 1931 were not available, but there were produced in 1930, 18,585,000 M cubic feet, in value \$3,540,000. The quantity of coal mined totaled 1,238,000 short tons for 1931, as against 1,533,434 for 1930, for which year the total value of the coal output was \$5,153,000. Production of bauxite, of which the State continued to furnish the greater part of the domestic supply, fell to 186,697 long tons for 1931, from 315,273 for 1930; and to the value of \$1,081,450 for 1931, from \$1,823,389 for 1930. The clay products of 1930 (the latest tabulated year) were valued at \$1,074,103, as against \$2,024,403 for 1929. Sand and gravel and stone were each produced to a total of more than \$1,200,000 for 1930. The total value of the mineral product of the State, duplications eliminated, was \$34,901,476 for 1930; for 1929, \$41,324,576.

**FINANCE.** State expenditures in the year ended June 30, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments \$16,203,756 (of which \$3,413,245 was for local education); for interest on debt, \$7,542,158; for permanent improvements, \$30,917,909; total, \$54,687,571 (of which \$27,431,289 was for highways, \$2,771,608 being for maintenance and \$24,659,621 for construction). Revenues were \$23,412,776. Of these, property and special taxes furnished 31.2 per cent; departmental earnings and compensation to the State for officers' services, 4.6; sale of licenses, 48.1 (in which was included a gasoline sale tax that produced \$6,529,156). Funded debt outstanding on June 30, 1931, totaled \$156,856,920, of which \$133,858,753 was for highways. Net of sinking-fund assets, the debt was \$156,849,350. On an assessed valuation of \$614,414,458 the State levied in the year ad-valorem taxes of \$4,861,774.

The State increased its debt to some degree in the course of 1932 by borrowing from the Reconstruction Finance Corporation of the Federal government. The Corporation reported at the end of the year that it had authorized loans to Arkansas, up to December 23, totaling \$1,319,168. This borrowing was for the purpose of obtaining funds with which to provide for the relief of destitute persons in the State. Arkansas obtained loans for this purpose month by month, beginning with September. They started at the approximate rate of \$250,000 a month and rose to the neighborhood of \$500,000 a month with the advent of winter. They sufficed for the absolute sustenance of an average of some 10,000 families.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 4812.54. In the year previous, 14 miles of line had been abandoned.

**EDUCATION.** A plan of work for the reorganization of the curriculum for the common schools, over a period of three years, was put under way. The certification of teachers was taken over by the State department of education. The number of persons of school age in the State, in the aca-

demic year 1931-1932, was reported as 640,028. There were enrolled in the public schools 446,151 pupils. Of these, 392,240 were in common schools or elementary grades; in high schools, 53,911. The expenditures of the year for public-school education totaled \$12,856,322. Salaries of teachers averaged, by the year, \$592.

**LEGISLATION.** A special session of the State Legislature was held in the spring, terminating on April 12. Some 69 of the 100 members of the State House of Representatives, insistent on passing measures of retrenchment that Governor Parnell opposed, attempted to convene the House in a rump session despite his order dissolving the session. The State Senate, however, obeyed the Governor's proclamation and dissolved. The State Supreme Court brought the session definitely to an end by declaring the rump House not to be lawfully in session.

A measure was passed to refund \$47,000,000 of road-improvement district bonds, partly assumed by the State in 1927, into a 4½ per cent issue, pledging the revenue of the State Highway Department, above a limit of \$1,000,000 a year for highway maintenance and another million for construction, to the redemption of the new bonds. The Legislature voted a resolution to memorialize Congress, requesting that it vote immediate full payment of the soldiers' bonus.

**POLITICAL AND OTHER EVENTS.** It was reported in March that 15,000 farming families had been enrolled in a voluntary united effort to embellish rural property in the State, which had been under way four years, under supervision of county agricultural agents and of the University of Arkansas. During the early part of the year a number of constitutional amendments, some of disputed practicability, were initiated by popular petition; one proposed tax-exemption for all homesteads owned by residents of the State who were heads of families; another proposed a sales tax; another, four year terms for State officers, a limited system of recall, split sessions of the Legislature, and prohibition of new State offices. Hattie W. Caraway, widow of the late Senator Caraway, was elected his successor (for unexpired term) in the United States Senate at a special election on January 12. She was renominated for the succeeding full term in the Democratic primary on August 9.

**ELECTIONS.** The State voted the Democratic Presidential ticket by a large majority on November 8. The popular vote for President was: Roosevelt (Dem.), 189,602; Hoover (Rep.), 28,467. J. M. Futrell, Democrat, was elected Governor, and the other Democratic candidates for State offices were elected, as well as seven Democratic incumbents in the Federal House of Representatives. The voters rejected a proposed constitutional amendment to create a State sales tax of 1 per cent on all merchandise except farmers' sales of their own products. They also rejected proposals to make homesteads tax-exempt; to set State aid to schools at \$6 minimum, per capita of the school population, and to prohibit further sale of road bonds unless approved by two-thirds of the voters.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, Harvey Parnell; Secretary of State, Ed. F. McDonald; Treasurer, Roy Leonard; Auditor, J. O. Humphries; Attorney-General, Hal L. Norwood; Superintendent of Public Instruction, C. M. Hirst.

**Supreme Court:** Chief Justice, Jesse C. Hart;

Associate Justices, Frank G. Smith, T. H. Humphreys, William F. Kirby, Thomas M. Mehaffey, E. L. McHaney, Turner Butler.

**ARKANSAS, UNIVERSITY OF.** A coeducational State institution of higher learning in Fayetteville, Ark., founded in 1871. It comprises the colleges of arts and sciences, education, engineering (including experiment station), graduate school and schools of law, business administration, and medicine, the last named being in Little Rock. In the autumn of 1932 the enrollment was approximately 2000, and for the summer session it was 639. The number of faculty members was 200. The endowment amounted to \$132,000, and the income for the fiscal year ending June 30, 1932 was \$870,000. The library contained approximately 110,000 volumes. Among the important gifts received during the year was \$5000 a year for three years, beginning January, 1931, for museum purposes from the Carnegie Foundation. President, John Clinton Futrell, LL.D.

**ARMAMENTS, LIMITATION OF.** See **DISARMAMENT**; **NAVAL PROGRESS**; **MILITARY PROGRESS**; **GREAT BRITAIN, FRANCE, AND ITALY** under *History*.

**ARMENIA.** The name applied, since Dec. 2, 1920, to the Socialist Soviet Republic of Armenia. On Jan. 16, 1923, Armenia became one of the three constituent republics of the Transcaucasian Socialist Federated Soviet Republic (q.v.), which is a member of the Union of Soviet Socialist Republics. Capital, Erivan, with a population of about 75,000 in 1929.

Occupying the southwest frontier region of Transcaucasia, and bounded by Turkey and Persia on the west and south, respectively, Armenia has an area of 11,945 square miles and a population of 1,032,700 (Jan. 1, 1931). About 120,800 pupils are enrolled in elementary schools. The country is essentially agricultural, with a cultivated area of about 1,000,000 acres in 1929-30, including more than 44,000 acres devoted to cotton. On Aug. 1, 1931 the collective farms equaled 26 per cent of the peasant farm total. In the first ten years of the Soviet régime, the construction of 187 miles of canals placed 900,000 acres of land under irrigation. Ten new hydro-electric plants were constructed also. The production of Armenian state industry (1929-30) was valued at 49,000,000 rubles (1 ruble equals about \$0.515 in the Soviet Union). See **UNION OF SOVIET SOCIALIST REPUBLICS**.

**ARMIES.** See **MILITARY PROGRESS**.

**ARMITAGE-SMITH, SIR SYDNEY** ARMITAGE. A British financial expert, died in London Oct. 31, 1932. Born Sept. 3, 1876, he attended New College, Oxford, and was a fellow of University College, London. He entered the service of the Treasury in 1902 and was appointed in 1908 private secretary to the Chancellor of the Exchequer. He was a member of the West African currency committee during 1911-12, secretary to the Royal Commission on Civil Service during 1912-14, and assistant secretary of the Treasury in 1913. In 1918 he was appointed a member of the Royal Commission on Decimal Coinage and in 1919 of the Royal Commission on Income Tax. He represented the British Treasury at the Paris Peace Conference in 1919. During 1920-21 he was financial adviser to the Persian government, receiving in recognition of his services the Grand Cordon of the Order of the Lion and Sun of that government. In 1924 he

was appointed secretary-general of the Reparation Commission, which office he held until 1930. He served also on the financial missions to the Leeward Islands and St. Lucia in 1931 and to Tanganyika Territory in 1932. He was created a Companion of the Bath in 1918 and a Knight Commander of the Order of the British Empire in 1929.

**ARSON.** See **CRIME**.

**ART EXHIBITIONS.** *The Tenth Olympiad.* Outstanding among the exhibitions of the year, because of size and unique character, was the exhibition of **ART IN RELATION TO SPORT**, held in connection with the Tenth Olympic Games in Los Angeles, from July 30th to August 31st. This exhibition comprised over 1100 works—oil paintings, water colors, drawings, prints, sculpture in the round and in relief, medals, architectural designs and models, and a few examples of the decorative arts by artists and craftsmen of thirty-two nations.

To an extent the exhibits were hung in national groups. The collection, exceedingly varied, and upheld to a high standard of artistic merit, occupied fifteen galleries, the rotunda, foyer and the main halls of the Los Angeles Museum of History, Science and Art, Exposition Park, which is opposite to and not far distant from the great stadium in which the Olympic field and track events took place. Almost all of the works included in this exhibition were by living artists, produced within the last four years, and of subjects pertaining to sport. A few amplifying exhibits—works by great deceased artists—were included as loans from public museums and private collectors, but these did not compete for honors. The exhibition was assembled by the Olympic committees of the several nations, under the auspices of the International Art Committee of the Olympic Games and the direction of the American Federation of Arts.

Prizes in the form of medals and diplomas were awarded by international juries in Architecture, Painting, Sculpture, Music and Literature. These awards were ceremoniously announced in the stadium in precisely the same manner as were the awards for athletic contests. An illustrated catalogue of the exhibition was issued. The attendance during the four weeks that the exhibition was on view exceeded 348,000 persons.

*George Washington Bicentennial.* The Two Hundredth Anniversary of the birth of George Washington was celebrated in the National Capital and in other cities by special exhibitions, pageants, etc. In Washington there were two principal exhibitions—one in the **CORCORAN GALLERY OF ART**, the other in the **NATIONAL GALLERY OF ART**, United States National Museum. The former assembled by a special committee of experts, consisted of portraits of "George Washington and his official family," and included works lent from public and private collections, chiefly by early American portrait painters of distinction. The latter was prepared at the request of the National George Washington Bicentennial Commission by the National Commission of Fine Arts and consisted of several group exhibitions. These groups were a series of commemorative mural paintings illustrating the life of George Washington by members of The Mural Painters of New York; a collection of works in sculpture by American sculptors assembled by the National Sculpture Society, indicative of progress in this

art during the last hundred years; a collection of 132 large photographs of works in architecture, painting, sculpture, and landscape architecture by Fellows of the American Academy in Rome assembled by the Alumni Association; and a series of plans, drawings, and photographs showing the development of the National Capital, a contribution from the National Park and Planning Commission and the National Commission of Fine Arts. These exhibitions both opened on the 22d of February and continued through Thanksgiving Day.

The METROPOLITAN MUSEUM OF ART, New York, in commemoration of the Washington Bicentennial, opened in February a special exhibition of Washingtoniana. This exhibition was set forth in the Ball Room from Gadsby's Tavern at Alexandria, Va., which now forms a part of the Museum's American Wing and continued until November 27.

An especially interesting exhibition appropriate to the occasion was shown also at YALE UNIVERSITY. The MINNEAPOLIS ART INSTITUTE and the MUSEUM OF FINE ARTS, Boston, both made memorial contributions in the way of special exhibitions.

A commemorative portfolio of twenty etchings by twenty of America's most distinguished etchers entitled "The Bicentennial Pageant of George Washington," illustrating scenes in the life of Washington from boyhood to his last days at Mount Vernon, was issued in an edition of a thousand copies with an introductory essay and biographical notes. The first copy of this portfolio was presented to the President of the United States, Herbert Hoover. Simultaneously, the etchings were publicly exhibited at Kennedy and Co.'s in New York.

*Indian Tribal Arts.* A comprehensive exhibition of Indian Tribal Arts was assembled by a self-organized committee of experts and shown first at the GRAND CENTRAL ART GALLERIES in New York, later in a number of the leading museums in other cities, with the purpose of demonstrating to the public the cultural instincts and achievements of various tribes of American Indians. A portion of this exhibition was shown in the U. S. Gallery at the Venice Biennial Exhibition during the Summer, creating much interest.

The exhibition of *Mexican Arts*, organized by the AMERICAN FEDERATION OF ARTS through the coöperation of the Carnegie Corporation of New York and the late Dwight Morrow while Ambassador to Mexico, which had been on circuit for more than a year, continued on its travels during the first half of 1932, spreading the knowledge of the native arts of Mexico and increasing the vogue therefor.

An Argentine painter, *Quiros* by name, held, by special invitation, an exhibition of his works in the MUSEUM OF THE HISPANIC SOCIETY, New York, the latter part of March and the early part of April, calling forth much favorable comment and introducing to art lovers in this country the works of a South American of exceptional interest and quality.

In the BROOKLYN MUSEUM, under the direction of William Henry Fox, an exhibition which gave an exceedingly interesting survey of *Modernism* in America from 1880 to 1900 was held, in the early part of the winter. Included in this exhibition were works by the leading American artists of those twenty years, many of whom had not theretofore been regarded in this par-

ticular category but whose works, when brought together, gave indication of modern trends. Many of the paintings in this exhibition were private loans.

A memorial exhibition of paintings by the late *Sir William Orpen* was held in the KNOEDLER GALLERIES, New York, re-emphasizing the brilliance of this lately deceased Irish painter, introduced to American art lovers, incidentally, by the International Exhibitions at the Carnegie Institute, Pittsburgh.

Witnessing again to the increasing wealth of American collections in foreign works, an exhibition entitled "From Van Dyck to Lawrence," held at the NEWHOUSE GALLERIES, New York, was significant.

Indicative of the continued interest in the works of the *French Modernists* were two exhibitions shown in New York during the first half of the year. One was entitled "From Cezanne to Picasso" and comprised eighteen carefully selected paintings. This was shown in the DUDENING GALLERIES. The other was at DURAND RUEL'S, and consisted of works by Gauguin, Cezanne and Redon—all exceptionally fine examples.

Because of the financial depression and resultant need, several notable exhibitions were held in New York during the year for the benefit of various charitable funds. The first of these was an exhibition of recent portraits by Philip de Laszlo, the Hungarian-British portrait painter, which was held at KNOEDLER'S in January. Later, in these same galleries, was to be seen a notable exhibition of works by Renoir.

At AVERELL HOUSE, for the benefit of the Musicians' Emergency Aid Fund, twenty-two paintings from Lord Sackville's collection, Knole House, Sevenoaks, Kent, were placed on view prior to sale.

At the AMERICAN ART ASSOCIATION-ANDERSON GALLERIES, New York, a loan exhibition of *portraits by distinguished painters* was shown for the benefit of the Free Milk and Coffee Stations for the Unemployed. And under the auspices of the Women's Division of the Architects Emergency Committee for Unemployed Architects and Draftsmen (to aid whom a fund of \$100,000 was raised) an exhibition of Architects' Hobbies was held from May 25th to June 3d. It is not usual in this country for admission fees to be charged to exhibitions in dealers' galleries, but under these circumstances the public gladly paid the price and, aside from aiding the charity, were well rewarded by the excellence of the works shown.

At the METROPOLITAN MUSEUM OF ART, New York, a *Memorial Exhibition of works by Samuel F. B. Morse* was held in February in the Gallery of Special Exhibitions, marking the 100th anniversary of the invention of the telegraph. Later in the Spring commemorative ceremonies were conducted at the Capitol in Washington.

In November, and for a period of six months, the METROPOLITAN MUSEUM OF ART, placed on view in its gallery of Special Exhibitions, the valuable collection of paintings and objects of art collected by the late *Colonel Michael Friedsam*, and presented by his executors, in accordance with his wishes, to the Museum early in the year.

At the WHITNEY MUSEUM, New York, from October 18 to November 16th, a memorial exhibition of the works of Glenn O. Coleman, who died in May was held.



**"LANDING OF THE FIRST WHITE SETTLER"**

By Francis Scott Bradford

Panel in Milwaukee City Court House, Milwaukee, Wisconsin



**"LAST SNOW"**

By Theodore Van Soelen

Winter Exhibition, 1932,  
National Academy of Design



**"THE BLUE JAR"**

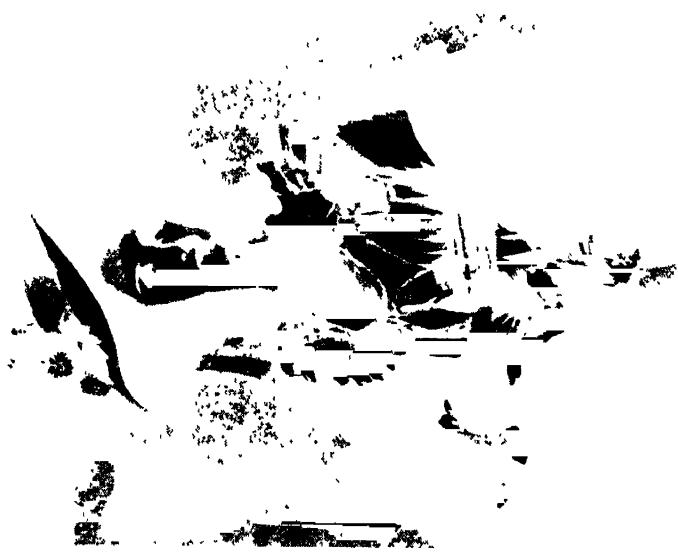
By Cullen Yates, N A

Winter Exhibition, 1932,  
National Academy of Design

"PORTRAIT OF A BOY"

By John Singer Sargeant

In the Permanent Collection of Painting, Carnegie Institute Pittsburgh, Pa



"WOMAN WITH BLACK CAT"

By George Luks

Awarded First W. A. Clark Prize Thirtieth Biennial Exhibition of Contemporary American Oil Paintings, Coreolan Gallery Washington D. C.



"DUCHESS DE POLIGNAC"

By Vigee Lebrun

From the Curizon Collection Sold in New York City in 1932



This Museum opened on November 22 its first Biennial Exhibition of Contemporary American Art from which extensive purchases were made for its permanent collection from a \$20,000 fund donated by Mrs. Whitney for the purpose.

In recognition of fifty years of distinguished achievement in painting, the American Academy of Arts and Letters set forth in its Galleries, Broadway and 55th Street, New York, in November to continue to the following April, a comprehensive exhibition of the work of Gari Melchers, a member of the Academy and one of the country's most distinguished artists. Mr. Melchers, whose death occurred less than a month later, was present at the opening on November 6, at which time the American Institute of Arts and Letters, affiliated with the Academy, awarded to him its medal for distinguished achievement in art.

Despite the depression, professional art organizations, such as the National Academy of Design, New York, the Pennsylvania Academy of the Fine Arts, Philadelphia, the water color clubs and societies, and the print clubs, all held their annual exhibitions as usual. Fewer sales were made, but attendance was increased, apparently, rather than diminished.

The PENNSYLVANIA ACADEMY OF FINE ARTS, the oldest art organization in the United States, held its 127th Annual Exhibition from January 2d to March 21st, and the following prizes were awarded: Temple Gold Medal, to Paul Bartlett for "The Sand Barge"; Lippincott Prize, to Hilda Belcher for "Portrait by Night"; Mary Smith Prize, to Virginia Armitage McCall for "Waldron Academy, Overbrook"; Beck Gold Medal, to Saul for "Child with Instrument"; George D. Widener Memorial Gold Medal, to C. P. Jennewein for "Indian and Eagle," to be erected at Tours, France, as a memorial by the United States; James A. McClees prize, to A. Stirling Calder for his monument to Shakespeare to be erected in Philadelphia on the Parkway.

The NATIONAL ACADEMY OF DESIGN held (as has been customary since its merger with the Society of American Artists) two exhibitions during the year,—one the 107th Annual in the Spring; the other, known as the Winter Exhibition, in late November and December. The prizes awarded at the former were: First Altman prize, to Victor Higgins for "Winter Funeral"; Second Altman prize, to George Oberteuffer for "The House of the Rabbi"; the Thomas B. Clarke prize, to Robert Brackman for "Portrait"; the Ellin P. Speyer prize, to Ralph H. Humes for "Wounded Crow"; Second Hallgarten prize, to Joseph Schlaikjer for "Little Ones"; Third Hallgarten prize, to Carl W. Peters for "Barnyard"; and the Isaac N. Maynard prize, to Mahonri Young for a portrait bust of Emil Carlsen. The First Hallgarten prize was not awarded for the year 1932.

This was followed by the so-called Winter Exhibition of the National Academy of Design which opened on November 26 and continued to December 20. Prizes totaling \$3650 were awarded as follows: Carnegie prize, \$500, to the Gifford Beal for his painting "Northeastern"; Thomas R. Proctor prize, \$200, to Kenneth K. Forbes of Toronto for his portrait of "Captain Melville Millar"; first Altman prize, \$1000, to Leon Kroll for "Summer, New York"; second Altman prize, \$500, to Wayman Adams for portrait of "George (Pop) Hart"; Julia A. Shaw memorial prize,

\$100, to Katherine M. Johnson, Oswego, N. Y., for "From a Provincetown Roof"; Isador medal to Paul Sample of Pasadena, Calif., for "Unemployment"; the J. Francis Murphy memorial prize, \$150, to Donald Teague of New Rochelle, N. Y., for "Eastern Point Light"; Edwin Palmer memorial prize, \$1000, to Charles H. Woodbury of Boston, Mass., for "The Changing Wind"; as well as two prizes in Sculpture—the Elizabeth N. Watrous gold medal to John Flanagan for "Frame of Medals," and the Helen Foster Barnett prize, \$200, to Katherine W. Lane, Manchester, Mass., for "Narcisse Noir."

The Art Institute of Chicago held its Annual Exhibition of American Paintings and Sculpture from Oct. 27, 1932 to Jan. 2, 1933, and the following awards were made: The Mr. and Mrs. Frank G. Logan Medals and Purchase Prizes of \$1500, \$1000, and \$500 were awarded respectively to Nicolay Cikovsky for "Pigeons," to Sidney Laufman for "Landscape," and to Judson Smith for "A Deserted Mill"; the Norman Wait Harris Silver Medals and Prizes of \$500 and \$300 each were awarded respectively to Henry Varnum Poor for "Hudson Valley at Bear Mountain," and to Simka Simkhovitch for "Amazon Carrousel"; the M. V. Kohnstamm Prize of \$250 was awarded to Raphael Soyer for "Subway"; the Martin B. Cahn Prize of \$100 to Laura Slobo for "Sixth Street—4 p.m."; the William R. French Memorial Gold Medal to Victor Higgins for "Winter Funeral."

The Corcoran Gallery of Art, Washington, D. C., opened on December 4, its Thirteenth Biennial Exhibition of Contemporary American Paintings, consisting of 345 works by 281 artists. The following awards were made: W. A. Clark first prize, \$2000 and Corcoran gold medal to George Luks for "Woman with Cat"; W. A. Clark second prize and Corcoran silver medal to John R. Grabach for "Spring Planting"; W. A. Clark third prize and Corcoran bronze medal to David Silvett for his portrait "Thornton Nye of Wytheville, Va."; honorable mention and \$500 to N. C. Wyeth for "In a Dream I Saw Washington." From this exhibition the Corcoran Gallery purchased the paintings receiving the first and third prizes and also paintings by John Sloan, "Yeats at Petit Pas," and by Alexander Brook, "Portrait of My Wife."

Innovations brought about by the depression were open air exhibitions and barter sales held in New York and elsewhere. The first in this country was held in Washington Square, New York. During a period of nine days the total receipts amounted to over nine thousand dollars, upwards of sixteen hundred works being sold. Later similar sales took place in Cleveland, Chicago, and elsewhere. In some instances works were bartered rather than sold, the artists taking in exchange for their paintings, clothing, food, and professional services.

**FOREIGN. England.** A great exhibition of French Art was held at Burlington House, London, in January. Loans were made by the Louvre, French Abbeys, and Cathedrals, and by private and public collections. Many distinguished works came from American collections. This exhibition gave, it is said, an "unrivalled pictorial history of French art from the 12th century down to the present day," but one-third of the exhibits consisted of works of the 19th century.

Mr. C. H. Collins Baker resigned as Keeper of the National Gallery of Art, London, to ac-

cept a position in the research department of the Huntington Gallery, San Marino, Calif.

*Italy.* The American Academy in Rome, of which J. Monroe Hewlett, mural painter and architect, was appointed Director and assumed charge in the summer of 1932, held competitions for Fellowships as usual, and the following awards were made: In Painting, to James Owen Mahoney of Dallas, Tex.; in Sculpture, to Robert J. McKnight of Springfield, O.; in Architecture to George Nelson of Hartford, Conn.; in Landscape Architecture to Henri E. Channe of Tompkins Corners, N. Y.

In the Biennial Exhibition of Art in Venice, held during the summer of 1932, American art was again well represented. One gallery was given over to paintings by George Bellows, one to paintings by Arthur B. Davies, while a third gallery was devoted to the works of contemporary painters—Maurice Sterne, Gari Melchers, Charles W. Hawthorne, John Sloan, Robert Spencer, Maurice Fromkes, Frederick J. Waugh, Leon Kroll, Robert Henri, Hovsep Pushman, Leopold Seyffert, Walter Ufer, Randall Davey, Ernest L. Blumenschein, Max Weber, and Bernard Korf. A group of animal subjects in sculpture by Herbert Hazeltine was also included. The collection was assembled by Martin Birnbaum under the auspices of the Grand Central Galleries, New York, and the patronage of George D. Pratt.

The First International Art Congress was held in Venice simultaneously with this Biennial Exhibition and was attended by representatives of nine European countries. The object of this Congress was to consider practical problems. A number of recommendations were made which it is hoped will be embodied in bills to be introduced to various parliaments.

*The Netherlands.* The University at Amsterdam celebrated its tercentenary by an exhibition of works by Rembrandt, which opened on June 11th. The collection, which was assembled by F. Schmidt Degener, consisted of 42 paintings, 178 etchings and 122 drawings.

*Spain.* The Government of Spain, in an endeavor to safeguard its art treasures, passed certain laws, forbidding the export of works of Spanish art or their sale to foreigners, and has set aside its cathedrals and other great buildings as national monuments under Government control.

*Germany.* The German Federation of Arts called world attention to the danger of unskilled restoration of old paintings, asking for a law to license restorers only upon evidence of competence, and to restrain those who are incompetent from undertaking commissions.

*France.* A portrait by the late Thomas Eakins, entitled "Clara" was given by the Pennsylvania Museum to France, gratefully accepted and hung in the Louvre. The American School of Fine Arts at Fontainebleau celebrated its Tenth Anniversary during the summer of 1932. A museum at Meudon on a hilltop near Rodin's former home has been given to France by Mrs. Jules Martbaum of Philadelphia to house a collection of casts of work by Rodin. The official dedication is to take place in the spring of 1933. See ART MUSEUMS; ART SALES; PAINTING.

**ART EXHIBITIONS FOR CHARITY.** See ART EXHIBITIONS.

**ARTIFICIAL SILK.** See RAYON.

**ARTILLERY.** See MILITARY PROGRESS.

**ART INSTITUTE OF CHICAGO.** See ART MUSEUMS.

**ARTISTS.** See MUSIC; PAINTING; SCULPTURE.

**ART MUSEUMS.** The art museums of the country suffered quite generally from reduced budgets during the year. The Detroit Institute of Arts, which is supported entirely by city funds, was at one time in danger of closing. This calamity, however, was averted, but the activities of the museum were reduced and the Director, Dr. William R. Valentiner, at his request, was granted a year's leave of absence without pay for special research in Europe.

The Carnegie Institute of Pittsburgh did not hold its usual yearly International Exhibition. The Pennsylvania Museum of Art in Philadelphia was only open three days a week for the greater part of the year. The Butler Art Institute of Youngstown, O., was open only one or two days a week. Beginning October 1st, the Phillips Memorial Gallery in Washington was open only on Saturdays.

The Berkeley Museum, Berkeley, Calif., supported by memberships, the local Chamber of Commerce, and the city, was obliged to close on account of lack of funds.

Despite this discouraging curtailment of museum activities, quite a number of important accessions were made by American museums, either through gift or purchase.

The Art Institute of Chicago was greatly enriched through the bequest of the late Martin Ryerson, who left to the Institute his entire collection of rare and valuable paintings. A large portion of this collection had for some years been on view in the Institute as a loan. To his widow he left a life interest in the works remaining in the home.

The permanent collection of the Art Institute of Chicago was further enriched through a bequest from Mrs. L. L. Coburn of French paintings, books for the Ryerson Library, and a third interest in her residuary estate.

Princeton University acquired by bequest of the late Junius Morgan (who died on August 18th in Switzerland) his valuable collection of prints, engravings, and etchings.

The Parrish Memorial Art Museum at Southampton, L. I., was left one-half of the residuary estate of the late Samuel Parrish, its founder and former President.

To the Pennsylvania Museum, John T. Morris bequeathed a fund of \$25,000, the income of which is to be used for the purchase of objects of merit and rarity for the Museum.

The Metropolitan Museum of Art received money from five bequests amounting to \$59,000, as well as special gifts of unnamed sums from a number of donors.

Amherst College received from Mr. George D. Pratt a number of paintings and several works in sculpture by contemporary American artists.

From Mr. Edward S. Harkness Yale University received an Elihu Yale Tapestry woven by John Vanderbank about 1700, the last of a series of four Chinoiserie Tapestries, ordered originally as a wedding present for Yale's daughter Catherine, who married Dudley North, Baron Guilford. Yale University also received from Mr. Francis P. Garvan, in memory of Harry Payne Whitney, "The Whitney Collection of Sporting Art," comprising prints, paintings, drawings, and sculpture, representing almost every sport; and through the bequest of the late Chauncey M.



Depew, Jr., a portrait of George Washington by Gilbert Stuart.

The Philadelphia School of Design for Women, through merger with the Moore Institute of Art, Science, and Industry, received \$3,000,000 endowment, provided for in the will of Joseph Moore, Jr.

For the year ending Sept. 30, 1932, the Carnegie Corporation of New York reported gifts and grants in the field of art in the United States amounting to \$414,000. These were distributed as follows: \$79,000 to college art departments for instruction and equipment; \$196,000 to museums and art institutions; and \$137,000 for other activities outside of these two groups.

The Kansas City (Missouri) Art Museum, which has not yet opened, acquired, among other works, important paintings by Ingres and Chardin; a Boilly, a Cranach, a Lorraine, and a Dou.

Among the purchases made by the Cleveland Museum of Art was a relief plaque of a Singing Boy by Luca Della Robbia. This was purchased from the Dreyfus Collection, which was exhibited at the Fogg Art Museum, Cambridge.

The Toledo Art Museum acquired a still life painting by Emil Carlsen. This Museum also acquired, through the Holden Fund, a painting by Filippino Lippi of "The Holy Family with St. Matthew and St. John."

The Cincinnati Museum acquired a fine El Greco—"The Crucifixion, with View of Toledo."

The Department of Fine Arts, Carnegie Institute, Pittsburgh, acquired a portrait by Sargent of Homer Saint-Gaudens and his Mother.

The Museum of Fine Arts, Boston, acquired a portrait of the Poet, Gongora, by Velasquez, painted in 1622; also a portrait of Mrs. Gilbert L. Parker by Thomas Eakins.

A painting by Pietro di Cosimo was purchased by the Wadsworth Athenaeum, at Hartford, Conn.

The Minneapolis Art Institute purchased a Roman marble figure of Agrippina, the younger, of the Augustine period, and also a landscape by Ruissdael.

The New York Metropolitan Museum of Art acquired an Archaic Greek statue of Apollo type, of about 600 B. C., and a famous Greek terra cotta—an ancient reproduction, a little less than a quarter life size, of Diadoumenos by Polykleitos. Thirteen paintings by contemporary American artists were also acquired for the Museum's permanent collection.

The Ranger Fund for the purchase of works by American artists, administered by the National Academy of Design, acquired nine paintings during the year 1932: works by Robert Henri, Leopold Seyffert, Jonas Lie, Frederick C. Frieseke, Eugene Higgins, Wayman Adams, Bruce Crane, Jerome Myers, and Eric Hudson, which were assigned to various art organizations throughout the country. Announcement was made that during the last three years, despite the depression, the Academy had succeeded in increasing this fund of \$250,000 to nearly \$400,000 through judicious investment.

In December the following additional purchases were made from the Ranger Fund: "Room in Arlington Museum," by Charles Bittering; "Rhododendron," by Herman Dudley Murphy; "Pale Light of Dawn," by Spencer Nichols; "The Benediction of the Sea," by John Noble; "The Path of Light," by Malcolm Humphreys; "The Blue Jar," by Cullen Yates; "Mist and Snow,"

by Walter Palmer; "Last Snow," by Theodore van Soelen.

Two new museums came into existence. These are the Lyman Allyn Museum in New London, Conn.; and the Museum of Art in Eugene, Oregon (dedicated in June), a memorial to a former president of the University of Oregon—P. L. Campbell. The Lyman Allyn Museum is two stories high, designed in classic style, with eight galleries and an auditorium, with seating capacity for two hundred, in the basement. The building, formally opened on March 2d by Governor Wilbur L. Cross, was the gift of Mrs. Harriet Upson Allyn in memory of her father, Lyman Allyn. It will specialize in its collections in drawings, prints, and small works in sculpture and objects of industrial art.

The Museum of the City of New York, recently erected at 104th Street and Fifth Avenue, was formally opened to the public on the 11th day of January. It is a handsome white marble structure in the Georgian style, designed by Joseph H. Friedlander, and contains interesting exhibits relating to the history of the City of New York. An interesting feature of this museum is a series of models of scenes in old New York by Dwight Franklin.

The Museum of Modern Art, New York, which for some years has had quarters in the Heckscher Building, 730 Fifth Avenue, moved on May 3 to 11 West 53d Street, formerly a private residence, which has been admirably remodeled for museum purposes. In November this museum continued its enviable reputation for notable exhibitions by a display of American works of extraordinary importance including Whistler's portrait of his mother, lent by the Louvre.

The Toledo Museum of Art has completed two large wings which triple its size. These additions were made possible through the bequest of \$2,000,000 in the will of Edward Drummond Libbey, the museum's founder and first president, and construction was begun in 1930 at the request of the donor's widow to help relieve the local unemployment situation. During the ensuing years, 2500 men worked on the buildings. In one of the new wings is a concert hall seating 1500 persons. The other wing provides exhibition galleries and quarters for the Museum School of Design.

Extensive additions were made to the Worcester Art Museum, Worcester, Mass., during 1932. Its new buildings, greatly increasing the size of this museum, were not opened, however, to the public until Jan. 6, 1933.

A new museum building at Springfield, Mass., has been in the process of erection. Announcement was made in the late summer of 1932 of the appointment of Josiah P. Marvel as director of this museum, which will be under the control of the Springfield City Library Association.

Ground was broken on October 10 for the erection of the new Avery Memorial Building of the Wadsworth Athenaeum, Hartford, Conn., which will adjoin the present structure of the Morgan Memorial. This new addition to the Wadsworth Athenaeum will make possible a more adequate housing of the administration and exhibition needs of the museum, and will also provide quarters for the Hartford Art Society.

The Taft Museum, Cincinnati, formerly the residence of the late Charles P. Taft, and containing his rare and beautiful collections was opened to the public on November 29 as a mu-

seum, under the charge of the Cincinnati Art Museum.

The Washington County Museum of Fine Arts was opened in Hagerstown, Md., in May, the gift of Mrs. W. H. Singer, Jr. An annual maintenance fund of \$5000 is given by the county.

Fort Dodge, Ia., dedicated a new \$40,000 gallery, the gift of Charles Blanden of San Diego, Calif.

On Oct. 30, 1932, Yale University celebrated appropriately the Hundredth Anniversary of the establishment of the "Trumbull Picture Gallery"—the first separate art museum building connected with a college or university in this country and also a comparatively early building in the long history of museums.

The Museum of French Art, New York, held a noteworthy exhibition of 26 paintings and lithographs by Fantin Latour, assembled by Mrs. Chester Dale. Among the exhibits were also a number lent by the Louvre and public galleries at The Hague and other European cities.

In January, William Sloane Coffin was elected President of the Metropolitan Museum of Art, succeeding the late Robert W. de Forest. Mr. Coffin had served for seven years as a member of the Board of Trustees of the Museum, and for a much longer time had manifested a very keen interest in art and its development, especially in the field of industry. At the same time Herbert E. Winlock, who had been associated with the Metropolitan Museum for twenty-five years, and had served as Curator of its Department of Egyptian Art since 1929, was made Director. Mr. Joseph Breck was appointed Assistant Director, and Director of the Cloisters. Simultaneously with the announcement of these appointments announcement was made by the Trustees of the acceptance of the Michael Friedsam bequest, an important varied collection which eight months later—that is in November, 1932—was placed on public view.

The Pennsylvania Museum of Art, Philadelphia, was greatly enriched by the loan of a collection comprising a notable group of English portraits, works of sculpture, textiles, furniture, porcelains, and other *objets d'art* from Mr. and Mrs. Edward T. Stotesbury. This Museum and the Metropolitan Museum of Art, New York, continued during the early part of the year, through the generosity of various donors, chamber music and symphony concerts.

The practice of installing whole rooms in museums as exhibits was continued and emphasized during the past year by the addition, in April, of the so-called Chesterton Room to the Baltimore Museum of Art, a beautiful example of Colonial architecture; and the installation of two rooms from the Joel Clark House, built at East Granby, Conn., in 1737, in the Yale Museum of Fine Arts, New Haven. Also, on May 5, a Queen Anne Room was opened in the Minneapolis Institute of Arts, adjoining a Georgian Room from Stanwick Park, Yorkshire, installed the first of the year in memory of Eugene J. Carpenter. The Pennsylvania Museum opened in the yearly autumn a Louis XVI room from the Hotel Letellier, Paris, 1789, the gift of Mrs. Alexander Hamilton Rice, and in mid-summer, St. Louis opened an interesting Gothic Court with imposing early XVI century staircase.

**ART SALES.** Sales of paintings and other works of art were held with the usual regularity in this country and abroad. Although the gen-

eral scale of prices was not as high as for some years past, some interesting peaks were reached.

In the American Art Association-Anderson Galleries, New York, three notable collections were sold last April. These were the Curzon, the Sir W. H. Bennett and the Benguiat Collections which collectively totaled \$432,585. The Curzon collection alone brought \$93,673 and included on its lists the painting "Vénus Consolant L'Amour," one of a series of decorations which Louis XV commissioned Boucher to paint for Mme. de Pompadour, which brought \$31,000; and also Vigée Lebrun's portrait of Duchesse de Polignac painted in 1782 which brought \$16,500, as well as a portrait by Sir Joshua Reynolds of Katherine Angelo which brought \$12,000 and two heads by Greuze, one of "A Girl" and the other of "A Boy," which brought respectively \$4600 and \$5200. The Benguiat collection comprised exclusively antique oriental rugs, and included a Royal Persian Animal Carpet of the 16th Century, one of the great carpets of the world, for which the owner is said to have declined \$250,000. This carpet sold for \$62,000. A "Marquand" Imperial Animal rug, described by Mumford and well known throughout the world, brought \$35,000. The total for this sale was \$245,775. The Bennett collection which included some fine examples of the great school of English portraiture brought \$98,137, but no one item an extraordinary amount. Included in this collection were two Italian Renaissance bronzes which sold respectively for \$6500 and \$6100.

Much interest was aroused by the sale of the "Blue Boy" in the Hearn Collection. This painting was originally supposed to have been a replica by Gainsborough, but it has also been ascribed to Hoppner. It brought \$8500. The next highest price in this sale was given for an interior of "Fitz-Allen Chapel" by Turner which sold for \$4500.

Earlier in the season four busts in plaster by Houdon brought a total of \$8950, one of George Washington, supposed to be an original cast, selling for \$4500 and one of Benjamin Franklin for \$3000.

Works by American artists in most instances did not in 1932 bring sensational prices. The sum of \$2100 was paid for a portrait of Mary Todd Lincoln by Francis B. Carpenter; a "Moonlight" by Blakelock brought only \$700, while a painting by Ridgway Knight brought \$1000; two portraits in pastel by Sharples brought \$500 each; a water color, "Sisters at Work" by Winslow Homer, in the Fletcher Collection, brought \$1550, and a Venetian painting by Thomas Moran, \$1600.

One of the high prices of the season in New York was paid for a painting by Rembrandt, "Woman Plucking Fowl" at the sale of the Kleiber Collection on November 18, the price being \$26,000. At this same sale "Concert" by De Hooch brought \$7500 and a Goya portrait \$5400. Earlier in the year a painting of a "Young Girl" by Matisse brought \$950, and "The Old Carpenter" by Manet only \$600.

Many of the sales in these galleries during the past season were of furniture—early American, English, and in some instances French. No such sensational prices were given, however, as a few years ago, and the general level was much lower. The highest price, \$3800 was paid for a card table by John Goddard of Rhode Island. Next in amount was a side table with a marble top made

in Baltimore about 1790, for which \$2350 was paid. A Duncan Phyfe side chair brought \$1820, a Duncan Phyfe sofa \$1050, and a Duncan Phyfe settee \$950. For a Chippendale carved mahogany four-poster bed \$900 was paid, for a high-boy by William Savery of Pennsylvania, \$750. Banjo clocks in some instances brought as high as \$450. For a Washington Card table said to have been used at Mount Vernon, \$560 was paid. Two American hooked rugs, one oval, brought respectively \$350 and \$280 apiece.

In this connection it is interesting to note that French and Flemish tapestries sold at from \$1000 to \$3000 each during the past season, whereas single lengths of Genoese velvet brought from \$520 to \$770.

In these same auction rooms during this season three famous violins were sold—a Stradivarius at \$14,000, one Guarneri del Gesu of 1729 at \$15,500 and another of 1742 at \$16,000. Also, incidentally, \$21,500 and \$43,000 were bid (and paid) for two diamond rings, and \$20,500 for a pearl necklace.

On account of financial stringency and heavy taxation, famous English masterpieces long in the possession of old-established families of Great Britain continued to come into the market both in this country and in England, but the prices brought in 1932 were much lower in England than heretofore. In connection with the sale on April 18 of Lord Durham's Collection at Lambton Castle, much interest was created and comment made by the owners' refusal to accept a bid of £95,000 for "The Red Boy" by Lawrence, a portrait of Master William Lambton, and £23,000 for Hoppner's portrait group of Lady Anne Lambton and her family, although the latter bid was £5000 higher than a work by Hoppner had ever brought. Romney's portrait of General Lambton was bought in by the owner at £9500.

Interesting figures were given in connection with a report of the sale of the collection of the late Sir Ernest Cassel in London in the early summer, when Renaissance bronzes, which had been purchased for 700 guineas in 1912, when the guinea was worth about \$5, sold for only 170 guineas, with the guinea worth less than \$3.80. A Louis XIII bronze group which previously brought 1550 guineas went for 620 guineas. A large well-known group portrait of the Warren Family by Romney which was sold at the Lord Vernon auction in 1919 for 6600 guineas brought only 1100 guineas.

The same was true of prices at another well-known London auction room where six portraits by Raeburn brought a total of £2290, while the price paid for a seventh, "Portrait of Helen Boyle," an especially important work, the property of the Earl of Glasgow, was only £3500. In 1917 £25,410 was paid for Raeburn's portrait "The MacNab." At Christie's, Reynolds' portraits of Mrs. Weddell and Viscountess Beauchamp failing to reach the desired figure, were bought in at 1300 and 1700 guineas respectively. At another sale at Christie's, the same occurred in connection with a painting by Rembrandt, "Young Man with a Sword" which failed to reach the reserve, the highest bid being 2100 guineas. A portrait by Gilbert Stuart of Daniel McCormick, a friend of George Washington, was bought in for 360 guineas. Evidently the English realize that there is no use sacrificing family portraits unless their sale achieves the desired end of meeting death duties and tax obligations.

On the other hand, higher prices than usual prevailed in France. At a sale of works by French Impressionists and Post-Impressionists held at the Galeries Georges Petit, Paris, in the early summer, 3,300,000 francs or about \$132,000 was realized. The highest price paid was the equivalent of \$14,000 for Van Gogh's "Le Pont de Trinquetaille a Arles." A Renoir, "La Fillette au Cerceau," brought \$12,850, Cezanne's still life, "Pommes sur une Table" brought \$12,800, and his "Village Provençal," \$10,000. Works by Corot, however, at this same auction brought \$7260 and \$4400 respectively; a painting by Daumier \$5840 and a Monet \$3200.

In Berlin excellent prices were paid for work by modernists. In a November sale 15,600 marks was paid for "Woman Bathing" by Degas and 11,200 marks for a "View of the Alps toward Gausier" by Van Gogh; 16,000 marks for "Woman Playing Guitar" by Renoir. At a sale of engravings by old masters of the fifteenth and sixteenth centuries from well-known German collections, top prices prevailed. Prints by Altdorfer, "Fortuna" and "Mars," brought respectively 1100 and 950 marks, the highest price ever paid for figure subjects by this master. Early Italian prints also brought good prices, one going as high as 4800 marks. Dürer prints likewise were at a premium, "Adam and Eve" bringing 6100 marks, "The Passion," 2600 marks, and "The Big Fortune," 2700 marks. A Madonna by Mabuse brought 1300 marks, and Schongauer's "Nativity," 2000 marks. The sale of the Stinnes Collection showed increased interest in the works of the French painters of the nineteenth century. Prints by Maillot and Matisse brought good prices; also prints by Edward Munch, Norwegian painter.

Early in December the George Blumenthal Collection was sold in the Galeries Georges Petit, Paris, realizing a grand total of \$443,000, which was said to be a "particularly forcible and timely reminder of the quoted value of works of genuine merit." At this sale a painting "Donkey Stable" by Fragonard brought \$12,000. Two drawings by the same master \$5500 and \$4500 each. A table made by Reisener for Marie Antoinette fetched \$28,000, an ensemble by Clodion, \$18,000. Mr. Blumenthal's library alone brought nearly \$109,600.

**ARTS AND LETTERS,** AMERICAN ACADEMY OF, and NATIONAL INSTITUTE OF. See ACADEMY OF ARTS AND LETTERS, AMERICAN.

**ASCENSION,** ISLAND OF. See ST. HELENA.

**ASHANTI.** See GOLD COAST.

**ASIA.** See CHINA, JAPAN, SOVIET CENTRAL ASIA, SIBERIA, INDIA, and the other articles on the subdivisions of the continent. See also the articles ARCHÆOLOGY; EXPLORATION; POLAR RESEARCH.

**ASIR.** See ARABIA.

**ASSOCIATION FOOTBALL.** See SOCCER.

**ASTRONOMY.** By modern photographic methods, dozens of new minor planets are annually being added to the more than 1200 that are already known. The great majority of these bodies are of no especial interest, but occasionally one of particular importance is found; and the year 1932 was distinguished by two noteworthy discoveries: On March 12, a rapidly moving object of the thirteenth magnitude was detected by Delporte at Uccle. The accurate determination of the orbit presented great difficulties, because the motion on the celestial sphere was nearly in a

great circle; and for some time it was uncertain whether the object was a comet, a planet, or a tiny new satellite of the earth. Eventually, however, the body was found to be a minor planet, and it received the temporary designation 1932 EA. The first of the two letters by which newly discovered minor planets have been designated since 1925 indicates the approximate time of discovery, the letter A being used for those found during the first 15 days in January, B for those found during the remainder of January, and so on; the second letter indicates the order of discovery, the first planet discovered in a given half month being designated by A, the second by B, and so on; I and J are treated as the same letter, and if more than 25 planets are found in any one period, the subscript one is appended, if more than 50 the subscript two, and so on. The Delporte planet later received the permanent number 1221, and the name of Amor. As a measure of preparedness in case of similar discoveries in the future for which the usual methods of orbit determination fail, Leuschner devised a special mathematical test for ascertaining whether or not a newly discovered body close to the earth is a satellite of the latter.

Amor passed within 10,000,000 miles of the earth, and thus replaced Eros as the earth's closest known neighbor next to the moon. It held this distinction for only a few weeks, however: On April 24, a still more remarkable minor planet, 1932 HA, was discovered by Reinmuth at Heidelberg. The Reinmuth planet came within 8,000,000 miles of the earth, and it is possible for it to come considerably closer. It has a period of less than two years, and is the first minor planet to be discovered with a perihelion inside the orbit of Venus; it is possible for it to transit the sun.

The Delporte and the Reinmuth planets are among the smallest bodies known to astronomy; they are probably less than a mile in diameter, perhaps only as large as a fair-sized mountain. Many such bodies undoubtedly exist in the solar system, but only those that happen to come quite close to the earth can be detected. These two planets would be invaluable for a more accurate determination of the solar parallax; but because of their faintness, they are observable only at favorable oppositions, and unfortunately it will be some time before favorable oppositions again occur; meanwhile, they are in danger of being lost entirely, because of a lack of accurate observations over a sufficiently long interval of time.

Since the minor planet Hidalgo goes out to the orbit of Saturn, the minor planets are now known to be distributed between the orbits of Mercury and Saturn, instead of being confined between the orbits of Mars and Jupiter as originally thought; there is even some question as to whether Pluto should not be classified as a minor planet, since it apparently has a mass too small to affect other bodies in the system appreciably. The distinction between major and minor planets on the basis of location in the solar system is thus being lost. The distinction between minor planets and comets has been uncertain for some time: An object discovered in 1913 by Neujmin had a planetary appearance, but was moving in an orbit which was then considered distinctly cometary; Barnard succeeded in detecting a faint coma and a diminutive tail, but at the return in 1931 the most powerful telescopes revealed no vestiges of either, and

had it been discovered then instead of in 1913 it would have been classified as a planet. The Delporte and the Reinmuth planets have cometary orbits; and Amor may well be identical with some one of the comets that have been observed in past years.

The disappearance of distinctions formerly considered to exist between different classes of bodies in the solar system increases the difficulty of forming any really satisfactory theory of the origin of the system. Thus, a recent determination of the mass of Neptune's satellite indicates that no distinction between planets and satellites can be maintained on the basis of size: It is well known that the masses of the celestial bodies are determined by observing the motions which are produced by the mutual gravitational pulls that the bodies exert on one another. If a planet has a satellite, the mass of the planet is easily determined by observing the motion of the satellite as controlled by the action of the planet; if a planet has no satellite, recourse may be had to the perturbations which the planet produces in the motions of the other planets. Similarly, if a planet has several satellites, then if they are massive enough to disturb one another's motions appreciably, their masses may be determined from these mutual perturbations; in this way, Mimas has been found to have a mass  $\frac{1}{2100}$  that of the moon, the smallest mass yet measured astronomically. Again, a planet which has only one satellite describes an orbit about the common centre of gravity of the two bodies, and is therefore regularly displaced back and forth relative to where it would be if there were no satellite; the location of the centre of gravity, and hence the mass of the satellite, may be found by observing this back and forth swing, provided the satellite is massive enough to produce an accurately observable displacement of the planet on the celestial sphere. (The motion of the earth about the centre of gravity of the earth and the moon produces an apparent oscillation of nearby objects on the celestial sphere, from which the mass of the moon may be determined.) It seemed probable that Neptune's satellite is massive enough to shift Neptune on the celestial sphere by an amount of the order of 0.03 second of arc, which is within the limits of modern photographic measurement, and hence an attempt was made at the Mount Wilson Observatory to observe this displacement; the result gave a mass for Neptune's satellite of about five times that of the moon. Hence, not only is this body the most massive satellite in the solar system, but its mass is greater than that of Mercury, and half that of Mars.

**CELESTIAL MECHANICS.** The principles which govern the motions of the celestial bodies under their mutual gravitational attractions were completely and exactly formulated by Sir Isaac Newton over 200 years ago. For seven generations, these motions have been investigated by the ablest mathematicians; but in many instances the motions are of such extreme complexity that numerous unsolved problems still remain: The motions of two bodies in space under their mutual gravitational attractions during all past and future time can be completely and exactly calculated; but a similar calculation for three or more bodies is as yet impossible: When three or more bodies attract one another, the influence of each one alters the relative motions of the others, and these changes react on their

attractions for one another in a manner that taxes the highest mathematical skill to follow; and no one has succeeded in fully solving the problem. Methods have been devised by which the motions of the bodies in the solar system may be calculated to any required degree of approximation over limited periods of time; but the astronomer can neither predict where any given planet will be hundreds of millions of years hence, nor trace back the motion with any degree of accuracy over such an interval of time. In particular, it is impossible at present to draw any definite conclusions as to the ultimate stability of the solar system; on the basis of certain approximations, Laplace showed that a system of planets moving around the sun in definite orbits might suffer many serious disturbances from one another's attractions, but still would always hold together and form a stable system, however, Laplace's approximations are not legitimate for periods of time greater than fifty million years at most.

While the general problem of three or more bodies has not been completely solved, a number of general qualitative theorems have been established; and certain special cases have been fully worked out. For example, Lagrange obtained a solution for the case of three bodies which move so as always to form an equilateral triangle; and among the minor planets, 10 are now known which form such triangles with Jupiter and the sun: These minor planets are known as the Trojan group, because they are all named after characters in the Trojan wars; the first to be discovered was called Achilles, and the succeeding ones Hector, Nestor, Agamemnon, Odysseus, Patroclus, Priamus, Æneas, and Anchises; a tenth member of the group, 1931 YA, was found by Reinmuth on Dec. 31, 1931, and was at first thought to be a comet. These bodies all move in the plane of Jupiter's orbit, at the same distance from the sun as Jupiter, and each keeps at a like distance from Jupiter, except for small periodic oscillations; the first five travel ahead of Jupiter, the other five following behind. Each one thus continually forms with Jupiter and the sun a great equilateral triangle, 483 million miles on a side.

In the case of most of the bodies of the solar system, however, it is the general problem, and not any such special case, that is involved; but for the major planets the problem is so much simplified, because of the smallness of their masses compared to that of the sun, that their motions can be calculated with great accuracy from existing mathematical theories. The theory of the motions of the satellite systems, on the other hand, is a much more difficult problem, and has not been so accurately worked out. In particular, the four great satellites of Jupiter constitute a formidable challenge to the mathematician; a new discussion of this system has recently been finished by de Sitter: The first three of these satellites exemplify another of those special cases of the problem of three bodies in which the bodies permanently maintain the same configuration—when two of the satellites are in a line on the same side of the planet, the third is in the same line on the opposite side, and Laplace showed that their mutual attractions compel them to move permanently in this way, except for small periodic oscillations about these positions; de Sitter finds that they should oscillate about the equilibrium positions in a period of six years,

but the magnitude of the oscillation is too small to be observed.

A comparison of the observed motions of Jupiter's satellites with the theoretical motions calculated by de Sitter shows irregular departures from theory similar to the small irregular departures exhibited by the moon, the earth, and the inner planets; and this confirms the recent conclusion of E. W. Brown and others that these discrepancies are due to fluctuations in the rate of rotation of the earth.

E. W. Brown has devised a mathematical test for ascertaining whether observed deviations of a planet from its calculated motion are due to perturbations by an unknown planet, or merely to errors arising from inaccurate orbital elements, inaccuracies in the calculated perturbations produced by other planets, and errors of observation. An application of this test to the observations of Uranus which were used by Leverrier and Adams in calculating the place of the then unknown planet Neptune shows that the deviations of Uranus from its theoretical path were actually due to the perturbations from the undiscovered planet; on the other hand, the deviations used by Lowell in predicting the existence of a trans-Neptunian planet are found not to be due to perturbations by another body, and hence it must be concluded that the agreement of Pluto's orbit with that calculated by Lowell is a chance coincidence, and that Pluto is not the body predicted by Lowell. Lowell's methods and calculations were sound; but he was forced to use the old observations of Uranus that were made before it was recognized as a planet, and these observations were not sufficiently accurate.

**EXTRAGALACTIC SYSTEMS** Two faint nebulae in Gemini have been found by Hubble to have an apparent radial velocity of recession of 15,000 miles per second, the highest yet observed. These systems are 135,000,000 light years distant.

Hubble has found 140 nebulous objects in or close to the borders of the Andromeda nebula, Messier 31, which, from their numbers, distribution, and radial velocities, are presumably associated with the great spiral; and from their forms, structure, colors, luminosities and dimensions, he has provisionally identified them as globular clusters. Their diameters range from 13 to 50 light years; they seem to be systematically fainter than the globular clusters in our own galaxy, but are comparable to those in the Magellanic Clouds. The diameter of the spiral indicated by the distribution of these objects is probably of the order of 100,000 light years. This discovery strengthens the general resemblance of the spiral nebulae and the galactic system.

With a photoelectric cell attached to the 100-inch reflector at Mount Wilson, Stebbins has determined the brightness and colors of various faint and distant objects, and has obtained evidence of considerable absorption of light in space; just as the setting sun appears red because of the greater amount of air we look through near the horizon than when the sun is overhead, so do the stars and clusters near the central line of the Milky Way appear reddened; the so-called space-reddening is due presumably to an extended cloud of small particles, gas or dust, which obstructs and scatters the light from stars in and beyond this region. Because of this absorption, some objects, such as the globular clusters, have perhaps hitherto been estimated to be as much as four times as far away as they really are—the

distances of these remote objects cannot be measured directly, and are estimated from their apparent brightness on the assumption that the intrinsic luminosities of the stars are the same as those of nearby stars with the same characteristics, and hence if there is an absorption of light in space it must be taken into account. At right angles to the Milky Way, the observations indicate relatively little absorption, and previously estimated distances need not be revised more than 10 per cent. The presence of the thin absorbing layer in the central plane of the galactic system is additional evidence that the group of a billion or more stars to which the sun belongs is similar to the spiral nebulae, instead of greatly surpassing the latter in size as previously thought.

**ASTROPHYSICS.** Only a few years ago, there was a long list of lines of unknown origin in the spectra of the hotter stars, the nebulae, the corona, the aurora, comets, and the outer planets; the advances in modern physics have now reduced this list to two outstanding examples—the unidentified lines of the solar corona, and the great bands in the spectra of the giant planets. At the same time, the advances in atomic physics have left practically no hope that these spectra can be ascribed to new elements, and hence they must be explained as due to familiar substances existing under conditions that have not yet been reproduced in the laboratory. T. L. de Bruin has announced that he has obtained evidence that some of the coronal lines are due to neutral metastable oxygen, but this has not yet been fully demonstrated. R. Wildt, from a study of the far infra-red spectra of the outer planets, finds some of the bands in the spectra of Jupiter and Saturn to be due to gaseous ammonia; and he has also found methane, or marsh-gas, in the atmospheres of Jupiter, Saturn, Uranus, and Neptune. The wide, hazy bands in these spectra must be due to thick, dense atmospheres; and since the surfaces of the outer planets are very cold, the atmospheres must consist of substances that remain gaseous at extremely low temperatures. The bands due to ammonia are absent from Uranus and Neptune, and much weaker in the case of Saturn than Jupiter; even at the temperature of Jupiter, most of the ammonia would freeze out as a snow, and on Uranus and Neptune it would all be in the solid form.

These studies of the infra-red spectra are carried out with the aid of photographic plates sensitized in the deep infra-red with a dye known as zenocyanine. These plates are sensitive so far into the red that they will take pictures in total darkness—a flatiron is easily photographed in the dark with its own heat; the dye must be synthesized just before being used, and the plates have to be kept in cold storage, or packed in ice, because the heat from the sides of an ordinary container at room temperature will fog the plates. With the aid of these plates, Adams and Dunham have detected carbon dioxide in the atmosphere of Venus.

The lines of ytterbium have been discovered in the solar spectrum. Merrill has found the auroral green line in the spectra of several novae.

**STARS.** Strömberg has completed an investigation of the distribution of visual absolute magnitudes for all stars of spectral types B, A, F, G, K, and M brighter than the sixth apparent magnitude; the method used is a statistical one, based on the distribution of parallactic motions and radial velocities. The results show conclu-

sively that there is a strong tendency for the absolute magnitudes to cluster around certain definite values; and five chains or sequences of stars, connecting the values about which they cluster, are revealed. These groups are known as the main sequence, normal giants, faint giants, bright giants, and supergiants. Two complete gaps between groups exist—one that separates the dwarfs from the giants in the later spectral types, and one that separates the normal giants or the main sequence from the bright giants in spectral classes B3 to G8; possibly the latter gap is a region of instability connected with Cepheid variation and novae.

**COMETS.** An exhaustive study of the phenomena shown by Halley's Comet at its return in 1909–1911 has been completed by Bobrovnikoff. This study confirms the growing conviction that the masses of comets have been underestimated in the past; the mass of Halley's Comet is estimated to be of the order of one ten-billionth that of the earth. The nucleus is proved to have exerted appreciable repulsive forces upon matter forming the jets; on several occasions changes of an explosive character were detected therein. The jets, composed of cyanogen, were actual matter being expelled; the nucleus showed repulsive forces of from one to six times gravitation; the envelopes expanded outward at the rate of about half a kilometer per second. The tail was double; one branch was directed almost directly away from the sun, the other making an angle of 40 degrees with this direction. The self-luminosity of the tail was mostly due to glowing carbon monoxide. The Bessel-Bredichin theory of cometary tails seems sufficient to explain the observed facts, although the theory requires amplification.

**PHENOMENA.** A total eclipse of the sun was witnessed over the northeastern United States on August 31; it was successfully observed by a number of expeditions, but was hidden by clouds over part of the path of totality. The next total solar eclipse visible in the United States will be on July 9, 1945; however, this and the two following ones in 1954 and 1959, will be visible only near sunrise; the next eclipse favorable for observation in the United States will not occur until July 20, 1963. Other favorable total eclipses will be visible in this country in 1970 and 1979.

An unusually good display of the Perseid meteors took place. The Leonid shower, on the other hand, was inferior to the 1931 display.

Of the nine periodic comets which were due to return in 1932, five were observed. viz., Grigg-Skjellerup, Kopff, Borrelly, Faye, and Brooks; in addition, seven new comets appeared.

**NECROLOGY.** Max Wolf, October 3.

**BIBLIOGRAPHY.** G. E. Hale, *Signals from the Stars* (New York); S. A. Mitchell, *Eclipses of the Sun*, 3d ed. (New York); W. de Sitter, *Kosmos* (Harvard University Press); Smithsonian Institution, *Annals of the Astrophysical Observatory*, vol. v (Washington); J. J. Nassau, *Textbook of Practical Astronomy* (New York); C. V. L. Charlier, *Application de la théorie des probabilités à l'astronomie* (Paris).

**ASTROPHYSICS.** See ASTRONOMY.

**ATHLETICS, TRACK AND FIELD.** As a matter of course, all track and field athletes in 1932 were directed at the Olympics, and the grand climax came when the athletes of the nations of the world gathered at Los Angeles in August and battered existing records. But, in the general run of

the season, indoors and outdoors, leading up to the Olympics, there were many splendid performances. Foremost among all the athletes who flashed in 1932 was Gene Venzke, youthful distance runner from Pottstown, Pa., who startled the track world by his mile running on the board tracks in the winter. Venzke, who had been a consistent runner-up for two seasons, suddenly sprang to the fore in the Millrose A.A. games at Madison Square Garden and beat Lermond, former national champion, to the tape in world's record time of 4:11 $\frac{1}{4}$ . In his next appearance, at the New York Athletic Club meet on the same track, he smashed the record again and set the new mark at 4:10 (two seconds better than Paavo Nurmi's best time). The sensation of the indoor season was unaccountably beaten in New York in the early spring at 1500 meters and then failed to qualify for the Olympics at the tryouts held at Stanford University, Palo Alto, Calif., in July.

Leo Sexton, George Spitz, and Emmett Topino were the other outstanding performers of the indoor campaign. Sexton's consistent shot putting was fine and he topped off the season with a herculean heave of 52 feet 8 $\frac{3}{4}$  inches, a world's record. Spitz was unbeatable indoors, clearing 6 feet 8 $\frac{3}{4}$  inches, the greatest height ever reached, outdoors or indoors by a high jumper. He turned his ankle on cinders in the spring and he failed in the Olympic final. Topino, who spreadeagled all opposition at the sprints indoors and then was beaten in the 100-meter Olympic trial, showed his speed on the United States relay four. The New York Athletic Club, on the exploits of Sexton, John Anderson, discus thrower, Percy Beard, hurdler, and others won both the indoor and outdoor national team championships. The fifty-fifth annual Intercollegiate A.A.A. championships were held on the Pacific Coast (at the University of California, Berkeley, Calif.) for the first time. There it was that Bill Carr, unheralded U. of Pennsylvania runner, first beat Ben Eastman, Stanford star, in a 47-second quarter mile, over a new track, adjudged slow by the experts. The Carr triumph was the high spot of the meet, in which Eastman came back to win the Intercollegiate half mile title in 1:51.9 for a new I.C.A.A.A. mark. Joe Mangan of Cornell nipped Pen Hallowell, Harvard hope, in the last stride in the mile. The University of Southern California won its third straight team title with the remarkable total of 62 $\frac{3}{4}$  points.

Ten days later the athletes of the United States gathered at Palo Alto for the Olympic tryouts, considered the national championships in the Olympic year. Here Carr beat Eastman at 400 meters in the then record time of 46.9 (Carr lowered this in the Olympics). Bill Graber of Southern California, pole vaulted 14 feet 4 $\frac{1}{4}$  inches to top Bill Miller of Stanford after both had cracked the world's record at 14 feet 1 $\frac{1}{4}$  inches. Ralph Metcalfe, University of Marquette negro sprinter, nosed out Eddie Tolan, University of Michigan flier in both the 100 and the 200 meters. (This was reversed in Tolan's favor in the Olympics.)

George Barker of New York University won the Intercollegiate cross-country championship in New York City in the fall, and Manhattan College took the team title. Joseph McCluskey, wearing the colors of Fordham University, had a victory-studded year. He won the national in-

door and outdoor steeplechase titles, the intercollegiate indoor and outdoor 2-mile championships, and the national cross-country title. New York University, with Frank Nordell as the star of the team, carried off honors in the indoor intercollegiate in March at New York.

Women's track and field competition was merely the story of the feats of Mildred (Bahe) Didrikson of Dallas, Tex. In the final Olympic tryouts (the national championships) at Evanston, Ill. in mid-July, she won four first places, tied for first in one event, and carried off the team championship single-handed in the name of the Employers Casualty Company of Dallas. She won the 80-meter hurdles, the 8-pound shot-put, the javelin throw, the baseball throw, and tied for first in the high jump with Jean Shiley, representing the Meadowbrook Club of Philadelphia.

The year of 1932 brought to a close an era in United States track and field athletics and started a new one, because in November the Amateur Athletic Union met in New York City and adopted, unanimously, the metric system—discarded the yard and mile, foot and inch as units of measurement in championship competition, and adopted the meter, which is universal throughout the world, except in British domains. The A.A.U. and the Intercollegiate A.A.A.A. made the drastic change to take effect Jan. 1, 1933.

**ATMOSPHERE.** See METEOROLOGY.

**ATMOSPHERIC TIDES.** See METEOROLOGY.

**ATOMS.** See CHEMISTRY; PHYSICS

**AUSTIN, LOUIS WINSLOW.** An American physicist, died in Washington, D. C., June 27, 1932. He was born in Orwell, Vt., Oct. 30, 1867, and was graduated from Middlebury College in 1889 and with the Ph.D. degree from the University of Strassburg in 1893. After acting as instructor and assistant professor of physics at the University of Wisconsin he entered the German government service in 1902, being a member of the staff of the Physikalisches-Technische Reichsanstalt in Berlin. In 1904 he returned to the United States and became associated with the Bureau of Standards in Washington. A pioneer in the study of radio science, he was head of the U. S. naval radiotelegraphic laboratory from 1908 to 1923 and during the World War was chief radio expert for the U. S. Navy Department. After 1923 he was chief of the Bureau of Standards' laboratory for special radio transmission research. He was a past president of the Institute of Radio Engineers, vice president and chairman of the American section of the International Union for Scientific Radiotelegraphy, and member of the technical advisory committee of the Conference on the Limitation of Armament held in Washington in 1921. He was also U. S. delegate to the radiotelegraphic conferences held in London (1912) and Paris (1921), the International Research Council in Brussels (1922), and the Pan-Pacific Science Congress in Tokyo (1926). In 1927 he was a member of the International Radio Conference at Washington, and the following year was appointed chairman of the committee of radio investigation of the International Society for the Study of the Arctic Regions by Means of Airships. His researches pertained to measurements of radio signals and atmospheric disturbances, relation between effective resistance and frequency in radiotelegraphic condensers, formulae for antenna capacity and daylight radio transmission across the ocean, and the relation of solar activity to radio phenomena.



In 1927 he was awarded the gold medal of the Institute of Radio Engineers. He was the author, with C. B. Thwing, of *Physical Measurement* (1896) and published a large number of papers in various scientific periodicals.

#### AUSTRALASIAN METHODIST CHURCH.

See METHODISTS.

**AUSTRALIA**, COMMONWEALTH OF. A self-governing dominion of the British Empire, comprising the island continent of Australia. Capital, Canberra.

**AREA AND POPULATION.** With an area of 2,974,581 square miles, Australia had an estimated population on Mar. 31, 1932, of 6,539,270, as compared with 6,488,707 a year earlier. The areas of the six States and two Territories, with respective estimated populations on March 31 in 1931 and 1932, are shown in the accompanying figures of the Commonwealth Statistician.

#### AREA AND POPULATION OF AUSTRALIA

States and Territories	Area in square miles	Population Mar. 31, 1931	Population Mar. 31, 1932
New South Wales ..	809,432	2,504,586	2,526,345
Victoria .....	87,884	1,795,522	1,804,584
Queensland .....	670,500	952,483	965,934
South Australia ..	380,070	582,928	585,466
Western Australia ..	975,920	420,124	421,562
Tasmania .....	26,215	219,694	221,584
Northern Territory	523,620	4,618	4,550
Federal Capital Territory ..	940	8,807	9,245
Total .....	2,974,581	6,488,707	6,539,270

During 1931, births numbered 118,509 (128,399 in 1930), deaths 56,560 (55,331), marriages 38,882 (43,255). The excess of births over deaths for the year totaled 61,949, as against 73,068 in 1930, while the excess of emigration over immigration was 12,061 (11,408 in 1930). Thus the total estimated population increase for 1931 was but 49,888, compared with 61,660 in 1930 and 124,340 in 1927. Persons arriving were exceeded by departures in 1930 and 1931 for the first time since the period 1901-05. The estimated populations of the State capitals on Jan. 1, 1932, with figures for Jan. 1, 1931, in parentheses, were: Sydney, New South Wales, 1,256,230 (1,253,560); Melbourne, Victoria, 1,030,750 (1,014,600); Brisbane, Queensland, 317,150 (313,251); Adelaide, South Australia, 324,337 (324,420); Perth, Western Australia, 211,840 (204,780); Hobart, Tasmania, 57,800 (57,800). The population of Canberra, the Federal capital, on June 30, 1931, was 7047. These seven cities contained nearly half of the total inhabitants.

**EDUCATION.** Primary education is free and compulsory and State aid is extended to the higher State schools, secondary schools, and the universities. In 1930, there were 10,263 State schools, with 929,299 pupils enrolled; 1806 private schools, with 242,077 pupils; and six State universities—one at each State capital—with 8497 students. For education in the States and Territories, consult the individual articles.

**PRODUCTION.** Australia is primarily an agricultural and pastoral country, although extensive manufacturing has developed in the centres of population. The estimated value of production by principal industries for fiscal years ending June 30 is shown in the accompanying table from the *Quarterly Summary of Australian Statistics*.

#### VALUE OF AUSTRALIAN PRODUCTION, YEARS ENDED JUNE 30

[In thousands of pounds sterling]

Item	1929	1930	1931
Agricultural .....	£ 89,440	£ 77,109	£ 70,500
Pastoral .....	116,738	84,563	69,499
Dairy, poultry, bee-farming .....	50,717	49,898	48,067
Forestry and fisheries ..	11,617	11,871	8,318
Mining .....	19,537	17,912	15,856
Manufacturing * .....	159,759	149,184	112,966
Total .....	447,805	389,537	319,701

\* Value added in process of manufacture.

In 1929, Australia reported about 29,280,000 acres of arable land, or about 2 per cent of the total area, 5,033,000 acres of permanent meadow and pasture, and 394,000 acres of trees, shrubs, and bushes. Wheat and wool are the leading agricultural products. The final estimate for the 1931-32 wheat crop was 189,652,654 bushels from 14,724,830 acres, as compared with the record crop of 213,594,391 bushels from 18,164,920 acres in the previous year. Production of other leading crops in 1931-32 was: Oats, 16,150,759 bushels; corn, 7,929,000 bushels; hay, 3,374,496 tons; sugar cane, 4,194,509 tons; cane sugar, 600,117 tons (estimated). The total acreage under all crops in 1930-31 was 25,163,816 (21,380,600 in 1931-32). With the exception of sugar cane all principal crops were larger in 1930-31 than in the previous year. Apple production in 1930-31 was estimated at nearly 6,500,000 bushels. Other fruits, wine, and vegetables are extensively produced.

The wool clip for the season ended June 30, 1931, totaled 912,141,253 pounds, as in the grease, against 937,596,816 pounds in 1929-30. The 1931-32 estimate was 950,000,000 pounds. Livestock in 1930 included 110,568,279 sheep, 11,719,084 cattle, 1,792,734 horses, and 1,071,679 swine. Australia occupied first rank among sheep-raising countries of the world. In 1930-31, production of butter totaled 351,369,518 pounds; cheese, 33,099,781 pounds; bacon and ham, 71,050,133 pounds.

The value of mineral output in the calendar year 1930 was as follows: Gold, £1,981,971 (£3,563,499 in 1931); silver and lead, £2,243,313; copper, £810,057; tin, £218,053; coal, £7,632,311; all minerals, £15,400,334 (£17,911,823 in 1929). Manufacturing production during 1930-31 was carried on in 21,751 establishments, employing 338,113 workers and paying salaries and wages of £62,454,859. The total value of the manufacturing output, including the cost of materials used, declined to £290,798,564 in 1930-31 from £420,445,288 in 1928-29 as a result of the economic depression. The leading manufactured products are food and drink, metal products and machinery, clothing and textile fabrics, books and paper, heat and power, and wood, stone, clay and glass products. Statistics of production, etc., for the several States are given in the article on each State.

**COMMERCE.** While imports into Australia declined by almost one-third in the 1931-32 fiscal year, as compared with 1930-31, exports remained on virtually the same level, with a resulting large favorable balance of trade. Imports, in British currency, were valued at £44,729,825, compared with £60,959,633 in 1930-31 and £131,081,320 in 1929-30. Exports, in estimated British currency values, were: 1931-32, £84,922,884; 1930-31, £88,904,142; 1929-30,



£125,127,148. In Australian currency, which was heavily depreciated with relation to the pound sterling, the figures for exports were: 1931-32, £107,885,791; 1930-31, £104,354,638; 1929-30, £125,127,148.

Values of the leading exports in 1931-32, in Australian currency, with 1930-31 figures in parentheses, were: Wool, £32,086,820 (£32,001,760); wheat, £19,208,618 (£14,744,468); butter, £9,812,827 (£8,120,165); flour, £3,833,244 (£3,513,573); mutton and lamb, £2,994,062 (£2,105,963); beef, £2,087,829 (£2,235,526). The chief imports, in order of value, were apparel, textiles, and manufactured fibres; metals, metal manufactures, and machinery; oils, fats and waxes; paper and stationery; drugs, chemicals and fertilizers; foodstuffs and beverages.

In 1930-31, the United Kingdom supplied 39.6 per cent of the total imports and took 44.04 per cent of the exports; the United States supplied 19.39 per cent and took 3.26 per cent; the British Empire, 54.04 and 55.04, respectively.

FINANCE. In his budget speech before the House of Representatives Sept. 1, 1932, Prime Minister and Treasurer Joseph A. Lyons announced that the Commonwealth account for the fiscal year ended June 30, 1932, closed with a surplus of £1,314,000, with revenue totaling £71,532,000 and expenditure £70,218,000. The result showed an improvement of £2,462,000 on the budget forecast, which anticipated a deficit of £1,148,000. This compared with a deficit of £10,757,619 in the 1930-31 fiscal year, when receipts totaled £69,566,919 and expenditures £80,324,538, and with a deficit of £1,471,003 in 1929-30, when revenue amounted to £77,143,390 and expenditures to £78,614,393.

Mr. Lyons estimated revenue and expenditure for 1932-33 at £65,986,000 and £68,767,000 respectively, leaving a gap of £2,781,000, which the Government proposed to bridge by carrying forward the surplus from 1931-32 and a further reduction of £1,479,000 in expenditure, leaving an anticipated surplus of £12,000. (For details of the 1932-33 economies, see under *History*.) The aggregate debt of the Commonwealth and of the six States on June 30, 1932, amounted to £1,187,827,868, an increase of £31,792,951 during the 1931-32 fiscal year. Sinking-fund payments of the Commonwealth and the States during 1931-32 totaled £7,200,000; for 1932-33 they were estimated at £7,275,000. Of the total indebtedness, £398,884,730 represented that of the Commonwealth and £788,943,138 that of the States, as compared with £388,718,138 and £767,317,545, respectively, on June 30, 1931. A five-year  $3\frac{1}{2}$  per cent £12,360,000 Commonwealth loan was floated in London in October, 1932. For state finances, see article on each State.

COMMUNICATIONS. Federal and state railway lines in operation in 1930-31 aggregated 26,809 miles, divided as follows: Federal, 2145; New South Wales, 6044; Victoria, 4717; Queensland, 6529; South Australia, 2529; Western Australia, 4180; and Tasmania, 665. There were in addition about 872 miles of private line open for general traffic. Gross revenues of the Commonwealth and state lines for 1930-31 aggregated £38,985,000; operating expenses totaled £31,728,000 and the net earnings £7,257,000. The Federal, South Australia, and Tasmania railways had operating deficits of £150,000, £148,000, and £49,000, respectively. The other state systems reported net earnings of: New South Wales, £3,106,-

000; Victoria, £2,508,000; Queensland, £1,402,000; Western Australia, £588,000. The above figures exclude interest payments on railway loan funds. Including interest charges, all systems reported deficits for 1930-31 as follows: Federal, £641,291; Victoria, £1,478,564; Queensland, £1,619,165; Western Australia, £379,992; Tasmania, £334,543; South Australia, £1,685,920; New South Wales, £4,421,620 (£4,555,000 in 1931-32).

Operating revenues and expenditures of the various railway systems was reported as follows for 1931-32: Federal—revenues £281,000, expenditures £358,000; Victoria—revenues £9,454,000, expenditures £6,181,000; Queensland—£5,995,000 and £4,429,000, respectively; South Australia—£2,757,000 and £2,145,000; Western Australia—£2,922,000 and £2,123,000; Tasmania—£379,000 and £387,000.

Highways in 1930 extended 329,660 miles, of which about 6500 miles were macadam. An outstanding aid to Australian communication was the formal opening on Mar. 19, 1932, of the great bridge over Sydney harbor. An air-mail line between London and Australia was inaugurated in 1931. Statistics of civil aviation for the year were as follows for the year ended June 30, 1932: Registered aircraft, 189; number of hours flown, 31,493 (44,507 in 1930-31); passengers carried, 69,795 (94,350 in 1930-31); goods carried, 221,552 pounds (204,445).

GOVERNMENT. The executive power is vested in the King, who acts through a governor-general, assisted by an executive council of responsible ministers, who must be members of the Federal Parliament, comprising the Senate and House of Representatives. The Senate consists of at least six members from each of the original States, elected for six years, half of whom are renewed every three years; while the House of Representatives consists of approximately twice as many members as there are senators, the representation being apportioned among the several States according to the population shown at the last census. The number in the House in 1932 was 75 and in the Senate, 36. The composition of the House following the election of Dec. 19, 1931, was: United Australia party, 39; Country party, 16; Labor (Federal group), 14; Labor (Lang group), 4; Independent, 2. The Senate was composed as follows: United Australia party, 24; Labor (Federal group), 6; Labor (Lang group), 2; Country party, 4. The Governor-General in 1932 was Sir Isaac Alfred Isaacs, a native Australian who assumed office Jan. 22, 1931. The Cabinet formed by the United Australia party on Dec. 31, 1931, with the support of the Country party, was as follows: Prime Minister and Treasurer, Joseph A. Lyons; Assistant Treasurer, Stanley M. Bruce; Vice-President of the Executive Council, A. J. McLachlan; Attorney-General, Minister for External Affairs and Industry, J. G. Latham; Defense, Sir George F. Pearce; Trade and Customs, H. S. Gullett; Home Affairs and Transport, R. Archdale Parkhill; Markets, C. A. S. Hawker; Health, Repatriation and Works, C. W. C. Marr; Postmaster-General, J. E. Fenton.

#### HISTORY

Political developments during 1932 revolved turbulently about the economic issues raised by the world depression and its acute repercussions in Australia. The year was marked by the final

triumph of the forces favoring financial retrenchment and full payment of all governmental obligations abroad. It brought decisive defeat to J. T. Lang, Labor Premier of New South Wales, and the supporters of his policies of debt repudiation, currency inflation, unification of the State governments, and militant socialism. Under Prime Minister Lyons Australia's precarious condition showed steady improvement. The budget was balanced, the trade balance became favorable through the drastic reduction of imports, foreign obligations were met or refunded, and Australian securities regained much of their depreciated value on the world money markets.

Prime Minister Lyons and his newly formed United Australia party had been swept into power in the General Election of Dec. 19, 1931, on a programme of debt repayment, a balanced budget, and inter-imperial coöperation regarding tariff preferences, markets, and a sounder monetary system. His triumph was ascribed primarily to the general fear of "Langism" and secondarily to the inflationary financial policy of the Scullin-Theodore faction of the Federal Labor party, then in power. The Scullin Ministry, moreover, had made no effective attack upon the unemployment problem.

**REVISION OF TARIFF.** The Country party, headed by Dr. Earle Page, had united with the United Australia party to overthrow the Labor government. Standing for lower tariffs, decentralization, and the interests of farmers and primary producers, the party demanded the Customs portfolio in the Lyons Ministry in order to guide the new government's tariff policies. Mr. Lyons refused the demand, thus alienating the unqualified support of the Country people. He nevertheless retained an absolute majority in the Federal Parliament. Despite this development, the new tariff schedule enacted by Parliament in February went a long way toward meeting the wishes of the Country party. It involved 11 increases in Customs duty and 69 reductions, besides two increases in Excise and four reductions. The schedule further repealed 19 of the 74 special duties and 43 of the 78 prohibitions enacted when the Labor party embarked on its policy of a high protective tariff in 1930. These and subsequent reductions, made in accordance with recommendations of the Tariff Commission, were regarded as steps toward a restoration of the lower duties in force previous to the formation of the Scullin government. The lower duties increased the preference given to British goods.

**THE CONFLICT WITH LANG.** Besides its tariff legislation the government in February enacted a measure to force Premier Lang of New South Wales to meet that State's debt. This move was precipitated by the repetition on February 1 of numerous previous defaults on interest and amortization payments due on the State's indebtedness. The Federal Government was again forced to assume the obligation in order to protect the credit of the Commonwealth and the other five States. To end this state of affairs, a law was passed March 11 authorizing the Commonwealth to garnishee the revenue of any State which defaulted in interest payments on its debts. The operation of this drastic measure was limited to two years. It was opposed in principle by the Tasmanian Assembly as well as by the New South Wales authorities.

Premier Lang immediately contested the con-

stitutionality of the law before the Australian High Court, which on April 6 upheld its validity. On April 23, the High Court refused Lang's application for permission to appeal the case to the Judicial Committee of the Privy Council. Meanwhile the Commonwealth had proceeded to apply the law. It issued proclamations (April 7 and 11) attaching taxes on betting and racing profits, on State lotteries, entertainments, motor vehicles, and levies for unemployment relief. It also ordered New South Wales taxpayers to pay their taxes to the Commonwealth Bank, instead of to the State collector of taxes.

Lang countered by closing the taxation offices and withholding their records from the Commonwealth. He withdrew from the banks some £1,000,000 in small notes and placed them in the State Treasury building to prevent their attachment. Following a further default of £200,000 on May 1, the Federal Parliament empowered the government to impose a £1000 fine or three years' imprisonment upon any State official who obstructed the transference of revenues or tax documents. By May 4, the Federal authorities had succeeded in collecting only £440,000 of the amount in default by New South Wales, leaving £2,760,000 outstanding.

The bitterness aroused by these events was evidenced by the growth of the so-called New Guard, a Fascist organization formed a year earlier in Sydney to oppose Premier Lang, to a membership of 100,000. The Lang adherents responded by organizing on April 15 a "Red Army" of 25,000 war veterans. Civil war seemed imminent, and the Commonwealth government started enrolling special constables to protect its property in New South Wales. At this juncture, Premier Lang played into the hands of his opponents by issuing an order forbidding his department heads to pay funds into the Commonwealth Bank under the Federal enforcement act. Sir Philip Game, the British Governor of the State, immediately dismissed Mr. Lang from office (May 13) on the ground that the order was unconstitutional. B. S. B. Stevens, leader of the Opposition and a member of the United Australia party, was commissioned to form a new government. New elections were set for June 12.

When Lang left office, the total defaults made under his régime amounted to £4,000,000, of which £3,200,000 represented overseas interest and £800,000 internal interest. The first official act of Premier Stevens was to pay £300,000 of this indebtedness and to announce his support of the so-called Premiers' or Copland plan for Australian financial rehabilitation (see 1931 YEAR BOOK). With this change in policy, New South Wales secured the aid of the Commonwealth Loan Council in meeting its debts, including £2,000,000 of State obligations due in London July 1.

The political campaign in New South Wales was fought out with extreme bitterness, with the attention of the entire Commonwealth focused upon the outcome. Premier Stevens declared that the return of Mr. Lang would mean civil war and the breakup of the Federal union. The voting gave Lang's opponents a three-to-one majority in the State Assembly, the United Australia party, combined with the Country party, securing 66 seats to Labor's 24. The previous standing of the parties was: Labor, 55; United Australia party, 23; Country party, 12. Lang was returned from his election district,

but five members of his former cabinet were defeated. Meanwhile the Judicial Committee of the Privy Council in London had dealt Lang's policies another blow on May 31 by dismissing his appeal from decisions of the Australian courts, which had declared unconstitutional his bill to abolish the Legislative Council in New South Wales. It was held that the abolition of the State's upper chamber could be determined only by referendum.

**OTHER STATE ELECTIONS.** The overturn in New South Wales was preceded by the ousting of the Labor party from control in Victoria in the State election of May 14. While Premier E. J. Hogan was recuperating from illness in London, Acting Premier Tunnecliffe, supported by extremist Laborites, espoused Premier Lang's policy of debt repudiation for Victoria. The result was the passage of a non-confidence motion in the Victorian Assembly on April 13 by a vote of 29 to 25. In the subsequent election the United Australia party won 33 seats against 18 in the previous Parliament, while the Official Labor party's standing was cut to 15 from 30 seats. The Country party won 14 seats, the same as before, the Hogan Laborites 2, and the Independents 1 in place of 3. The Labor government resigned on May 18 and a United Australia ministry was formed under Sir Stanley Argyle, leader of the party.

In Queensland, the situation was reversed in the State election of June 12, when the Labor party headed by Forgan Smith overturned the Nationalist-Country Progressive government of Premier A. E. Moore. At dissolution, the standing of the parties was: Nationalists and Country Progressives, 41; Labor, 26; Country party, 3; Independents, 2. The lineup after the elections was: Labor, 33; Nationalists and Country Progressives, 28; Independents, 1. The number of seats in the Legislature was cut from 72 to 62 by a new redistribution bill. The new Premier, Forgan Smith, stood for more conservative policies than the Labor leaders in New South Wales and Victoria.

**THE FINANCIAL PROBLEM.** With the chief political obstacles to financial reconstruction thus removed, the Lyons government called a conference of the State Premiers at Melbourne in July to tackle the problem of reducing unemployment. A similar effort in April had been frustrated by the opposition of Premier Lang and Acting Premier Tunnecliffe of Victoria. The July conference was informed by Premier Stevens of New South Wales that the deficit of his State for the fiscal year ended June 30, 1932, amounted to £14,228,000 and that an investigation had revealed overdrafts on various accounts amounting to £40,000,000.

Premiers Stevens and Forgan Smith pledged their respective States to support the 1931 Premiers' Plan. In extending the plan to the 1932-33 fiscal year, the Premiers agreed to restrict the deficit on the combined State and Federal budgets to the equivalent of \$45,000,000. On this condition, the Commonwealth Bank and various private banks agreed to advance the several governments \$30,000,000 for public works and \$35,000,000 as a revival loan. With these funds the governments commenced large public works and other projects calculated to stimulate the revival of business. Some improvement was noted as a result of this effort, but complete re-

covery hinged on the increase of world prices for primary produce.

The financial programme of the Federal Government was set forth by Prime Minister Lyons on September 1 (see under *Finance*). Reporting a surplus for 1931-32, he announced plans for balancing the 1932-33 budget, without resort to additional taxation. A large list of items used by farming, pastoral, dairying, and mining industries were exempted from primage duties and sales taxes. All the quotas and prohibitions established by the Scullin government to rectify the trade balance were removed. Important reductions were made in the customs tariff, the bounty on gold production was suspended as from September 13, invalid and old-age pensions were reduced from 17 shillings sixpence to 15 shillings per week, and salaries of Cabinet Ministers, members of Parliament, and public employees were further reduced. The budget made no provision for the resumption of interest payments on the war debt to the British Government, which were postponed by agreement in 1931. In order to arrange for the postponement or refunding of the various State and Federal loans falling due in London, Prime Minister Lyons sent former Prime Minister Stanley Bruce to the British capital as "Minister representing the Commonwealth." Minister of Markets Hawker resigned from the Cabinet September 22 on the ground that his election pledges demanded more than the 25 per cent reduction already effected in Parliamentary salaries.

**EXTERNAL RELATIONS.** At the Ottawa Conference (see CANADA under *History*) the delegates of Australia, headed by Stanley M. Bruce and H. S. Gullett, sought tariff concessions for Australian meat, eggs, and dairy products in Great Britain. No effort was made to secure preferences on the Commonwealth's chief products, wheat and wool, since it was realized that the exportable surplus of these products raised within the Empire made such preferences virtually worthless. The trade agreement finally signed with Great Britain became provisionally effective on Oct. 14, 1932, and was ratified by Parliament November 16. It provided for changes in 200 out of the 343 items in the Australian tariff, designed to increase the margin of preference enjoyed by products of the United Kingdom in the Australian market. These preferences were extended chiefly to British iron and steel products (including machinery, metal manufactures, and electrical goods), chemicals, textiles, leather, rubber, and paper goods, and vehicle parts. Australia promised that it would afford tariff protection "only to those industries which are reasonably assured of sound opportunities for success." Any tariffs imposed, except on behalf of infant industries, were to be low enough to grant British producers "full opportunity of reasonable competition," and British manufacturers were authorized to appear before the Australian Tariff Board. In return, Australia received preferences for its primary products in the British market. The treaty aroused vigorous protests from the protectionist elements in the Commonwealth and led to the resignation of Postmaster-General Fenton on October 5.

**OTHER DEVELOPMENTS.** In accordance with the Northern Territory (Administration) Act of 1931 the correct designation of the Territory of North Australia became "The Northern Territory of Australia." See NORTHERN TERRITORY

OF AUSTRALIA. A rich gold discovery in the great central desert of Australia in 1932 attracted hundreds of prospectors and miners.

**AUSTRIA.** A federated republic of Central Europe proclaimed Nov. 12, 1918, and consisting of the nine provinces of Vienna (City of), Lower Austria, Upper Austria, Salzburg, Styria, Carinthia, Tirol, Vorarlberg, and Burgenland. Capital, Vienna (Wien).

**AREA AND POPULATION.** At the census of 1923 the area was 32,369 square miles and the population, 6,534,481, as compared with an area of 39,017 square miles and a population of 7,529,935 in 1910. The estimated population Jan. 1, 1931, was 6,722,395. At the 1923 census the City of Vienna had 1,865,780 inhabitants, or 28.55 per cent of the total population; in 1930, the estimated population of the city was 1,842,763. Other chief cities, with their populations in 1923, are: Graz, 152,706; Linz, 102,081; Innsbruck, 56,401; and Salzburg, 37,856. For 1930, births numbered 112,601 (10.8 per 1000 of population), deaths 90,512 (13.5 per 1000), marriages 51,700, divorces 6593. Emigrants in the same year totaled 4181 (4850 in 1929), of whom 1257 went to the United States and 1021 to Argentina.

**EDUCATION.** Elementary education is compulsory for children between the ages of 6 to 14 years, although many exemptions are granted children over 12. Public and private elementary schools in 1929-30 numbered 5325, with 30,317 teachers and 792,623 pupils. There were 157 secondary schools of all kinds, with 51,982 pupils, eight commercial academies with 4278 students, and three state universities at Vienna (11,337 students in 1929-30), Graz (2154 students), and Innsbruck (2041 students).

**PRODUCTION.** Agriculture is the chief occupation, but manufacturing, lumbering, and mining are important industries. In 1930, Austria had 4,754,000 acres of arable land (23 per cent of the total area); 5,709,000 acres of permanent meadow and pasture; 304,000 acres of trees, shrubs, and bushes; and 7,751,000 acres of woods and forests. Production of the chief crops, in bushels, in 1931, with 1930 figures in parentheses, was: Wheat, 11,009,000 (12,008,000); rye, 18,932,000 (20,636,000); barley, 9,948,000 (12,278,000); oats, 22,879,000 (27,606,000); corn, 4,991,000 (4,756,000); potatoes, 99,618,000 (97,482,000). Sugar beet production was 978,000 metric tons (973,000 in 1930); beet sugar, 165,000 metric tons in 1931-32 (150,000 in 1930-31); wine, 35,505,000 gallons (31,764,000); flax, 10,689,000 pounds (12,694,000); fodder roots, 2,203,000 metric tons (2,347,000). Livestock on farms in 1930 included 2,313,000 cattle, 272,000 sheep, 1,965,000 swine, and 248,000 horses.

Austrian industries were severely depressed during 1930 and 1931 (see *History*). There was a 22 per cent increase in the number of workers receiving unemployment relief during 1931, the total on December 31 being 329,627 (294,845 on Dec. 31, 1930). Early in 1932 the number increased to 362,000 and then declined to 265,000 on June 30. Mineral and manufacturing production in 1931, with 1930 figures in parentheses, was (in metric tons): Coal, 228,000 (216,000); lignite, 2,982,000 (3,063,000); iron ore, 512,000 (1,178,000); magnesite (sintered), 48,799 (124,226); crude steel, 322,357 (467,701); pig iron, 145,087 (287,001); copper, 3255 (3654); lead (smelter), 6117 (6923); wood pulp, 96,080 (103,470); cellulose, 210,060 (213,460); paper, 215,

580 (210,260); cardboard, 29,680 (58,020); cotton yarn, 39,000 (43,550).

**COMMERCE.** Austrian foreign trade in 1931 continued the sharp decline manifested in the previous year. Imports fell to 2,208,200,000 schillings (2,738,900,000 in 1930) and exports to 1,340,500,000 schillings (1,879,600,000 in 1930). The schilling exchanged at \$0.1402 in 1931; par equals \$0.1407. Imports in schillings consisted of: Manufactures, 857,500,000; foodstuffs, 507,500,000; raw material and semi-manufactures, 450,000,000; mineral fuel, 177,100,000; livestock, 168,000,000. The division of exports in schillings was: Manufactures, 980,200,000; raw materials and semi-manufactures, 269,000,000; foodstuffs, 37,000,000. The chief sources of imports, in order of importance, were Germany, Czechoslovakia, Hungary, Poland, Yugoslavia, and the United States. Exports went to Germany, Czechoslovakia, Italy, Yugoslavia, Hungary, and Switzerland in the order named.

**FINANCE.** As passed by the Legislative Assembly, the Austrian budget for the 1931 fiscal calendar year anticipated revenues of 2,172,492,000 schillings and expenditures of 2,408,437,000 schillings, the expected deficit being 235,945,000 schillings. Closed accounts showed revenues of 2,009,000,000 schillings and expenditures of 2,330,000,000 schillings, leaving a deficit of 322,000,000 schillings. The amended budget estimates for 1932 balanced at 1,964,000,000 schillings, but indications were that revenues would be about 70,000,000 schillings less and expenditure about 20,000,000 schillings more. The budget estimates were balanced by omitting liabilities arising from the Creditanstalt difficulties and transferring obligations amounting to 43,000,000 schillings to the 1933 budget. The 1933 budget estimates placed net expenditures at 1,324,071,000 and net revenues at 1,324,299,000 schillings.

The public debt on Jan. 1, 1931, totaled 2,397,900,000 schillings (about \$377,384,000). In 1932 external service on the national debt required 140,000,000 schillings for interest and sinking fund; on debts of provinces and communes, 38,000,000; bank debts, excluding the Government-guaranteed Creditanstalt, 9,000,000; and industrial debts, 25,000,000. These aggregated 212,000,000 schillings (about \$29,600,000). Austria suspended service on its foreign debt in foreign currencies on June 22, 1932 (see *History*). The foreign public debt in 1932 was \$237,400,000 and the private foreign debt was \$228,400,000.

**COMMUNICATIONS.** Austria in 1931 had 4154 miles of railway lines, of which 3609 miles were state and private lines operated by the state and 545 miles were privately owned and operated. Nearly 500 miles were electrified. Highway mileage in 1931 aggregated 21,273 miles, of which 2450 miles were national roads. Work on the important Grossglockner Alpine Highway, to furnish direct connection between Bavaria and Salzburg on the north and Carinthia and Italian points on the south, was continued during 1932 and 9.3 miles of the road were opened to traffic early in the year. The state-subsidized Austrian Air Transport Company maintained regular air services. Various air lines linked Vienna with other European capitals.

The Federal Railways reported an actual deficit of 83,071,000 schillings in 1931, and estimated deficits of 105,000,000 and 59,400,000 schillings, respectively, for 1932 and 1933.

**GOVERNMENT.** Under the Constitution adopted

Oct. 1, 1920, and amended Dec. 7, 1929, executive power is vested in a president, elected for four years, who appoints the Ministry and has power to dissolve Parliament. Legislative power rests with an assembly (Nationalrat), elected by popular vote for four years, and a first chamber (Bundesrat), chosen by the Provincial Diets in proportion to the population of the respective Provinces. The composition of the Nationalrat following the election of Nov. 9, 1930, was: Social Democrats, 72; Christian Socialists, 66; National Economic party (including 8 Pan-Germans), 10; Agrarian League, 9; Heimwehr, 8. President of the Republic, Dr. Wilhelm Miklas, reelected Oct. 9, 1931. The Ministry constituted June 20, 1931, represented a coalition of the Christian Socialist, Agrarian League and National Economic parties. It included: Chancellor, Dr. Karl Buresch (Christian Socialist); Foreign Minister, Dr. Johann Schober; Interior and Vice Chancellor, Franz Winkler; Social Welfare, Dr. Josef Resch; Justice, Hans Schuerff; Army, Karl Vaugin; Trade, Edward Heini; Agriculture, Engelbert Dollfuss; and Finance, Dr. Joseph Redlich. Dr. Redlich resigned Oct. 5, 1931, and was succeeded by Dr. E. Weidenhöffer. For changes in 1932, see *History*.

#### HISTORY

Throughout 1932 the Austrian Government struggled desperately, but largely in vain, to check the financial and economic collapse precipitated by the failure of the Creditanstalt in May of the preceding year (see 1931 YEAR BOOK). At the beginning of the year, Austria stood practically isolated economically as a result of the 1931 crisis in Central Europe. Due to higher tariffs and restrictions placed on foreign exchange transactions and the export of precious metals, Austria's principal industries, steel, and textiles, were suffering from a shortage of imported raw materials. Austrian exports were similarly excluded from neighboring markets, resulting in unemployment and stagnation of trade and industry. The Government was confronted with a large deficit in the 1931 budget and with similar financial prospects for 1932 (see *Finance*). The financial drain necessary to maintain the Creditanstalt threatened to bankrupt the Government, not to speak of the repayment due January 16 of the \$14,000,000 British loan of 1931 and the possibility of withdrawal of the large short-term credits in Austria unless the Government continued its guarantee of the Creditanstalt's liabilities, reported to total \$200,000,000.

To offset tariff and exchange restrictions, the Government sought to conclude clearing arrangements with neighboring countries, principally by eliminating actual transfers of foreign currency through a balancing of mutual claims. Agreements along this line with Switzerland, Hungary, and Italy went into effect in December, 1931, or in January, 1932. The arrangements were tentative and encountered many financial and technical obstacles. Negotiations with Poland, Czechoslovakia, Germany, and Yugoslavia looking toward similar agreements proved unsuccessful. Another extension was secured on the British loan, but the promised French credit of \$8,500,000 failed to materialize although Austria had complied with the recommendations of the League of Nations Financial Committee for in-

creasing taxes, reducing expenditures, and reorganizing the Federal railways.

**CABINET REORGANIZATION.** The delay in securing the French loan was attributed to French antagonism to Foreign Minister Schober for his part in the Austro-German customs union project of 1931. The Cabinet accordingly resigned on January 27 and a new ministry was formed two days later by Chancellor Buresch from which Dr. Schober was eliminated. Besides Dr. Buresch as Chancellor and Minister of Foreign Affairs, the new Ministry included: Vice Chancellor, Franz Winkler; Defense, Karl Vaugin; Justice, Dr. Schuschnigg; Agriculture and Forestry, Dr. Engelbert Dollfuss; Finance, Dr. Otto Juch; Commerce and Communications, Dr. Eduard Heindl; Education, Dr. Emmerich Czermak; Interior, Herr Hantsch. With the exception of Winkler, leader of the Agrarian League, the new Cabinet was formed almost entirely of Christian Socialists, or Clericals. It lacked a majority in Parliament. A few days later (February 4) when the gold and foreign exchange coverage of the paper currency fell below the legal minimum of 24 per cent the Government accepted the resignation of Dr. Richard Reich, president of the Austrian National Bank. Dr. Victor Kienboeck, former Minister of Finance and the right-hand man of former Chancellor Seipel, was appointed to the post.

**AUSTRIA AND DANUBIAN UNION.** The presence in Austria of a government dominated by Clericals opposed to Austro-German union encouraged Premier Tardieu of France to formulate his proposal of March 1 for a union of the Danubian states based on a system of preferential tariff agreements and import quotas (see UNITED STATES OF EUROPE). On February 16 a plea for economic coöperation had been made by Dr. Buresch. The proposal to include Austria, Hungary, Czechoslovakia, Rumania, and Yugoslavia within a customs union was favorably received in Vienna clerical circles, which still dreamed of a great Catholic monarchy to include substantially those territories. Austrian industrialists, however, feared the competition of Czech industry under a Danubian preferential agreement. The strong Pan-German element in Austria bitterly attacked the proposal as a scheme to detach Austria and Hungary from Germany and to bring them under French financial control.

The Tardieu plan was frustrated by the opposition of Germany and Italy and heavy gains made by the Hitlerites (National Socialists) in the Austrian provincial elections of April 24, which further weakened the Buresch government, ended any hope that Austria would collaborate in a Danubian union under French auspices. The Hitlerites were previously a negligible quantity in Austria. In the April balloting, however, they cast nearly 16 per cent of the total vote in Vienna Province, 18 per cent in Lower Austria and 22 per cent in Salzburg, their gains being chiefly at the expense of the Pan-German, Agrarian, and Christian Socialist parties. The new Vienna Diet consisted of 66 Socialists, 19 Clericals, and 15 Hitlerites. The rise of the Hitler adherents, who naturally favored close coöperation with Germany, coincided also with the virtual elimination of their Fascist predecessors, the Austrian Heimwehr (see 1931 and previous YEAR BOOKS). Later friction developed between the Austrian and German Hitlerites and on December 24, Dr.

Walter Pfrimer, leader of the Austrian National Socialists, withdrew the command of his organization from Hitler.

**DOLLFUSS BECOMES CHANCELLOR.** Impotent for lack of a majority, the Buresch government was forced to resign on May 6. Two weeks of political negotiation followed before a new ministry was constituted with Dr. Engelbert Dollfuss, a Christian Socialist who had served as Minister of Agriculture in the three preceding cabinets, as Chancellor. The new ministry represented a coalition of the Right parties, including representatives of the Christian Socialists, Agrarians, and the Heimwehr. Other members were: Vice-chancellor, Franz Winkler; Interior, Franz Bachinger; Justice, Dr. Kurt Schuschnigg; Finance, Dr. E. Weidenhoffer; Social Welfare, Dr. Josef Resch; Trade and Transport, Dr. G. Jaconcic; Defense, Karl Vaugoin; Safety, Dr. Hermann Ach; Education, Dr. Anton Rintelen.

The chief issue confronting the Dollfuss government was the consummation of a loan under the auspices of the League of Nations in order to avert still greater collapse. Protracted negotiations were held with representatives of the League and with representatives of British and American banks which had advanced \$70,000,000 in short-term credits to the tottering Creditanstalt. On June 13, the banking representatives left Vienna without having reached an agreement to stabilize the situation. They rejected various Government proposals, including the taking over by the foreign creditors, in lieu of \$25,000,000 of their claims, of oil and sugar refineries and other factories listed among the assets of the Creditanstalt. Continuation of the unfavorable trade balance, inability to raise a loan, and exchange transfer difficulties forced the Government on June 22 to suspend the service on the Austrian foreign debt in foreign currency, schillings being offered instead. On July 1, the Government defaulted for the first time on the monthly installments due on the \$126,000,000 League of Nations loan of 1923. The League trustees for the loan responded by refusing to turn over to the Austrian Government the income from the customs and tobacco monopoly pledged for the loan, although this totaled \$6,000,000 monthly as against the \$1,500,000 required to service the loan.

Aroused by these developments, the Council of the League on July 15 approved a guaranteed 20-year international loan to Austria. France and Great Britain contributed \$14,000,000 each, the balance being furnished by Italy, Spain, Holland, Belgium, Switzerland, and Czechoslovakia. Conditions attached to the loan were more severe than those of the 1922 Reconstruction Loan. Austria was to pledge herself not to seek close economic coöperation with any single country for the duration of the loan, a provision designed to bar economic or political union with Germany. Provincial and municipal budgets were to be balanced, the State Railway administration was to be reformed, and no individuals or private firms were to be allowed to incur foreign debts of more than \$140,000 without the permission of the Austrian National Bank.

The loan conditions aroused a storm of protest in Austria, where they were denounced as a new form of servitude. Grim necessity forced the Dollfuss Cabinet to present the protocol to Parliament for ratification, although the Cabinet's fate hung upon the outcome of the vote. The

measure was adopted by the lower house of Parliament August 17 by a vote of 81 to 80, but only after the Government had mustered every available ballot by bringing ailing deputies to the chamber in ambulances and otherwise.

The necessary authorization for the advance of the British and French shares of the loan was given by the British House of Commons on December 20 and by the French parliament on December 30. Meanwhile further hope of assistance was held out by a special committee appointed by the Lausanne conference on July 9, which met at Stresa, Italy, September 5-20. It was authorized to consider measures for eliminating the transfer difficulties in Central and Eastern Europe, reviving trade in that region, and alleviating the critical condition of the agrarian countries. However, the Stresa Conference devoted most of its time to the consideration of preferences for agricultural products. It postponed to a later date consideration of "the particularly important problem of Austria."

Some tangible relief was forthcoming at the end of November when an agreement for the reorganization of the Creditanstalt was reached with the creditors of the bank through the international creditors' committee in London. In place of their claims aggregating about \$100,000,000, including about \$20,000,000 held by some 30 American banks, the creditors agreed to accept seven yearly payments of nearly \$3,000,000 each. On December 1, it was announced that trustees of the Austrian government guaranteed loan of 1923-24 had postponed the payment of \$287,556 due to the United States government Jan. 1, 1933, as well as payments due to the other nations which participated in the loan. On October 20, new exchange regulations were issued by the Austrian National Bank. These enabled foreign owners of schilling deposits in Austria to sell such deposits to third parties in a lawful way. They also made it possible to transfer schillings out of Austria through private clearing arrangements, which would involve a loss of about 20 per cent. Another step taken by the Dollfuss government was the adoption of a new *modus vivendi* with Rumania, effective October 22, prolonging the most-favored-nation commercial treaty and providing for further duty concessions by Rumania.

Mgr. Ignaz Seipel, who as Chancellor from 1922 to 1929 rescued Austria from threatened postwar collapse, and Dr. Johann Schober, who served twice as Chancellor, died on August 2 and 19, respectively. See biographies of each.

Consult "Austria: The Paralysis of a Nation," *Foreign Policy Reports*, Jan. 4, 1933, vol. viii, no. 22; and Victor W. Germain, *Austria of Today* (London, 1932).

**AUTHORS' LEAGUE OF AMERICA.** A national organization of authors, dramatists, and screen writers. It was founded and incorporated in 1912 for the purpose of procuring adequate copyright legislation, both international and domestic; protecting the rights and property of all those who create copyrightable material; advising all such in the disposal of their productions and obtaining for them prompt remuneration therefor; and disseminating information among them as to their just rights and remedies. The league supplies to its members confidential information relating to publishers, theatrical and motion-picture producers, and other persons and companies engaged in the purchase, sale, pub-

lication, or production of copyrightable material. The league includes the dramatists' guild, the authors' guild, and the screen writers' guild. Closely affiliated with it is the Authors' League fund, an agency formed by the league to meet its obligations with respect to the care of the sick, the aged, and the unfortunate, the endowment amounting to about \$80,000. The officers in 1931-32 were: President, Inez Haynes Irwin; vice president, Marc Connelly; secretary and treasurer, Luise Silcox. Headquarters are at 2 East Twenty-third Street, New York City.

**AUTOGIRO.** See AERONAUTICS.

**AUTOMOBILE RACING.** Freddy Frame, of Los Angeles, despite his remarkable triumph in the annual 500-mile Indianapolis Classic on Memorial Day, again finished second in the American Automobile Association ranking for automobile racing champion of 1932. Bob Carey, of Anderson, Indiana, fourth in the big event, did so well in other races during the season that he amassed 815 points to Frame's 710. Carey finished second to Bill Cummings, of Indianapolis, in the Oakland, Calif., 150-mile race in November and thereby clinched the title when Frame and Howdy Wilcox failed to finish. Wilcox finished third for the year with a total of 610 points. In winning the long race at Indianapolis, Frame broke all existing records for the race, completing the distance in 4:48:03.79 to average 104.144 miles an hour.

Sir Malcolm Campbell, British racing driver, set a new world's record for speed in a spin along the sand of Daytona Beach, Florida late in February. He was timed for a mile in 253.968 miles an hour, exceeding by 8.235 miles an hour the record he made in 1931 over the same course.

**AUTOMOBILES.** Through 1932 automobile production dropped to the lowest volume since 1918. The total number of cars and trucks in the United States and Canada was 1,436,000. This was nearly a million less than the number produced in 1931 or a decrease of 42 per cent.

More and more the industry has been deferring the bringing out of new models until nearly the end of the year. Very few appeared before the last month of the year, and some were not announced until after the end of the year, receiving their first public display at the Automobile Show.

In number of cylinders provided in standard lines there were several changes. In the middle of the year Hudson brought out a new line smaller than the Essex called the Terraplane. This was a six. At the end of the year an additional model slightly larger was introduced and also an eight-cylinder Terraplane. At the same time the Hudson Super Six was restored as an addition to the line of eights that have been built since 1930. The Plymouth dropped the four to build a six and the Pontiac was changed from a V-eight to a straight eight. New fours were the Willys and the Continental. The Continental also had two sixes in the low and medium-low priced groups. There was an increased use of eight-cylinder engines in commercial vehicles and one attempt to introduce the Diesel engine in trucks.

At no time in the history of the industry has there been so much offered for the price. In the past three years the manufacturers have cut their costs but without skimping quality. A few years ago the lowest-priced cars made no pretense to beauty. They were marketed on an econ-

omy basis and no effort was made to rival the appearance of the higher-priced lines. Now the cheapest cars have well-nigh caught up with the best in looks and performance and have been so improved in riding qualities by the reduction of vibration that they now have everything but the longer wheelbase, greater commodiousness and luxury of refinements found in the better cars. Several of even the lowest-priced cars have somewhat increased wheelbase and seat width. There has been a marked disposition on the part of the higher-priced car builders to extend their lines down into the low- or medium-low priced fields and to reduce the price of their best models, and to make those largely a custom business with more options for the individual owner's specification.

Throughout the lines to be displayed at the National Shows in January, 1933 are by far the most attractive that have ever been offered to the motoring public.

It seemed that the 1932 models had everything that could be looked for until some radical improvements in engineering or design had been developed with the progress of the industry, but the 1933 models have an even greater appeal to the customer dollar. While there was little that is radically new in mechanical detail such faults as were found in the newer features of the 1932 models have been corrected by the year's experience.

The new lines showed still further accomplishment in simplification of control. Silent gear shifting and smooth engagement of the clutch are no longer dependent on driver dexterity, and braking has become almost effortless. Separate starting pedals are disappearing, the starting being combined with the depression of the accelerator, the turning of the ignition key, or the pressing of a button on the dash. Power brakes were featured by several makers and among other mechanical improvements were the automatic choke and thermostatic shock absorbers. Rubber mounting of engines had become the accepted practice.

Each year sees a greater approach to true aerodynamic lines which many predict will culminate in the so-called "tear-drop" design with the engine shifted from the front to the rear. The most extreme car shown was one Pierce-Arrow model that came as near to the ideal of minimized wind resistance as is possible with engine at the front and the wheels not recessed into the body. The new Willys was the most radical design but most makers, fearing to chance public acceptance of revolutionary changes, preferred to follow the more gradual transition. This was shown in the very general trend to sloping and pointed radiator guards, petticoated or valanced fenders and concave or "beaver-tail" rear panels.

Probably the most heralded innovation was draftless ventilation. All of the General Motors cars had this Fisher body improvement of pivoted window sections and several other lines had some way of accomplishing comfortable air change in the car interior.

**STATISTICS.** As customary, toward the close of the year the National Automobile Chamber of Commerce gave out its preliminary statement of facts and figures for the automobile industry from which the following information was taken.

The before-mentioned total production for the United States and Canada of 1,436,000 vehicles



included 1,198,500 passenger cars and 237,500 motor trucks. Of the passenger cars, 1,115,000, or 93 per cent were closed models. The wholesale value of the passenger cars was \$646,500,000 and of the trucks \$138,000,000, making the total wholesale value of the vehicles produced during the year \$784,500,000. The average retail price of cars was \$720 and of trucks \$776.

Tire manufacturers in the United States shipped during the year 41,150,000 tires. The wholesale value of those sold to consumers for replacement was \$275,000,000. Parts and accessories for replacement and service equipment sold during the year totaled in wholesale value \$250,000,000. The year's total business in vehicles and equipment was therefore \$1,309,500,000. The retail value, including taxes, of the gasoline consumed by motor vehicles was \$2,382,000,000, and of lubricating oil \$359,100,000.

The computed number of motor vehicles in use throughout the world in 1932 was 33,026,000. Of this the United States registration was 73 per cent, or 24,276,000, made up of 21,045,000 passenger cars and 3,231,000 commercial vehicles. The first falling off in registration came in 1931 when there was a decrease of 2.8 per cent from the previous year. In 1932 there was a further decline from 1931 of 6 per cent.

Roughly a quarter of all motor vehicles in the States, 4,980,000, are owned by farmers, 4,100,000 of them being passenger cars and 880,000 trucks.

There was a small amount of new road building. The United States now has a total of 3,055,000 miles of highways of which 868,000 miles are surfaced. The expenditures on highways and streets for the year aggregated \$1,900,000,000. In motor vehicle and allied lines the persons employed numbered about 3,700,000.

One class of figures that suffered no loss was taxes. The industry views with alarm the steadily mounting imposition of taxes on motor vehicle users. In 1932 it reached the enormous sum of \$1,085,000,000, an increase of 6 per cent over 1931. This included registration fees, gasoline taxes, excise taxes, and personal property and municipal taxes. The gasoline taxes alone, Federal, State, and municipal, amounted to \$595,000,000. In ten years the special motor taxes per vehicle increased 179 per cent. The service station value of gasoline, without taxes, was \$1,787,500,000 to which the consumer had to pay an added 33 per cent for taxes. Motor users during the year paid 12 per cent of all taxes collected by the Federal, State, and local governments.

The automobile industry continued to be the largest manufacturing industry based on the value of finished products. This industry is the largest purchaser of gasoline, rubber, alloy steel, and malleable iron, mohair, upholstery, leather, lubricating oil, plate glass, nickel, and lead. Of the total consumption during the year of the following products the automobile industry took 83 per cent of the rubber; 55 per cent of the plate glass; 17 per cent of the steel and iron; 14 per cent of the lumber and hardwood; 15 per cent of the copper; 14 per cent of the lead; 20 per cent of the aluminum; 26 per cent of the nickel; 12 per cent of the tin; 7 per cent of the zinc, and 85 per cent of the gasoline. The gasoline used by motor vehicles in 1932 was 320,000,000 barrels of 42 gallons. Lubricants used by motor vehicles aggregated 9,600,000 barrels, about 57 per cent of all lubricants used. The

crude rubber used by the motor industry during the year amounted to 589,000,000 pounds, and the cotton fabric that went into tires weighed 165,000,000 pounds.

Rather interesting is the break-down of the use of commercial vehicles. Of the 3,231,000 trucks in use, the 880,000 owned by farmers represent 27 per cent. Altogether there are 2,500,000 owners of trucks. Five and one-half per cent of trucks are operated as common carriers. Slightly over 1 per cent of them do an interstate business, the others confining their operation to hauling within their States. The contract carriers are about 8.7 per cent of all trucks in use and 85.8 per cent are privately owned and operated. While trucks are only 13 per cent of all motor vehicles in use, they pay 27 per cent of all motor taxes. The past year the truck taxes amounted to \$290,000,000. One hundred railroads use trucks as part of their shipping service; 12,000 trucks were so used last year by the steam railroads. The Railroad Express Agency is the owner of 9247 trucks.

Motor busses have become a sizable portion of the commercial vehicles in use. In 1932 there were registered 99,000 motor busses. Of these 45,000 were revenue carrier busses. The 16,700 consolidated schools using motor transportation operate 52,000 busses; 12,000 busses are used by 245 street railways and 4800 busses by 80 steam railroads.

Foreign sales of American motor vehicles suffered a heavy decrease from 1931—44 per cent. The United States exports and the output of United States owned Canadian plants combined was 182,000 vehicles, but it represented 13 per cent of the production. The value of motor vehicles, parts, and tires exported from the United States and Canada was \$93,125,000.

The motor vehicle retail business in the United States has naturally shrunk considerably from the peak year of 1929 with the tremendous decline of new car business, but, the cars in use having diminished relatively little, the business in service and supplies has been fairly well maintained, although users have cut their requirements to the necessities. As it stood at the end of 1932 the total car and truck dealers numbered 39,871, the garages, service stations, and repair shops 97,721, supply stores 69,179, and the total retail outlets, with duplications eliminated, 103,605. The gasoline filling stations were estimated at 350,000.

LEGISLATION. Most States have regular sessions of their legislatures only alternate years. In 1932 only nine States were in regular session, but there were about ten other States that held special sessions in which automotive subjects were considered. In the proposed legislation that which most disturbed the automobile and allied interests, including those involved as shippers by or users of motor vehicles, were bills calling for increases in special taxes applicable to motor trucks, increases in the taxes on gasoline, and diversion of the proceeds of such taxes to other than highway uses, reductions of maximum size and weight restrictions, and wider applications of regulations to the operation of "for hire" vehicles, coupled, in some instances, with more stringent regulation. The view held by the automotive industry with reference to special taxes and gas taxes for motor vehicles is that such taxes should be fixed at rates no higher than will be necessary to meet the administration expenses



in connection with the collection of such taxes and produce the necessary revenue for highway purposes. The industry is opposed to any diversions of such funds to other purposes, such as, schools, unemployment relief, inland waterways, or State general funds, as is being done in some of the States with the gasoline taxes. It grants the need of certain regulation for common carrier vehicles, but does not favor extension of regulation to other carriers "for hire," or to privately owned vehicles. The industry concedes the necessity of limiting the weight and size of vehicles for safety's sake and preservation of the roads, and is quite generally in accord with the recommendations made in November of this year by the American Association of State Highway Officials, but opposes restrictions that would tend to hamper the development of highway transportation.

The depression aggravated the disposition to increase taxes of all kinds on motor vehicles in the efforts of the States to recover loss of income from other sources and to balance their budgets, and the taxation of commercial vehicles in several States reached amounts that so increased the cost of operation that profit was impossible at prices at which business could be obtained.

On the more favorable side was the action of New Jersey, which adopted a law granting full reciprocity to all vehicles, a non-resident operator being granted the same privileges in New Jersey under his home State license that a New Jersey operator is granted in the home State of the non-resident operator.

New Jersey also adopted, and was the first State to do so, a law requiring trucks and busses to carry directional signals to indicate their intended turns, the devices to be illuminated at night and to have been approved by the Motor Vehicle Department. Before the law went into effect its constitutionality was attacked and a temporary injunction issued restraining its enforcement.

Two additional States undertook to put a ban on solid tires after a certain time, one on all vehicles and the other on vehicles of over two tons gross weight, as a measure of protection for the roads. Other States have discouraged use of solid tires by increasing mileage taxes, registration fees or privilege taxes on vehicles so equipped. Usually States have not found either course necessary as owners of themselves have been discarding solid tires in favor of pneumatic because of the saving in wear and tear on the vehicle and lessened damage to goods handled.

Texas and Kentucky were two States in which legislative developments aroused special protest from motor vehicle users. Texas had enacted laws the previous year limiting loads to 7000 pounds and extending regulation to contract carriers. Two appeals were made to the Supreme Court to have these laws set aside, but they were denied. Kentucky drastically reduced the allowable gross weight of motor vehicles, but even more alarming to commercial haulers was its act prohibiting the use of trailers of any kind.

**AVIATION.** See **AERONAUTICS.**

**AZERBAIJAN**, ä'zër-bijän' (**AZERBAIDZHAN**). The Azerbaijan Socialist Soviet Republic, established Apr. 28, 1930, united with Armenia and Georgia on Jan. 16, 1923, to form the Transcaucasian Socialist Federated Soviet Republic (q.v.). Occupying the southeastern frontier region of Transcaucasia between the

Caspian Sea and Persia. Azerbaijan, which includes the Nazhichevan Soviet Socialist Republic and the Nagorni Karabakh Autonomous Region, has an area of 32,686 square miles and a population of 2,510,809 in 1931; 75 per cent are Moslems. Capital, Baku, with a population (1926) of 452,000.

In 1929-30 there were 1479 elementary schools, with 180,200 pupils; 40 technical schools, with 10,000 pupils; and five institutions of higher education, with 5500 students. Agriculture, cattle-breeding, and the exploitation of the extensive Baku oil fields are the principal industries. There were 2,718,100 acres under cultivation in 1929-30, of which 370,650 acres were devoted to cotton. In August, 1931, 41.4 per cent of all peasant farms were collectivized. Oil production in 1929-30 was 10,900,000 tons (8,802,000 tons in 1928-29). Copper, textiles, fisheries, and salt are other leading industries. The total production of state industries other than oil in 1929-30 was valued at 75,900,000,000 roubles (1 rouble = \$0.51 in U.S.S.R.). See **UNION OF SOVIET SOCIALIST REPUBLICS.**

**AZORES**, ä-zörz'. An archipelago in the North Atlantic, situated about 800 miles west of Portugal, of which the Azores are politically an integral part. Area, 922 square miles; population (census of 1930) 253,596. The capital is Angra (population in 1926 was 10,057) on the island of Terceira.

**BACK-TO-THE-LAND-MOVEMENT.** See **SOILS.**

**BACON**, BENJAMIN WISNEE. An American theologian, died in New Haven, Conn., Feb. 1, 1932. He was born in Litchfield, Conn., Jan. 15, 1860, and was graduated from Yale College in 1881 and from the Yale Divinity School in 1884. Following his ordination to the Congregational ministry he held pastorates in Old Lyme, Conn. (1884-89) and in Oswego, N. Y. (1889-96). He then became an instructor in New Testament Greek at the Yale Divinity School, and from 1897 until his retirement in 1928 was professor of New Testament criticism and exegesis. During 1905-06 he was director of the American School of Archaeology in Palestine and Syria, and in 1928, through his negotiations, Yale University received a commission from the British Government to cooperate with the British School of Archaeology in excavating part of the ancient city of Jerash (Gerasa), Palestine. He was an associate editor of the *Hibbert Journal* and of the *American Journal of Theology* and was the author of *The Genesis of Genesis* (1891); *Triple Tradition of the Exodus* (1894); *The Sermon on the Mount* (1902); *The Story of St. Paul* (1904); *The Founding of the Church* (1909); *The Fourth Gospel in Research and Debate* (1909); *Jesus, the Son of God* (1911); *Christianity Old and New* (1913); *Is Mark a Roman Gospel?* (1919); *Jesus and Paul* (1920); *The Teaching Ministry for Tomorrow* (1923); *The Gospel of Mark, Its Composition and Date* (1925); *The Apostolic Message* (1925); *Studies in Matthew* (1930).

**BACTERIA**, COLORBING MATTER OF. See **CHEMISTRY, INDUSTRIAL.**

**BADEN**, ba'den. A constituent state of the German Republic, with a republican form of government established by the Constitution of Mar. 21, 1919. Formerly a grand duchy in the German Empire, it borders on Alsace-Lorraine and Switzerland on the west and south, respectively.

Area, 5819 square miles; population in 1925, 2,312,462, as compared with 2,195,580 in 1919. In 1930 there were 44,179 births, 26,838 deaths, and 18,089 marriages. Capital, Karlsruhe, with 145,604 inhabitants in 1925. The largest city is Mannheim (247,486 in 1925). The majority of the population is Roman Catholic. Education is free, general, and compulsory, the schools being under the jurisdiction of the state. For higher education, there are universities at Heidelberg and Freiburg. In 1931 the total area under cultivation was 1,819,195 acres. Among the agricultural products, oats, rye, barley, wheat, potatoes, and vegetables are the most important. There are numerous manufacturing industries and salt and potash are mined.

The Landtag elected Oct. 27, 1929, for the term ending Oct. 27, 1933, had 88 members, including 35 Centrists, 18 Socialists, and representatives of seven other parties. State President in 1932, Dr. Josef Schmitt (Centre party). See GERMANY.

**BADGER.** REAR ADMIRAL CHARLES JOHNSTON, U. S. N., RET. An American naval officer, died at Blue Ridge Summit, Pa., Sept. 7, 1932. He was born in Rockville, Md., Aug. 6, 1853, and was graduated in 1873 from the U. S. Naval Academy, to which he had been appointed at large by President Grant. Promoted through the grades, he became captain in 1907, and in that year was also appointed superintendent at Annapolis. During the world cruise of the Atlantic fleet in 1909-11 he commanded the battleship *Kansas*. In 1911 he was commander of the second division of the Atlantic fleet, with the rank of rear admiral, and in 1913 assumed command of the entire fleet. The following year he had charge of naval operations in Mexican waters during the occupation of Vera Cruz. In 1914 he was appointed to the General Board and on the death of Admiral George Dewey in 1917 became chairman of the executive committee. This board rendered a great service in advising the Secretary of the Navy concerning the navy's participation in the World War. He retired from the navy in 1915 and from the General Board in 1921.

**BAHÁ'Í FAITH.** A religious movement, founded in Persia in 1844 by Mirza Ali Muhammed, known as the Báb (the Gate or Forerunner of the Cause). Its universal principles include the oneness of mankind; the abolition of racial, patriotic, class, political, and religious prejudices; the harmony of true science and religion; the spiritual equality of men and women; the education of all people in terms of the complete personality, and the continuance of education throughout life by unceasing open-minded search for truth; economic righteousness and justice; the addition of a universal auxiliary language to school curricula; the prohibition of a professional clergy in the Bahá'í Faith; the spiritual obligation of every government to make world peace its first and most important concern; and the organization of an international tribunal capable of maintaining world order, based upon equal justice to the various nations and peoples. These principles, following the martyrdom of the Báb at Tabriz in 1850, were proclaimed to the world over a period of 40 years by Bahá'u'lláh (the Author of the Cause). After Bahá'u'lláh's death in 1892 the head of the movement was his son, Abdu'l-Bahá (the True Exemplar and Interpreter of the Cause) who, in turn, was succeeded on his death in 1921 by his grandson Shoghi Effendi (the Guardian of the Cause).

Among the outstanding activities reported for 1932 were the publication of a new English translation, made by Shoghi Effendi, of *The Tablet of Iqan* (Book of Certitude), one of the fundamental texts of the Bahá'í scriptures; the publication for the first time in English of *The Dawn-Breakers: Nabíl's Narrative of the Early Days of the Bahá'í Revelation*; and publication of Chinese, Persian, Urdu, German, Russian, and Esperanto translations of Esslemont's *Bahá'u'lláh and the New Era* (making a total of 22 translations of this book). There took place also the recognition of five new spiritual assemblies in America; the formation of the first local spiritual assembly in Japan; the liberation of Persian Bahá'ís from long-standing civil disabilities, making possible the beginning of the first official and complete census of Bahá'ís in Persia, and the participation by Persian Bahá'í women in the election of local and national spiritual assemblies; the incorporation of a Palestine branch of the American National Spiritual Assembly to hold title to the American Pilgrim House at Haifa and to the tract of land on Mount Carmel adjoining the tomb of the Báb purchased by American believers; and formal appeal by the National Spiritual Assembly of Egyptian Bahá'ís to their government to remove the disabilities suffered under Mohammedan law in the absence of a civil code guaranteeing rights of religious minorities.

A local spiritual assembly is established in every locality where the number of adult declared believers exceeds nine. The work of these assemblies is coordinated through another elected body of nine members, the national spiritual assembly. In 1932 there were 53 local assemblies and some 24 groups in the United States and Canada with 2360 members. Throughout the world there were nine national assemblies and approximately 400 local assemblies and groups. Among the countries in which spiritual assemblies are found are Australia, Brazil, Caucasus, China, Dutch East Indies, Egypt, England, France, Germany, India and Burma, Iraq, Japan, New Zealand, Palestine, Persia, South Africa, Switzerland, Syria, Tasmania, Turkey, Turkistan, and the U.S.S.R.

The 1932 convention of the National Spiritual Assembly of the Bahá'ís of the United States and Canada was held in the foundation hall of the temple at Wilmette, Ill., April 29 to May 1. This temple, called Mashriqu'l-Adhkar (the Dawning Place of the Praise of God), was structurally completed in 1930. Its external decoration was preceding, there being signed in 1932 a contract between the Bahá'í trustees and the John J. Earley Studio of Washington, D. C., for the decoration of the dome in accordance with the unique design made by the architect, the late Louis J. Bourgeois. Official American publications are: *The Bahá'í Magazine*, *Star of the West*; *Bahá'ís News*; and the *Bahá'í World* (the biennial international record). National headquarters are at Evergreen Cabin, West Englewood, N. J., Horace Holley, secretary. World headquarters are in Haifa, Palestine.

**BAHAMAS.** A group of British-owned islands off the southeast coast of Florida, 29 in number, of which 20 are inhabited. They also include 661 keys and over 3000 reefs. The islands, which are of coral formation, have an area of 4404 square miles and a population, according to the census of 1931 of 59,828, or 6797 more than at

the census of 1921. The important islands with their populations in 1921, are as follows: New Providence, containing the capital, Nassau, 12,975; Andros, 6976; Eleuthera, 6048; Long Island, 4659; Abaco, 3993; Exuma, 3730; Cat Island 4273. Government primary schools in 1930 enrolled 10,308 pupils; aided schools, 3347 pupils; private schools 1524. In the same year, attendance at private and government secondary schools totaled 471.

Declared imports greatly exceed declared exports, the totals in 1931 being £1,249,027 and £287,562 respectively. Spirits and wines, the leading imports, were valued (1930) at £27,525, compared with £49,077 for iron and steel manufactures, which ranked second in value. Sponges and sisal are the chief exports. Imports from the United States (1930) were valued at £604,506; Canada, £511,010; United Kingdom, £322,950. Revenues in the fiscal year 1931-32 totaled £386,374; expenditures, £422,700. The public debt in 1931-32 stood at £180,000. Vessels entering the ports in 1930 numbered 1414 of 1,521,803 tons and vessels clearing, 1425 of 1,460,905 tons. Regular air-mail and passenger service between Palm Beach, Fla., and the Bahamas was inaugurated June 5, 1931. During a storm and tidal wave on Sept. 5, 1932, 11 persons lost their lives on the island of Abaco. The islands are administered by a governor who is assisted by an executive council and a legislative council, each of 9 members, and a representative assembly of 29 members, the franchise being based on a small property qualification. Governor and Commander-in-Chief in 1932, Capt. B. E. H. Clifford.

**BAHRAIN ISLANDS.** See ARABIA.

**BALI.** See NETHERLAND INDIA.

**BALKAN CONFERENCE.** See RUMANIA under *History*; PEACE; UNITED STATES OF EUROPE.

**BALKAN STATES.** The states of the peninsular south of the Danube, lying between the Adriatic, Aegean, and Black seas. See ALBANIA, BULGARIA, GREECE, RUMANIA, TURKEY, and YUGOSLAVIA.

**BALLOONS.** See AERONAUTICS.

**BANG,** bäng, BERNHARD LAURITS FREDERIK. A Danish bacteriologist, born in 1848 and died in Copenhagen June 22, 1932, aged 83. From 1892 to 1914 he was professor of pathology and therapy at the Royal Veterinary and Agricultural College in Copenhagen, where he became widely known for his researches in veterinary science. In 1896, in collaboration with Stribolt, he discovered the cause of contagious abortion in cattle and subsequently studied its treatment and possibility of immunization. In 1892 he originated the Bang method of eradicating tuberculosis from dairy herds, which consists of isolating the mildly affected animals and feeding artificially their calves with milk free from tubercle bacilli. This method has been extensively applied in Denmark, Norway, and Sweden with favorable results. Dr. Bang was a member of the Danish Academy of Science and of many foreign academies, and was the author of *Om Tuberkulose i Koens 1ver og om tuberkulos Maelk* (1884) and *Om Arsgen til lokal Nekrose* (1890).

**BANGKA.** See NETHERLAND INDIA.

**BANKERS' ASSOCIATION. AMERICAN.** The dominant national organization of banks in the United States, having a membership of about 16,000 banks out of a total of 19,000, with assets estimated in excess of 90 per cent of the nation's aggregate banking capital funds of \$8,500,000,000

and total resources of \$80,000,000,000. The association has four major divisions, each devoted to the special interests, technical advancement, and general welfare of the following classes of banks: National, savings, State, and trust company. Within the organization there are also two sections devoted to general banking interests: the American Institute of Banking section and the State secretaries section. The American Institute of Banking section, which is the educational arm of the organization, has an enrollment of 45,000 students from banks in all parts of the country and a general membership of 65,000; the State secretaries section forms a link between the national organization and the 48 State Bankers' Associations.

The association has a protective department which prosecutes continually a nation-wide campaign of prevention, protection, and investigation for all member banks in respect to criminal operations. It conducts a legal department which keeps bankers informed on developments in the field of banking law and, in connection with the association's State and Federal legislative committees and councils, watches the interests of banking institutions and the public in both State and Federal banking legislation. During the year this department secured effective public action against several depression-born legislative measures that were deemed harmful or uncalled for. The association gave also special attention to maintaining equitable bank taxation and, through its economic policy commission, conducted studies of the branch banking question, causes of bank failures, proposed remedial legislation, maintenance of the dual banking system under State and national charters, reconstruction finance proposals, and basic changes in bank credit conditions and methods.

The educational foundation of the association, with an endowment of \$500,000 to be employed in the furtherance of scholarships and research in banking and finance in educational institutions, allocated 200 loan scholarships valued at \$250 each to students in American colleges. In addition, its public education commission conducted lectures on banking in public and private schools and before civic clubs throughout the United States, and the bank management commission developed active studies and methods for more scientific bank management.

The association holds its annual convention in the autumn of each year, while the executive council meets in the spring. The latter group is a representative body, proportioned to the membership in all States, and is qualified to take action upon certain association matters. The administrative committee, composed of 15 members, including the national officers, heads of the various divisions and sections, and certain others, acts as the *ad interim* governing authority between meetings of the convention and of the executive council. The 1932 convention was held in Los Angeles, Calif., October 3-6, the chief topics of discussion being excessive government expenditures and taxation, branch banking, methods for improving bank management, and the bank failure situation. It expressed in general resolutions approval of the Federal Reserve system and the Reconstruction Finance Corporation and their policies in meeting depression conditions.

The general national officers elected for 1932-33 were: president, Francis H. Sisson, vice-

president, Guaranty Trust Co., New York City; first vice-president, F. M. Law, president, First National Bank, Houston, Tex.; second vice-president, Rudolf S. Hecht, president, Hibernia Bank & Trust Co., New Orleans, La.; treasurer, P. D. Houston, chairman, American National Bank, Nashville, Tenn. The continuing activities of the association are carried on by a permanent staff, functioning at the national headquarters in New York City under the direction of the executive manager, Fred N. Shepherd.

#### **BANK FOR INTERNATIONAL SETTLEMENTS. See REPARATIONS AND WAR DEBTS.**

**"BANK HOLIDAY."** See **BANKS AND BANKING**; **NEVADA** under *Political and Other Events*.

#### **BANKING AND CURRENCY COMMISSION OF THE U. S. SENATE. See BANKS AND BANKING; FINANCIAL REVIEW.**

**BANKS AND BANKING.** The end of the year 1931 found the status of American banking more hazardous than for a great while past. Failures were taking place in enormous numbers; and, while most of them had been small in size, not a few larger institutions were known to have been endangered. The action of the bankers of the country in forming The National Credit Corporation had brought temporary reassurance, which had at once given place to renewed anxiety, owing to the inactivity of the new enterprise and its apparent unwillingness to call upon its subscribers for contributions of actual capital. In these circumstances, the administration of President Hoover deemed it desirable to undertake some systematic aid to the banks of the country, and primarily for this assistance—though also to help other embarrassed organi-

zations,—the "Reconstruction Finance Corporation" was established by act of Jan. 22, 1932. This institution, with a capital of \$500,000,000, and a power to issue debentures amounting to \$1,500,000,000 (guaranteed by the Treasury department), at once began making loans to embarrassed institutions. Before the close of the twelve months, it had thus assisted some 5000 banks and trust companies, according to the annual report of the corporation. Nevertheless, the failure of banks continued, near 1400 failures or embarrassments being announced during the year and among them some of large size. The result was a great loss of confidence in banks, and during the middle of the year a tendency to widespread hoarding, which came close to driving the nation off the gold standard—according to the testimony of various public men, and other authorities, notwithstanding the dissenting opinion of certain critics. Throughout 1932, the banks continued the struggle to recover their equilibrium; and the year was possibly more disturbing in its effects upon the banking organization, than any for a great while.

**NATIONAL BANKS.** The national system, while, on the whole, rather less subject to the danger of failure than the banking systems of the several States, nevertheless underwent the same disasters, in general, that afflicted other parts of the banking structure. The fact that the whole question of banking was under examination, and that the immediate problem of the moment was admittedly that of preserving the very existence of the system upon its former footing, doubtless tended to retard the usual flow of minor measures for reform of banking technique, toward

CHANGES IN NATIONAL BANK POSITION  
[In thousands of dollars]

	June 30, 1925	Per cent increase (+) or decrease (—) since June 30, 1924	June 30, 1926	Per cent increase (+) or decrease (—) since June 30, 1925
Demand deposits .....	\$10,430,254	+ 8.72	\$10,778,603	+ 3.34
Time deposits .....	5,924,658	+ 12.64	6,318,809	+ 6.57
Loans and discounts * .....	12,674,067	+ 5.80	13,417,674	+ 5.87
United States and other bonds, stocks, etc. ....	5,730,444	+ 11.44	5,842,253	+ 1.95
Lawful reserve with Federal Reserve banks .....	1,326,864	+ 10.69	1,381,171	+ 4.09
	June 30, 1927	Per cent increase (+) or decrease (—) since June 30, 1926	June 30, 1928	Per cent increase (+) or decrease (—) since June 30, 1927
Demand deposits .....	\$10,923,729	+ 1.35	\$11,003,795	+ 0.73
Time deposits .....	7,315,624	+ 15.87	8,296,638	+ 13.41
Loans and discounts * .....	13,955,696	+ 4.01	15,144,995	+ 8.52
United States and other bonds, stocks, etc. ....	6,393,218	+ 9.43	7,147,448	+ 11.80
Lawful reserve with Federal Reserve banks .....	1,406,052	+ 1.80	1,453,383	+ 3.37
	June 29, 1929	Per cent increase (+) or decrease (—) since June 30, 1928	June 30, 1930	Per cent increase (+) or decrease (—) since June 30, 1929
Demand deposits .....	\$10,504,268	— 4.54	\$10,926,201	+ 4.02
Time deposits .....	8,817,095	+ 0.25	8,752,571	— 5.24
Loans and discounts * .....	14,801,130	— 2.27	14,887,752	+ 0.59
United States and other bonds, stocks, etc. ....	6,656,585	— 6.87	6,888,171	+ 3.48
Lawful reserve with Federal Reserve banks .....	1,844,951	— 7.46	1,421,676	+ 5.70
	June 30, 1931	Per cent increase (+) or decrease (—) since June 30, 1930	June 30, 1932	Per cent increase (+) or decrease (—) since June 30, 1931
Demand deposits .....	\$10,105,885	— 7.50	\$ 7,940,653	— 21.42
Time deposits .....	8,579,500	— 2.09	7,265,640	— 15.31
Loans and discounts * .....	13,177,489	— 11.05	10,281,676	— 21.20
United States and other bonds, stocks, etc. ....	7,674,887	+ 11.42	7,196,652	— 6.24
Lawful reserve with Federal Reserve banks .....	1,418,096	— 0.25	1,150,175	— 18.89

\* Includes rediscounts and customers' liability under letters of credit.

the statute books. The Acting Comptroller of the Currency, in his annual report for the year 1931-32, called attention to the situation; and renewed certain recommendations previously made; while the Secretary of the Treasury called for the introduction of early provision for branch banking. The Comptroller, moreover, devoted a substantial portion of his discussion to a statement of the position as to bank failures; and called attention to the urgent necessity of better management in view of the evil effects of deficient ability in the conduct of banking affairs.

The system had in fact suffered most severely from the effects of the general break-down of economic conditions; and the statistical showing made by the national office of supervision, was correspondingly discouraging. For the year covered by the report, the system showed a net decrease of 515 members or 7.78 per cent, leaving only 6104 active national institutions. Resources suffered along with membership, and for the year ending June 30, 1932, there was a decline of aggregate resources totaling nearly \$5,275,000,000 leaving the resulting total \$22,367,711,000—the smallest figure for many years. The total number of receiverships established during the year was 380, as against 237 the preceding year, although this latter figure had itself been double the number for the last year then preceding. This unfortunate record had been closely under discussion; and Congress had considered several measures for the reform of banking; but only sporadic changes in legislation (later to be more specifically considered) were able to reach the statute book.

value, the good assets of failed banks; and so to enable the immediate payment of their worth to depositors in such institutions, thus preventing the latter from undergoing further loss as a result of the postponement of liquidation through the long-drawn receiverships, averaging five and one half years, which had become customary in the national system. Further important changes were suggested in sections which undertook to authorize "State wide" branch banking, on a national scale, for national banks, irrespective of the provisions of law in the several States themselves.

This measure did not become law, largely owing to the opposition of the administration to various of its provisions; but, after being debated in the Senate, was laid on the table until the arrival of the winter session 1932-1933, when it was again taken up and placed on the calendar. Meantime, conditions in the national, as well as in the State banking systems generally, were cared for by the concern known as the Reconstruction Finance Corporation (act of Jan. 22, 1932 already briefly referred to)—whose function it was to make advances to hard-pressed banks and other financial corporations including railroads, with the purpose of preventing receiverships on the part of those enterprises which (although presumably solvent) could not furnish the kind of paper which would render them eligible customers for rediscount accommodation at Federal reserve banks. The new enterprise worked at high speed, and before the close of the year had nearly 5100 banks as clients receiving relief while it had authorized loans amounting

RESOURCES AND LIABILITIES OF ALL REPORTING BANKS OTHER THAN NATIONAL  
[In millions of dollars]

	1926	1927	1928	1929	1930	1931	1932
Loans .....	22,623	23,348	24,397	26,575	25,572	21,987	17,792
Investments .....	9,972	10,861	11,624	10,692	11,056	12,385	11,026
Cash .....	636	643	572	521	523	515	453
Capital .....	1,860	1,902	1,931	2,169	2,145	1,982	1,748
Surplus and undivided profits .....	2,858	3,130	3,394	3,742	3,986	3,865	3,212
Deposits .....	81,789	32,893	33,544	34,316	33,885	31,800	25,972
Resources .....	39,577	41,550	43,066	44,732	44,903	42,566	34,877

CONGRESSIONAL DISCUSSIONS. Investigations made by the Banking and Currency Committee of the United States Senate, which had been begun the year previous, reached, at the beginning of 1932, a climax, with the completion by a subcommittee of that organization of a measure eventually introduced into the Senate accompanied by a favorable report presented by the chairman of the committee, of the so-called Glass bill (S. 4412). This bill aimed at the protection of the national bank, and federal reserve systems from the further development of the disastrous conditions that had been allowed to spring up under past management and supervision. The bill in question further sought to bring about a separation of the so-called "affiliates" from the parent banks which had been responsible for their establishment; and incidentally thereby undertook to end the practice of devoting so large a proportion of depositors' money to stock-market manipulations and transactions. Relations between banks and stock operators were more strictly controlled; and various provisions designed to safeguard the portfolios of national and member banks were prescribed. The bill further undertook the establishment of a national "liquidating corporation," whose mission it would be to purchase, at true

to nearly \$2,000,000,000 of which about two-thirds was for the assistance of banks and banking institutions generally.

In spite of these forms of relief, the economic condition of the country continued to be so unfavorable as to force repeated bank failures in great numbers, the total at the close of the calendar year being about 1453. While this figure represented a considerable reduction from the 2300 of the preceding year, the falling off was not sufficient to give warrant for a feeling that the real evils of the case had been met and the demand for real remedial measures continued. A widespread demand for some measure that would enlarge the supply of currency and so (it was erroneously presumed) enlarge the commodity structure led, just at the close of the session of Congress, to the hasty adoption of an amendment to the so-called "Home Loan Bank measure" whereby the national banking institutions were permitted to issue currency by extending for a period of three years the privilege of issue upon all bonds of the United States bearing 3½ per cent or less. The President in signing the home loan act stated his disapproval of the step so taken, but issues of notes under the new measure although theoretically possible up to about \$1,000,000,000 were actually issued

to the extent of only some \$143,000,000 during the year. They displaced about an equal amount of federal reserve notes but apparently had no effect in changing the total supply of notes in circulation. None of the discussions or measures initiated by the Comptroller's office, or by Congress, either relieved the real underlying situation or assisted the improvement of the banking position. As will be seen from the table furnished on a preceding page, the result of the operations of the year was nothing more than a steady decline of volume and profitableness of the national banks, even if we disregard the disastrous failure and receivership record made during the period. As seen from the table in question, the statement of national banks indicated a shrinkage of demand deposits by 21 per cent, of time deposits by 15 per cent, of loans and discounts by 21 per cent, with other items in corresponding proportions. Falling off of commercial paper loans, as shown for all member banks by the table already given, indicated conclusively the reduction of the volume of sound commercial business but it also, probably, reflected the unwillingness of many banks to assume any risk they could avoid, and hence their refusal to discount business paper which in former years they would gladly have accepted. The change in the composition of investment account from ordinary corporation issues to government bonds, in large measure, reflected the unwholesome tendency to reject ordinary securities, and to make the banks largely investors in the huge volume of public securities that was being poured forth by the Treasury in the endeavor to meet the deficit in the budget.

assets and not on numbers showed far less difference between the larger and smaller institutions than had previously been supposed. Among State and among national banks, there was a decided disposition to limit the accommodation extended to business firms and corporations, and to invest the assets of the several institutions in government securities and in acceptances, with a view to maintaining a theoretical liquidity, and so presumably safeguarding the institutions against possible "runs" from depositors.

**FEDERAL RESERVE BANKS.** These banks had, for a long time, been nearly cut off from member institutions, and after the organization of the Reconstruction Finance Corporation the Reserve institutions became practically isolated from the real every-day work of bank administration. Their activities tended, more and more, to fall into lines determined by the necessities of the Treasury, and their nominally commercial operations were designed with the relief of the Treasury always in mind. Since the money market had thus come to depend directly upon Treasury operations this state of affairs meant that the Reserve banks more than ever assumed the rôle of stock market auxiliaries but the unwillingness or inability of the community to go further into market transactions prevented the operations of Reserve institutions from assuming any importance, save in connection with the public financing. The only exception to this general statement was afforded by the remarkable movement of gold to foreign countries which had set in during the preceding autumn of 1931. After a brief respite, extending during January, 1932, the withdrawals of gold recommenced,

## WEEKLY STATEMENT OF REPORTING MEMBER BANKS

	Dec. 28, 1932	Dec. 21, 1932	Dec. 30, 1931
Loans and investments, total .....	\$18,804,000,000	— \$70,000,000	— \$1,728,000,000
Loans, total .....	10,297,000,000	— 71,000,000	— 2,807,000,000
On securities .....	4,815,000,000	— 16,000,000	— 1,462,000,000
All others .....	5,982,000,000	— 55,000,000	— 1,345,000,000
Investments, total .....	8,507,000,000	+ 1,000,000	+ 1,079,000,000
United States Government securities .....	5,207,000,000	— 29,000,000	+ 1,147,000,000
Other securities .....	3,300,000,000	+ 30,000,000	+ 68,000,000
Reserve with Federal Reserve Banks .....	2,049,000,000	+ 35,000,000	+ 216,000,000
Cash in vault .....	233,000,000	— 9,000,000	— 38,000,000
Net demand deposits .....	11,758,000,000	+ 31,000,000	— 119,000,000
Time deposits .....	5,656,000,000	+ 15,000,000	+ 242,000,000
Government deposits .....	399,000,000	+ 27,000,000	+ 47,000,000
Due from banks .....	1,710,000,000	+ 19,000,000	+ 717,000,000
Due to banks .....	3,304,000,000	— 5,000,000	+ 832,000,000
Borrowings from Federal Reserve Bank .....	67,000,000	+ 3,000,000	— 618,000,000

+ Increase. — Decrease.

**STATE BANKS AND TRUST COMPANIES.** In all these misfortunes, the national banks did not much differ from the conditions prevalent among the State banks and trust companies. The necessity of revaluing securities; and of writing off assets, was the same in its application to both systems; and the resulting influence upon their balance sheet position was nearly identical in the various groups of banks. Difficulty was conclusively seen to be not the result of types of legislation under which the banks were organized, but rather the outcome of business conditions and of general bad management in banking, without which no such débâcle could reasonably have been looked for. The differences between groups of banks were not those derived from legislative or organization conditions, but were rather geographical. Failures, on the whole, were more numerous in the West and South, and among small banks, rather than among large ones, though comparisons of failures based upon

stimulated by the unfortunate announcement made by the Reserve Bank of New York on January 12, that a general inflation policy was to be inaugurated. This emphasized the feeling of foreigners that there was danger; and heavy withdrawals of gold followed. By the close of June, practically all of the large foreign bank balances formerly kept in the United States, had been withdrawn; and the actual gold representing them, exported. The movement gave rise to fears at home, and considerable hoarding (once officially estimated at close to \$1,500,000,000) followed. This gold movement had, however, hardly come to an end, when conditions of international trade necessitated shipments to the United States and these culminated with the shipments made during December by Great Britain and other countries, for the purpose of providing a means for the settlement of the December installment of the international debts. By the close of the year, gold holdings were prac-

tically at peak for the twelve months, the entire withdrawals having been made up by new shipments, and the total on hand being thus about \$4,500,000,000. In all these transactions, the Reserve System played a passive rôle, keeping

management never reached a time when it was willing to proceed with such a policy. The position of the reserve banks as the result of the year's operations, is stated in the accompanying table.

TWELVE FEDERAL RESERVE BANKS COMBINED  
[In thousands of dollars—000 omitted]

RESOURCES			
	Jan. 4	Dec 28	Jan. 6, 1932
Gold with Federal Reserve agents	\$2,344,625	\$2,335,345	\$2,074,541
Gold redemption fund with U. S. Treasury	40,496	40,831	58,498
Gold held exclusively against Federal Reserve notes	2,385,121	2,376,176	2,133,039
Gold settlement fund with Federal Reserve Board	342,098	346,342	358,436
Gold and gold certificates held by banks	446,137	426,013	494,077
Total gold reserves	3,178,356	3,148,531	2,985,552
Reserves other than gold	179,928	173,322	178,635
Total reserves	3,358,284	3,321,853	3,159,187
Non-reserve cash	82,554	84,034	71,670
Bills discounted:			
Secured by U. S. Government obligations	71,219	77,760	451,987
Other bills discounted	179,883	189,622	365,979
Total bills discounted	251,102	267,382	817,966
Bills bought in open market	32,617	33,307	275,306
U. S. Government securities:			
Bonds	420,901	420,740	330,199
Treasury notes	296,414	286,419	30,549
Certificates and bills	1,133,595	1,133,578	405,197
Total U. S. Government securities	1,850,910	1,850,737	765,945
Other securities	5,218	5,649	29,094
Total bills and securities	2,189,847	2,157,075	1,888,311
Gold held abroad	61,128	72,638	..
Due from foreign banks	2,977	2,976	8,662
Federal Reserve notes of other banks	17,735	14,775	21,726
Uncollected items	458,654	356,736	475,253
Bank premises	53,844	58,212	57,770
All other resources	39,606	36,831	33,752
Total resources	\$6,209,629	\$6,105,130	\$5,716,331
LIABILITIES			
Federal Reserve notes in actual circulation	\$2,737,656	\$2,735,458	\$2,651,026
Deposits:			
Member bank—reserve account	2,514,451	2,481,674	2,036,072
Government	23,848	42,172	29,893
Foreign bank	18,853	19,053	64,645
Other deposits	30,224	20,339	38,809
Total deposits	2,587,376	2,563,238	2,169,419
Deferred availability items	438,053	348,639	451,516
Capital paid in	151,332	151,314	160,605
Surplus	278,599	259,421	259,421
All other liabilities	16,613	47,060	24,344
Total liabilities	\$6,209,629	\$6,105,130	\$5,716,331
Ratio of total reserves to deposit and Federal Reserve note liabilities combined	63 0%	62 7%	65.5%
Contingent liability on bills purchased for foreign correspondents	\$40,157	\$36,338	\$269,544

its discount rate low and doing nothing either to obstruct, or to encourage, the movement of gold. The position of the reserve system was, however, far more profoundly affected by the adoption of the inflation policy already referred to as having been announced in January. That announcement caused so much protest that the actual and effective application of the proposed plan had to be temporarily suspended, but the project was resumed as soon as possible, and during the spring months, was applied through the purchase of large quantities of government securities. In all, some \$1,000,000,000 had been acquired before June 30 giving the system a total holding of about \$1,900,000,000, the largest in the history of the system and correspondingly hazarding the rediscounting power of the reserve banks, while "freezing" their assets more or less completely. Although, during the latter part of the year, the idea of disposing of these securities was frequently under discussion, the reserve

BANK CREDIT. In spite of the constant effort to enlarge bank credit outstanding, in the erroneous hope that price advances would result, the year's operations had no such effect. Throughout 1932, the decline of total bank credit was quite steady. This was due to the combination of causes already enumerated, but the retirement of credit commitments was not confined to commercial loans. Notwithstanding that speculative credit, as reflected in brokers' loans, had already reached a low mark during the preceding year, the falling off continued. There was a brief period of temporary expansion when (for reasons which will be elsewhere set forth) the stock market had a transitory recovery during the summer months (see Article *Financial Review*). This recovery, however, proved merely a passing change, and the decline of loans continued, as shown in the accompanying table on page 88.

BANK FAILURES. Brief reference has already been made to the failure record of the national

## BROKERS' LOANS, 1932

January 30 . . . \$512,017,000	July 30 . . . \$241,599,000
February 29 . . . 524,663,000	August 31 . . . 331,699,000
March 31 . . . 533,103,000	September 30 . . . 379,801,000
April 30 . . . 379,016,000	October 31 . . . 324,702,000
May 31 . . . 300,397,000	November 30 . . . 337,612,000
June 30 . . . 243,574,000	December 31 . . . 347,000,000

banking system. The conditions in the latter, however, were more than paralleled by those in the State systems where the mortality of small institutions became enormous. Early in the year, the difficulties of a very large western institution caused serious anxiety throughout the nation, and during June, the difficulties in Chicago (where about 35 banks failed in a single month) caused apprehension of a general banking breakdown. The declaration of a "bank holiday" in Nevada during the autumn, with subsequent receivership of a large proportion of the State's banking institutions, were among the outstanding features of the year's record. These failures were, as already seen, only partially restrained or relieved by the work of the Reconstruction Finance Corporation, and considerable dissatisfaction with the work of the latter concern was accordingly generally felt and expressed. The favorable element in the situation was that the failures, numerous as they were, appeared to be the result of past conditions which were losing, rather than gaining, in strength; so that the year's developments were accompanied by less apprehension than those of the preceding twelvemonth.

The accompanying table reviews the history of the bank failures of 1932:

## BANK SUSPENSIONS

[Banks closed to public on account of financial difficulties by order of supervisory authorities or directors of the bank. Figures of suspensions include banks subsequently reopened]

Month	Number of banks					Deposits (in thousands of dollars)				
	1928	1929	1930	1931	1932	1928	1929	1930	1931	1932
January . . . . .	53	54	99	202	342	10,983	16,413	28,903	78,130	219,071
February . . . . .	50	60	85	77	121	18,352	21,746	32,800	35,123	57,237
March . . . . .	60	51	76	86	48	16,953	9,002	23,769	35,265	15,448
April . . . . .	43	29	96	64	74	8,190	7,790	33,388	42,417	51,613
May . . . . .	29	112	55	89	82	6,394	24,090	19,315	43,963	34,365
June . . . . .	28	48	66	167	151	13,496	19,219	70,566	195,951*	132,580
July . . . . .	24	69	65	93	132	5,368	66,161	32,333	41,334	48,564
August . . . . .	21	17	67	158	85	6,147	8,532	21,951	185,902	30,291
September . . . . .	20	39	66	305*	67	7,888	10,050	23,666	237,061*	18,515
October . . . . .	41	43	72	512	97	9,011	13,153	24,599	566,686	21,899
November . . . . .	72	68	254	169	95	24,784	22,646	186,306	83,409	46,322
December . . . . .	44	52	344	853	153	11,076	15,730	367,119	319,289	83,333
Year . . . . .	491	642	1,345	2,290	1,453	138,642	234,532	864,715	1,759,484	730,426

\* Revised.

**INTERNATIONAL RELATIONS.** International banking relationships during 1932 were predominantly in the public eye in connection with the unprecedented gold movement already referred to. There was, however, important progress in the adjustment of other conditions in which the United States was deeply concerned. Two meetings were held by the international bankers' committee which had been formed to oversee the process of collecting from Germany the balances due bankers and remaining unpaid at the time of the declaration of a moratorium in Germany in 1931. The German debtors continued to make moderate payments, reducing the amount of their total obligations; but the long delays, and the difficulties inherent in the mode of procedure led not a few holders of these obligations to consider the advisability of definitely funding them once and for all into long-

term obligations. At the close of the year, this problem was still under advisement, and another meeting of the creditors' committee immediately in prospect. More far-reaching in significance was the attempt of the United States to secure resumption of the payment of war debts which had been suspended by Congress at the request of President Hoover at the end of 1931 for twelve months to end on June 30, 1932. Inasmuch as no further installment payments were, however, due until December 15, 1932, the subject was allowed to rest until after election, when seven of the debtor countries made official request for release from further payments. President Hoover had no power to grant such release, and was obliged to refuse the requests so made. Payments accordingly were made on December 15 by six of the debtor countries, while the remaining debtors defaulted (including France). The result, as already noted, was to renew the movement of gold into the United States, while serious derangements of the course of sterling and franc exchange were necessarily a concomitant of the operation. Friction and mutual recrimination naturally accompanied these operations, and the result was a correspondingly unfortunate state of affairs with, if anything, less evidence of international coöperation in banking than had been true at the close of the preceding year, when the situation was the least satisfactory that had existed at any time for many years. A visit on the part of the Governor of the Bank of England to New York during August and early September, was understood to be intended for the purpose of renewing and improving banking relationships, and of laying the foundation for a

better understanding on the debt question, came to no result.

**BANTU.** See CONGO, BELGIAN; and SOUTH AFRICA, UNION OF.

**BAPTISTS.** In 1932 there were in the United States 14 groups comprised in the denomination known as Baptist, which maintains that baptism should be administered to believers only and generally by immersion. The first Baptist Church in America probably was established by Roger Williams in Providence, R. I., in 1638, although this honor is claimed by the First Baptist Church of Newport, R. I., organized the same year or shortly after. As a result of political differences, and particularly on account of the question of slavery prior to the Civil War, the Southern Baptists withdrew from the national organization in 1845, forming the Southern Baptist Convention, which, since that time, has functioned not as a



new denomination but as an organization for the purpose of directing missionary and general evangelistic work in the white Baptist churches of the Southern States. The National Baptist Convention, representing the Negro churches, was formed in 1880. Other divisions are known as Primitive, General, Regular, and United Baptists. The churches are congregational in polity, each church being sovereign as to its own discipline and worship. Applicants for the ministry are licensed to preach by the churches in which they hold membership.

**NORTHERN BAPTIST CONVENTION.** According to the *Annual of the Northern Baptist Convention*, 1932, this denomination was composed of 36 conventions in 35 States, and reported 414 local associations, 7919 churches, 8369 ordained ministers, 62,639 baptisms during the year, 1,445,615 members, 6537 Sunday schools, and 1,130,163 Sunday school pupils. Church property was valued at \$225,748,397, while contributions for current expenses amounted to \$20,535,513 and for beneficence to \$4,876,479.

The twenty-fifth annual meeting of the Northern Baptist Convention was held in San Francisco, Calif., July 12-17, 1932, the general theme being "Shall We Be Christians?" The keynote address was delivered by Dr. W. Q. Rosselle, pastor of the First Baptist Church of Malden, Mass. The 100th anniversaries of the American Baptist Home Mission Society and of the first singing of the hymn "America," written by a Baptist, the Rev. Samuel F. Smith, D.D., were celebrated. A campaign to raise \$500,000, supplemental to the regular budget, was launched, and new denominational objectives were provided. The officers elected for 1932 were: President, C. Oscar Johnson, D.D., St. Louis, Mo.; first vice president, Victor L. Duke, Redlands, Calif.; second vice president, Ray L. Hudson, Philadelphia, Pa.; corresponding secretary, Maurice A. Levy, D.D., Williamsport, Pa.; recording secretary, Clarence M. Gallup, D.D., Providence, R. I.; and treasurer, Orrin R. Judd, New York, N. Y. The next annual meeting was set for Washington, D. C., May 23-29, 1933.

In 1932 the Northern Baptist Convention maintained 54 educational institutions, including 10 theological seminaries, 5 training schools, 19 colleges, 6 junior colleges, and 14 academies. These institutions had 34,653 students, 2364 instructors, 573 buildings, property aggregating \$95,140,596 in value, endowments valued at \$137,551,505, and an annual income for the year of \$18,323,049. The leading denominational papers in 1932 were: *The Baptist* (Chicago); *Watchman-Examiner* (New York City); *Baptist Observer* (Indianapolis); *Baptist Banner* (Parkersburg, W. Va.); and *Baptist Record* (Pella, Iowa). In addition, most of the State conventions issued monthly bulletins, and the various foreign-speaking bodies in the United States published their own periodicals.

The foreign mission field of the Northern Baptist Convention included Assam, Burma, South India, Bengal-Orissa, South China, East China, West China, Japan, Belgian Congo, and the Philippine Islands, with 718 missionaries working at 126 stations. In 1932, churches numbered 3003 with 310,851 members; native workers, 10,721; Bible schools, 2856, with an enrollment of 116,232 pupils; and hospitals and dispensaries, 89, with a total of 22,949 in-patients and 313,248 out-patients. The field of the home mission so-

cieties included, in addition to the United States and its dependencies, Mexico, the West Indies, Central America, the Canal Zone, and South America. Their greatest activity was among the Negroes, Indians, and new Americans. The denomination maintained also six hospitals, the largest being the New England Baptist Hospital in Boston and the Northwestern Baptist Hospital in St. Paul, 20 homes for the aged, and 7 children's homes.

General headquarters of the denominational organizations are at 152 Madison Avenue, New York City, with the exception of the Home Mission Society, which is at 23 East Twenty-sixth Street, New York City, and the American Baptist Publication Society, which is at 1701 Chestnut Street, Philadelphia, Pa. The unified missionary interests of the denomination are administered by the Board of Missionary Cooperation; and the principal convention affairs are conducted by the executive and finance committees, together with some 25 other committees. Two other major boards of the denomination are the Board of Education, which cares for the work and property of the denominational schools and colleges, with assets of \$200,000,000, and the Ministers and Missionaries Benefit Board, which cares for the pension and emergency aid work for ministers, missionaries, and their dependents, with assets of \$20,000,000.

**SOUTHERN BAPTIST CONVENTION.** In the *Southern Baptist Handbook*, 1932, there were reported 18 State conventions, 23,806 churches, 22,634 ordained ministers, 211,253 baptisms during the year, 3,944,566 members, 21,004 Sunday schools, 2,952,910 Sunday school pupils, and 26,975 Baptist Young People's Unions with a membership of 546,948. Contributions totaled \$32,618,128, and church property was valued at \$217,066,775. The receipts of the boards of the convention in 1932 were as follows: Southern Baptist Foreign Mission Board (Richmond, Va.), \$805,578; Southern Baptist Home Mission Board (Atlanta, Ga.), \$458,390; Sunday School Board of the Southern Baptist Convention (Nashville, Tenn.), \$1,834,603; and Old Ministers Relief and Annuity Board (Dallas, Tex.), \$914,032.

The denomination maintained 78 schools and colleges, including five theological schools, 29 senior colleges, 24 junior colleges, and 20 academies, with a total enrollment of 29,268 students, 1601 ministerial students, and 1484 instructors; endowment amounted to \$22,410,505, and property was valued at \$38,358,133. It reported also 28 hospitals (two fostered by the Southern Baptist Convention and 26 by the State conventions), valued at \$13,880,330 and accommodating 82,894 patients during the year; 18 children's homes with a property value of \$6,098,409 and accommodating 4658 children; and three homes for the aged.

The annual session of the Southern Baptist Convention was held in St. Petersburg, Fla., May 13-16, 1932. The various boards and agencies of the convention showed still further declines in receipts for the year, bringing about a critical situation. To meet this situation still further emphasis was given to the work of the Promotion Committee of Southern Baptists, comprising 52 members and having temporary headquarters at Nashville, Tenn. The committee sponsored an "Every-Member Canvass" during Nov. 27-Dec. 4, 1932, with the objective of securing weekly subscriptions for \$40,000,000, of which amount

\$9,000,000 was to go to the support of the various missionary, educational, and benevolent enterprises of the convention, while the remainder was to care for the local work of the churches.

The following officers for the Southern Baptist Convention were elected: The Rev. F. F. Brown, D.D., of Knoxville, Tenn., president; the Rev. Arthur J. Barton, D.D., of Wilmington, N. C., the Rev. John R. Jester, D.D., of Winston-Salem, N. C., and the Rev. John W. Phillips, D.D. of Mobile, Ala., vice presidents; the Rev. Hight C. Moore, D.D., Litt.D., of Nashville, Tenn., and the Rev. Henry Burnett of Macon, Ga., recording secretaries; and the Rev. Austin Crouch, D.D., of Nashville, Tenn., executive secretary.

**NATIONAL BAPTIST CONVENTION OF AMERICA (NEGRO).** In 1932 the National Baptist Convention of America reported 1320 local associations and 52 State conventions affiliated with it either through direct messengers or representation by letter. There were 21,000 ordained ministers and a membership of 3,582,312. Of this number approximately 50,000 were added by baptism during the year. Organized Sunday schools had increased to 20,722, with an enrollment of 1,622,851 pupils. Contributions from all sources amounted to \$5,250,021. The 1932 session of the convention was held in Chicago, Ill., September 6-11. Headquarters of the National Baptist Publishing Board are at 523 Second Avenue, North, Nashville, Tenn.

**BAR ASSOCIATION, AMERICAN.** A national association, organized in 1878 to advance the science of jurisprudence, the administration of justice, harmony in legislation and in the observance of legal precedents throughout the United States, as well as to uphold the legal profession and promote good understanding among its members. The fifty-fifth annual meeting was held in Washington, D. C., Oct. 12-15, 1932, and was attended by more than 2400 delegates. Preceding the meeting there were held on October 10-11 sessions of the following sections: Criminal law and criminology; judicial; legal; education and admissions to the bar; mineral law; patent, trade-mark, and copyright law; public utility law; and also the forty-second annual conference of commissioners on uniform State laws.

Guy A. Thompson, the retiring president, in his address at the opening session entitled "The Lawyer, the Layman, and the Public Good," emphasized the importance of the part that each must play in the great task of making the administration of justice more speedy and certain and the foundations of our government more secure. President Hoover, in addressing the association at its evening session on October 12, praised the profession's contribution to "ordered liberty under law." He participated also the following day in laying the corner stone of the new building for the Supreme Court of the United States on Capitol Hill. On the latter occasion John W. Davis was spokesman on behalf of the bar of the Supreme Court and Chief Justice Charles E. Hughes on behalf of the court itself.

Judge Kimbrough Stone, in his address on "The Greatest Function of the Courts," stressed the activities of the Supreme Court in keeping inviolable the constitutional guarantees of the rights of individuals as the greatest function of that great tribunal. Atty. Gen. William D. Mitchell, in speaking on "Reform in Federal Criminal Procedure," gave an account of what

the administration had done to improve the efficiency of the judicial machinery. Hatton W. Sumner's address "Are We Observing the Natural Laws That Govern Governments?" analyzed with sturdy common sense, rare humor, and deep patriotic feeling the causes of our constant governmental failures and misadventures. Paul Reynaud, of the Paris bar, linked the bars of France and America together in their age-long struggle for the conquest of liberty and the organization of peace. The Marquis of Reading, former Lord Chief Justice of England, made the able address of a great lawyer and statesman who has seen much, has reflected much, and has played no small part in the great affairs of which he spoke.

Among the important resolutions adopted by the association was a protest against opposing confirmation of judges because of decisions based on established precedents. The association urged Congress, in further revisions of the Revenue Act of 1932, to endeavor to secure a larger proportion of the Federal revenue from forms of taxes less susceptible to sharp fluctuations than taxes on net income. The association's medal for distinguished service in the cause of American jurisprudence was awarded to John Henry Wigmore, dean emeritus of the Northwestern University law school.

The total membership of the association in 1932 was 30,000. The officers elected for 1932-33 were: Clarence E. Martin, of Martinsburg, W. Va., president; John H. Voorhees, of Sioux Falls, S. D., reelected treasurer; and William P. MacCracken, Jr., of Chicago, reelected secretary. Headquarters of the association are at 1140 North Dearborn Street, Chicago, Ill. See LAW IN 1932.

**BARBADOS**, bar-bā-dōz. A West Indian island colony of Great Britain, lying to the east of the Windward Islands, with an area of 166 square miles and a population at the census of 1921 of 156,312 (estimated Jan. 1, 1932, 173,674), or more than 1000 to the square mile. The capital is Bridgetown, with a population of 13,486. Births in 1931 numbered 4853 and deaths 4488. The 128 primary schools had 23,281 pupils registered in 1930.

The area under cultivation in 1930 was 67,682 acres, of which slightly more than half was devoted to sugar cane. Cotton is the other staple crop. The collapse of world prices of cotton and sugar resulted in severe distress in 1930 and 1931. Fishing and rum distilling are other industries. In the year 1931-32 total imports amounted to £1,488,969 and exports to £1,062,788; trade was chiefly with the United States, the United Kingdom, and Canada. Revenue for the fiscal year 1931-32 totaled £415,645; expenditure, £424,088; public debt, £663,000. A total of 1086 vessels aggregating 1,914,328 net tons entered the ports during the year 1931. A governor administers the affairs of the island with the assistance of an executive council, an executive committee, a legislative council of 9 members appointed by the King, and an assembly of 24 members elected annually by about 5200 registered electors. Governor and Commander-in-Chief, H. S. Newlands who assumed office in December, 1932.

**BARGA.** See MANCHURIA; MONGOLIA under History.

**BARLEY.** The world's barley production in 1932 made a marked recovery from the low yield of the preceding year. The production for the year of 37 countries according to estimates re-

ported by the International Institute of Agriculture was 1,390,459,000 bushels as compared with 1,165,610,000 bushels in 1931. This increase of 225,049,000 bushels was over 19 per cent above the preceding crop and 6.5 per cent greater than the average production for the five years 1926-1930. As estimated the countries listed devoted 59,026,000 acres to barley which was 2.4 per cent above the acreage in 1931 and 2.9 per cent above the average annual acreage for the five-year period. These estimates did not include the Soviet Republics, China, several of the smaller barley-producing countries of Europe, and some of the countries of the southern hemisphere. The production of the leading countries not including the United States was reported as follows: Germany 147,653,000 bushels, Spain 127,267,000 bushels, Canada 82,981,000 bushels, Rumania 82,216,000 bushels, Japan 77,744,000 bushels, Poland 70,607,000 bushels, and Czechoslovakia 69,121,000 bushels. For five years, 1926 to 1930, the U.S.S.R. produced an annual average of 271,024,000 bushels. In the crop year 1931-1932, Argentina, ranking first in barley production in the southern hemisphere, yielded 22,125,000 bushels. The Argentine barley area for the 1932-1933 crop was reported as 1,520,000 acres and the production estimated at 32,151,000 bushels.

Estimates published by the Department of Agriculture placed the barley crop of the United States in 1932 at 299,950,000 bushels as compared with 198,399,000 bushels in 1931 when the crop was greatly reduced by drought. This production was exceeded only in 1931 and 1928. The area harvested in 1932, 13,213,000 acres, was about 16 per cent greater than in 1931 and only 2 per cent below the record acreage of 1929. The increases in acreage were most marked in the West North Central and the Western States especially in North and South Dakota where in 1931 due to drought a large acreage was abandoned. The barley acreage of the United States has nearly doubled during the past ten years. The average yield of 22.7 bushels per acre was about the same as the average for the ten years 1919-1928. The production of the leading barley growing States was reported as follows: South Dakota 47,630,000 bushels, Minnesota 47,232,000 bushels, North Dakota 39,638,000 bushels, and California 39,249,000 bushels. Of the 35 States reporting barley production these States produced over half of the country's harvest. During the fiscal year ended June 30, 1932, the United States exported 5,084,000 bushels of barley, or less than half the quantity shipped abroad the preceding fiscal year.

**BARNARD COLLEGE.** See COLUMBIA UNIVERSITY.

**BASEBALL.** The 1932 major league baseball season, despite the lack of ready cash shown by customers, was extremely successful and one of the most exciting in years. It was marked by the return to power of the New York Yankees, after a four-year lapse, the retirement of John McGraw, long-time manager of the New York Giants and almost legendary figure in the game, and the terrific home run pounding of Jimmy Foxx, first baseman of the Philadelphia Athletics, among other happenings. The Yankees virtually spread-eagled the field in the American League and the end of the season found them thirteen games ahead of the second-place Athletics. The Yankees, managed by Joe McCarthy and led by Babe Ruth and Lou Gehrig, two of the most devastating hit-

ters baseball has ever known, then proceeded to maul the Chicago Cubs, representatives of the National League, in four straight games to compile more records. The fourth World Series victory in 1932 was the twelfth consecutive for the Yankees and marked the third consecutive Series in which they had figured that they swept in four straight games. They had accomplished the feat in 1927 and 1928 under the management of the late Miller Huggins. The Yankees showed superiority over the Cubs at all times and the Chicago team never had a chance to display the fire and spark that had distinguished its work in the National League throughout August and September. Ruth and Gehrig were the individual stars of the series, batting with their usual vigor and making life generally miserable for the Chicago pitchers. Vernon (Lefty) Gomez, Johnny Allen, and Charley Ruffing, Yankee pitchers, were supreme.

All the interest in the pennant races was focused on the National League race, which was tight all the way, and the home run hitting of Foxx, who threatened Ruth's record of 60 in a season. Foxx eventually finished with 58. From the outset the National League race was a series of surprises. One was the complete collapse of the highly touted New York Giants, then the retirement of McGraw and the subsequent appointment of Bill Terry, the club's first baseman as manager. Then came the tight race. Pittsburgh's Pirates were always in the thick of the race, leading at the July Fourth mark, but finished second. Brooklyn's Dodgers, managed by Max Carey, were always well up, staging a determined spurt in the latter part of the season but slipping at the end and finishing third. The St. Louis Cardinals, 1931 world champions, never got started and finished tied for sixth with the Giants. The Cubs were floundering along until August 2, when Rogers Hornsby, manager, was unceremoniously deposed and Charley Grimm, the Cub's first baseman, given the post. From that moment the Cubs played excellent ball. At the end of the season the much-traded Hornsby was hired by the St. Louis Cardinals and was scheduled to play in the infield for them in 1933.

Dale Alexander, who started the season with the Detroit Tigers and wound up with the Boston Red Sox, captured the American League batting championship with an average of .367. In the National League, Frank O'Doul of the Dodgers won with .366. Mel Ott of the Giants and Chuck Klein of the fourth place Phillies tied for home run honors in the National League with 38 apiece. Lon Warneke, youthful Chicago righthander, was the best pitcher in the National League, and Lefty Grove of the Athletics and Johnny Allen of the Yankees split honors in the American league. One of the features of the year was the hitting of four home runs in one game by Lou Gehrig of the Yankees at Philadelphia, June 3, the same day that McGraw resigned. The feat had only been performed twice before, back in the dim days by Bob Lowe and Ed Delahanty.

Major League baseball felt the depression and plans were made at the end of the season to cut salaries, cut admission prices, eliminate radio broadcasting of games in the hope of attracting more customers. The attendance on all the circuits fell off a great deal and the world series was not played to capacity either at New York or Chicago. One bright spot was July 31, when the second largest crowd in the history of base-

ball, 80,285 persons watched Cleveland and Philadelphia play at the opening of the new Cleveland Municipal Stadium.

Colonel Jacob Ruppert, owner of the New York Yankees, had another winner in his New York Bears, champions of the International League and winner of the Little World Series by beating the Minneapolis Millers, pennant winners in the American Association. Chattanooga won the Southern League pennant, Beaumont won the Texas League flag. Wilkes-Barre finished first in the New York-Pennsylvania League, and Charleston topped the Middle Atlantic. Tulsa defeated Oklahoma City in the Western League play-off and in the Pacific Coast League Portland won its first pennant in 18 seasons. Greensboro beat Charlotte in the Piedmont play-off and Rock Island led Davenport in the Mississippi Valley League. The Eastern League disbanded after playing half the schedule.

In college baseball Fordham University in New York had the strongest team in the East, defeating all the other major nines mainly because of the perfect pitching of Ken Auer. Yale, topped by Fordham, won the Eastern Intercollegiate League title, beating Columbia out for that honor. Indiana University won Big Ten Conference honors in the mid-West.

**NECROLOGY.** Among those who died in the baseball world during the year were: William Wrigley, Jr., President of the Chicago Cubs of the National Baseball League; Barney Dreyfuss, president of Pittsburgh Pirates of the National Baseball League; Dan Brouthers, former member of the old Baltimore Orioles baseball team; and Bozeman Bulger, nationally known sports writer.

**BASKETBALL.** The most important 1932 event in basketball was the changing of the rules for the 1932-1933 season, with an eye to making the game more pleasing to the casual spectator and taking away the scientific that had all but usurped the game. In late years such teams as St. John's College of Brooklyn, coached by James (Buck) Freeman and College of the City of New York coached by Nat Holman, have displayed a legerdemain that was uncanny based on scientific offenses and defenses that invariably slowed up the game for the watchers. Eventually there were protests in the form of a slight falling off in attendance, and the rules makers convened. The result was a rule doing away absolutely with back court stalling by means of 10 second rule whereby the offensive team must move the ball beyond the centre line within ten seconds after getting possession of it. The other important change virtually eliminated the pivot play. According to the new rule a player may hold the ball in a pivot for only three seconds or forfeit possession of the ball.

The standard of play in the East in the latter part of the 1931-32 season was not up to the standard of other years. College of the City of New York and Princeton were the two outstanding fives with St. John's and Upsala close up. College of the City of New York won 16 of 17 games. Princeton toppled Columbia from the top of the Eastern Intercollegiate League after the Lions had ruled for two years. Princeton and Columbia finished the season tied for first place with eight victories and two defeats each. In the play-off, the Princeton sophomores vanquished Columbia, 38 to 35.

Purdue won the Big Ten title in the middle

West, displacing Northwestern. The Boiler-makers had the best team in their history, winning 11 of 12 conference games. Creighton University was supreme in the Missouri Valley Conference and the University of Kansas five had things its own way in the Big Six. The University of Georgia won the Southern Conference tournament by downing North Carolina in the final, after Kentucky and Maryland had topped the league through the season, with nine victories and one defeat each. The University of California took the honors in the Pacific Coast Conference, Baylor topped the Southwest Conference and Wyoming was best in the Rocky Mountain group.

The Henry Clothiers of Wichita, Kansas, won the National Amateur Athletic Union tournament at Kansas City for the third consecutive year.

**BASQUE PROVINCES.** The four Spanish Provinces of Guipúzcoa, Navarra, Alava, and Vizcaya (Biscay), adjoining France at the angle of the Bay of Biscay. With an area of 6794 square miles, the Basque Provinces had an estimated population of 1,193,780 on Jan. 1, 1931. The leading cities are Bilbao (153,630), San Sebastian (80,062), Victoria (37,274), and Pamplona (33,295). Sea fisheries, iron mining, and agriculture are the principal industries. For political developments in 1932, see the article on SPAIN under *History*.

**BATES COLLEGE.** A nonsectarian college for men and women in Lewiston, Me., founded in 1864. The enrollment for the autumn term of 1932 was 698, of whom 424 were men and 274 were women. In the 1932 summer session there was a total of 262 students, of whom 135 were men, and 127, women. The faculty and administrative officers numbered 57. The permanent funds amounted to \$1,862,000; total expenditures for the fiscal year were \$309,127; and the budget involved an appropriation of \$310,320. The library contained approximately 62,338 volumes. President, Clifton Daggett Gray, Ph.D., LL.D.

**BATTLESHIPS.** See NAVAL PROGRESS.

**BAUER, LOUIS A (GRICOLA).** An American physicist, died in Washington, D. C., Apr. 12, 1932. He was born in Cincinnati, O., Jan. 26, 1865. On his graduation from the University of Cincinnati in 1888 he was appointed astronomical and magnetic computer for the U. S. Coast and Geodetic Survey. In 1893 he returned to the University of Cincinnati for graduate study. He attended also the University of Berlin, from which he received the Ph.D. degree in 1895. During 1895-96 he was instructor in mathematical physics at the University of Chicago. He was then called to the University of Cincinnati, where he was instructor in geophysics during 1896-97 and assistant professor of mathematics and mathematical physics during 1897-99. He acted also during 1896-99 as chief of the division of terrestrial magnetism of the Maryland Geological Survey. After 1899 he was lecturer in terrestrial magnetism at Johns Hopkins University. He served as chief of the terrestrial magnetism division of the U. S. Coast and Geodetic Survey from 1899 to 1906, and held the same position with the Carnegie Institution of Washington from 1904 until his retirement in 1929. In the latter capacity he directed the various expeditions made during 1909-29 by the institution's non-magnetic ship *Carnegie* in a

world-wide survey of the earth's magnetic field.

During the World War Dr. Bauer was chairman of the committee on navigation and nautical instruments of the Council of National Defense, and continued after the war as a member of the National Research Council. As U. S. delegate he attended various European meetings of the International Research Council and the International Geodetic and Geophysical Union, being president of the latter during 1927-30. He served also as chairman of the American Geophysical Union during 1922-24. In 1905 he received from the Royal Academy of Sciences, Letters, and Arts of Belgium the Charles Lagrange prize. He was made a commander (2d class) of the Order of St. Olav of Norway, and was a fellow of the American Association for the Advancement of Science, the American Academy of Arts and Sciences, and the American Geographical Society. He was also founder and editor, from 1896 to 1928, of *Terrestrial Magnetism and Atmospheric Electricity*. His works include: *Beiträge zur Kenntnis des Wesens der Sacularvariation des Erdmagnetismus* (1895); *Vertical Earth-Air Electric Currents* (1897); *United States Magnetic Table and Magnetic Charts for 1905* (1908); and *Land-Magnetic Observations, 1905-10* (1913).

**BAUER, MARIUS ALEXANDER JACQUES.** A Dutch etcher and oil and water-color painter, died in Amsterdam July 18, 1932. He was born at The Hague Jan. 25, 1864, and received his education in art at the Academy there. All his work showed originality and vigor, but he won special fame as an etcher, being proclaimed the greatest and most individual Dutch etcher since Rembrandt. The subjects of his etchings were mostly scenes of Oriental life, based on his travels in Turkey, Egypt, and India. Among these are: "Procession"; "Queen of Sheba"; "Aladdin"; "Ali Baba"; "Morning on the Ganges"; and "The Persian Feast." He illustrated also the *Arabian Nights* and romantic literature of the East by various European authors.

**BAVARIA.** A constituent state of the German Republic; formerly a kingdom within the German Empire. Area, 29,334 square miles (excluding the Saar); population (1925), 7,379,594. Chief cities: Munich, the capital, had a population of 685,036 in 1925; Nuremberg, 393,202; Augsburg, 165,522; Ludwigshafen, 101,869. In 1930, births numbered 149,008, deaths, 92,221; marriages, 61,187. Education is compulsory between the ages of 6 and 16. The public elementary schools in 1930 numbered 7740 with 842,188 pupils.

Agriculture and mining are the chief industries. About one-half the total area is under cultivation, the principal crops in 1930 with yields in metric tons were: wheat, 541,812; rye, 681,950; oats, 595,638; barley, 595,370; potatoes, 6,143,027. The wine yield was 17,671,038 gallons. The mineral output in metric tons was: Coal, 2,202,276; iron ore, 575,773; pig iron, 290,650; cast iron, 164,348; sulphuric acid, 304,067.

The Diet (Landtag), following the election of May 20, 1928, was constituted as follows: Bavarian People's party, 46; Social Democrats, 34; National Socialists, 9; German Nationalists, 13; Bavarian Peasants' and Middle-Class Union, 17; German People's party, 4; Communists, 5. Premier, Dr. H. Held (Bavarian People's party). See GERMANY under *History* for 1932 elections.

**BAYREUTH-WAGNER FESTIVAL.** See MUSIC.

**BAZIN, bâ'zân', RENÉ FRANÇOIS NICOLAS MARIE.** A French novelist, died in Paris, July 20, 1932. Born in Angers, Dec. 26, 1853, he studied law in Paris and in 1878 became professor of criminal law at the Catholic University of Angers. As a novelist he won fame for his stories laudatory of provincial life and the domestic virtues. These include: *Stéphanette* (1884); *Une Tache d'encre* (1888, crowned by the French Academy); *Les Noëlets* (1890); *Madame Corentine* (1893); *Humble amour* (1894); *De toute son Ame* (1897); *La Terre qui meurt* (1899); *Les Oberlés* (1901); *Donatienne* (1903); *L'Isolé* (1905); *Le Blé qui lève* (1907); *La Closerie de Champdolent* (1917); *Les nouveaux Oberlés* (1919); *Le conte du triolet* (1924). He is best known to English and American readers by *Les Italiens d'aujourd'hui* (1894; Eng. trans., 1904), a careful and sympathetic study. Among his other travel books are *L'Aventure* (1891); *Stoile* (1893, crowned by the French Academy); *Terre d'Espagne* (1895); and *Croquis de France et d'Orient* (1901). *Fils de l'église* (1927) is a history of the Roman Catholic Church. In 1903 he was elected to the French Academy. He was also an officer of the Legion of Honor.

**BEAUX-ARTS INSTITUTE OF DESIGN.** A school of fine arts in New York City, planned after the École des Beaux-Arts in Paris. It was organized in 1916 by the Society of Beaux-Arts Architects for the purpose of furnishing "instruction in the arts, under the Regents of the State of New York, at a minimum cost to students, to bring art students under the criticism of artists who are engaged in active practice, to carry students beyond the academic study of the arts into the province of their application and practice, and to bring about coöperation among the various art schools of the country." Working under the auspices of the institute during the year 1931-32 were 2500 architectural students, 160 students of sculpture, and 114 students of mural painting.

Prizes in architecture, sculpture, and mural painting are offered to students throughout the United States. During the year 1931-32, the committee on education in the department of architecture conducted 36 competitions for the study of architecture and six for the study of archaeology. The most important of the various prizes and scholarships offered to students through the institute is the Paris Prize amounting to \$3600, given by the Society of Beaux-Arts Architects, which affords two and one-half years' study in architecture at the École des Beaux-Arts in Paris. There is also the Paris Prize in Sculpture, representing a scholarship of \$1200 for one year's study in Paris.

The institute issues a monthly *Bulletin*. The officers elected at the annual meeting in November, 1932, were: Director, Whitney Warren; secretary, Henry R. Sedgwick; director of architectural department, Ely Jacques Kahn; director of department of sculpture, Edward McCartan; director of department of mural painting, Hildreth Meiere; chairman of the board of trustees, Benjamin W. Morris; vice chairman, William Adams Delano. Headquarters are at 304 East Forty-fourth Street, New York City.

**BECHUANALAND PROTECTORATE,** bëch'öö-ä'-ná-länd'. A British protectorate in South Africa. Area, about 275,000 square miles;

population (census of 1921), 152,983, including 1743 Europeans. Cattle rearing and primitive agriculture are the chief occupations. Gold and silver mined in 1930-31 was valued at £8414. Revenue in 1930-31 amounted to £148,511; expenditure to £154,922. The colony is administered through the native chiefs by a resident commissioner under the High Commissioner for South Africa. Resident Commissioner in 1932, Lieut.-Col. C. F. Rey.

**BEECHAM, SIR THOMAS.** See MUSIC.

**BEEF.** See LIVESTOCK.

**BEE.** See PROHIBITION; UNITED STATES under *Seventy-Second Congress, Second Session.*

**BEETLES.** See ENTOMOLOGY, ECONOMIC.

**BEEF SUGAR.** See SUGAR.

**BEHAVIORISM.** See PSYCHOLOGY.

**BELGIAN CONGO.** See CONGO, BELGIAN.

**BELGIUM.** A kingdom of Western Europe, situated between France and the Netherlands. Capital, Brussels; reigning monarch since 1909, Albert I.

**AREA, POPULATION, ETC.** The total area, including the districts of Eupen and Malmédy, which were ceded to Belgium by the Treaty of Versailles, is 11,755 square miles. According to the census of Dec. 31, 1930, the total population was 8,092,004, as compared with 7,465,782 at the census of Dec. 31, 1920. The movement of population in 1930 was: Births, 151,406 (146,206 in 1929); deaths, 107,468 (120,782); excess of births over deaths, 43,938 (25,424); marriages, 71,624 (71,811); emigration, 29,567 (29,161); immigration, 54,409 (55,595). Of the 1930 emigration 25,939 went to European countries and 3618 to other than European countries. Foreigners in Belgium in 1930 included 12,749 Germans, 70,201 French, 64,079 Dutch, 11,532 British, 48,840 Polish, and 34,890 Italians; total foreign population, 316,982 (149,677 in 1920). The estimated populations of the leading cities on Dec. 31, 1930, were: Brussels (with suburbs), 839,581; Antwerp (Anvers), 294,902; Ghent (Gand), 169,322; Liège (Lüttich), 166,820.

**EDUCATION.** On Dec. 31, 1930, there were 871,172 pupils in 8504 primary schools, 248,936 pupils in 3928 infant schools, 40,969 pupils in 1449 elementary adult schools, 48,373 pupils in 221 secondary schools of various descriptions, and 10,364 students in the four Universities at Brussels, Louvain, Ghent, and Liège. Ghent and Liège are state universities. The Ghent institution became a Flemish university in October, 1930.

**PRODUCTION.** Agriculture, mining, and manufacturing are equally important factors in the national economy, enabling Belgium to support one of the densest populations in Europe. Considerable foodstuff is imported. Arable land in 1930 totaled 3,044,000 acres, or 40 per cent of the total area; permanent meadows and pastures, 1,314,000 acres; orchards, 168,000 acres. Livestock in the same year included 1,759,000 cattle, 1,250,000 swine, and 246,000 horses employed in agriculture. Production of the chief crops is shown in the accompanying table.

There were 155,054 workmen employed in the mining and metallurgical industries in 1931. The output of these industries for the year, in metric tons, with 1930 figures in parentheses, was: Coal, 27,035,270 (27,405,560); briquettes, 1,850,330 (1,875,040); coke, 4,931,060 (5,364,000); pig iron, 3,231,580 (3,393,540); wrought iron, 62,880 (122,370); steel, 3,056,450 (3,270,680); wrought steel, 2,350,600 (2,793,060); crude zinc,

## BELGIUM'S CROPS: AREA AND PRODUCTION

Crop	Area <sup>a</sup>		Production <sup>b</sup>	
	1930	1931	1930	1931
Wheat . . . . .	411	381	13,286	13,817
Rye . . . . .	574	558	18,680	20,483
Barley . . . . .	84	70	8,825	3,552
Oats . . . . .	674	729	88,223	48,384
Potatoes . . . . .	402	425	108,547	131,425
Sugar beets . . . . .	140	128	1,865 <sup>c</sup>	1,466 <sup>c</sup>
Beet sugar <sup>d</sup> . . . . .	...	...	278 <sup>c</sup>	205 <sup>c</sup>
Fodder beets . . . . .	200	208	6,215 <sup>c</sup>	5,328 <sup>c</sup>
Flax . . . . .	56	36	32,499 <sup>c</sup>	25,370 <sup>c</sup>
Linseed . . . . .			417	326
Tobacco . . . . .	7	7	15,387 <sup>c</sup>	14,469 <sup>c</sup>
Clover and lucerne (sown) . . . . .	327	324	664 <sup>c</sup>	862 <sup>c</sup>

<sup>a</sup> Thousands of acres. <sup>b</sup> Thousands of units—bushels except as indicated. <sup>c</sup> Unit, metric ton. <sup>d</sup> Seasons ended following year. <sup>e</sup> Unit, pound.

205,144 (in 1930). The above figures are provisional. Sugar refining, distilling, brewing, and the manufacture of margarine, vinegar, matches, glass, artificial silk, motor-cars, and lace are other leading industries. Belgian industry was seriously depressed in 1932, the number of unemployed totaling 352,000 at the end of May, compared with 167,000 on June 30, 1931.

**COMMERCE.** The foreign trade of Belgium and Luxemburg, which are united in a Customs union, continued to decline during 1931 and 1932. Imports fell to 23,741,944,000 paper francs in 1931 from 30,921,749,000 in 1930, while exports declined to 23,126,479,000 paper francs from 26,249,045,000 in 1930 (paper franc equalled \$0.0278 at par). The 1931 imports were divided by value of main commodity classes as follows: Raw materials, 10,858,148,000 francs; manufactures, 7,095,781,000 francs; foodstuffs and beverages, 5,670,625,000 francs. Exports comprised: Manufactures, 13,009,596,000 francs; raw materials, 7,887,870,000 francs; foodstuffs and beverages, 2,015,205,000 francs.

**FINANCE.** Results of budget operations since 1926, together with the estimates for 1931 and 1932, are shown in the accompanying table from *Commerce Reports*, June 27, 1932.

## BELGIAN BUDGET RESULTS [In millions of francs, par value = \$0.0278]

Year	Revenues (excluding loans)	Expenditures	Surplus (+) or deficit (-)	Proceeds of funded loans
1926 . . . . .	11,476	15,395	-8,919	8,744 <sup>a</sup>
1927 . . . . .	10,695	9,286	+1,409	442
1928 . . . . .	12,141	10,747	+1,394	807
1929 . . . . .	13,595	12,281	+1,314	181
1930 (preliminary) . . . . .	11,137	13,072	-1,935	741
1931 (estimates) . . . . .	11,635	12,647	-1,012	1,185
1932 (proposed) . . . . .	10,887	11,144	-257	( <sup>b</sup> )

<sup>a</sup> Including stabilization loan.

<sup>b</sup> A 2,000,000,000-franc loan was authorized.

The 1932 budget proposals anticipated an increase in tax receipts of 600,000,000 francs over the estimated receipts for 1931, due to higher tax rates imposed in July, 1931. General reductions in expenditure were provided for, particularly in the national defense and public works items. Provisional returns indicated a deficit for the year of 2,260,000,000 francs, as compared with a deficit of 1,523,000,000 francs in 1931.

The public debt on Sept. 30, 1931, stood at 52,384,000,000 francs (about \$1,456,275,000), as compared with 51,968,000,000 francs (about \$1,445,000,000) on Sept. 30, 1930. Of the total in 1931, 51,614,000,000 francs represented the funded debt (internal, 25,891,000,000; external,

25,723,000,000) and 770,000,000 francs the short-term internal debt.

**COMMUNICATIONS.** The Belgian system of interior communications in 1932 comprised 3168 miles of standard-gauge railways, 2876 miles of narrow-gauge, 282 miles of tramways, 1035 miles of navigable waterways, and 3726 miles of bus lines. In addition, there were about 497 miles of airways operated by Sabena, the Belgian commercial air-navigation company. In 1931 the Superior Council of Transports was established to study the coördination of these various services. Most of the railways are state owned, but since 1926 have been operated by a private company. Total railway receipts in 1931 were 3,085,200,000 francs and expenditures 3,022,200,000 francs. The Sabena company was scheduled to open an air service between Antwerp, Brussels, and the Belgian Congo commencing Oct. 1, 1932.

**GOVERNMENT.** Belgium is a constitutional, representative, and hereditary monarchy. Executive power is in the King, acting through a responsible ministry; legislative power is in the King and two chambers, namely, the Senate and House of Representatives. The former is elected partly by direct and partly by indirect vote of the people, the number being proportioned to the population of each Province. Those elected indirectly are chosen by the provincial councils. Following the election of May 26, 1929, the composition of the Senate was: Catholics, 71; Socialists, 56; Liberals, 23; Frontists, 4. The Chamber of Deputies was composed as follows: Catholics, 77; Socialists, 70; Liberals, 28; Frontists (Flemish autonomist party), 11; Communists, 1. The Ministry, as reorganized June 5, 1931, represented a coalition of the Catholic, Liberal, and Christian Democratic parties. Its leading members were: Prime Minister and Minister of Finance, Jules Renkin (Catholic); Foreign Affairs, Paul Hymans (Liberal); Justice, Fernand Cocq (Liberal).

### HISTORY

**THE LANGUAGE DISPUTE.** The bitter language dispute between French- and Flemish-speaking Belgians was again the chief political issue before Parliament. After an extended controversy, involving the reorganization of the Renkin Cabinet, a law settling the problem at least temporarily was passed by Parliament on July 18. It provided that the official language and that of instruction in the schools should be Flemish exclusively in Flemish-speaking Provinces and French exclusively in the Walloon Provinces. The region of Greater Brussels and the German-speaking districts of Eupen and Malmédy were excepted from the application of the law. The measure made a second language obligatory in secondary schools and provided that elements of a second language might be taught in primary schools. It was recognized, however, that its effect would be to eliminate the French language from Flanders, where it had been employed by officials, the upper classes, and in the schools for generations.

The measure as enacted was substantially the same as that presented before the Chamber on January 20 by the Government, and passed by the Chamber on March 2. In the Senate, however, strong opposition developed to the complete subordination of French to Flemish in Flemish Provinces. Embarrassed by the uncompromising stand of the Flemish Democrats, which made it

difficult for the ministry to keep its promises to the French-speaking section of the Liberals, Prime Minister Renkin and his colleagues resigned on May 17 without waiting for an adverse vote. On May 23 M. Renkin formed a new cabinet, which included only three new ministers, and resumed negotiations, with eventual success. The three new ministers represented the Liberal, Christian Democrat, and Flemish Right parties, respectively. The Prime Minister on May 25 pledged his administration to a linguistic settlement that would satisfy all parties as well as to a programme of financial rehabilitation, peace, and disarmament with security.

**FINANCIAL AND TARIFF MEASURES.** Earlier in the year the Government found itself in difficulty over the prospective deficit in the 1932 budget of 1,200,000,000 francs (about \$33,000,000) due to the deepening of the economic depression. The Prime Minister took over the Finance portfolio from Baron Houtart and on March 17 secured the adoption of a finance reform measure under which all budgetary expenses were reduced 10 to 15 per cent—a saving of \$18,210,000—and taxes increased in the same ratio, yielding an additional \$15,123,000. Despite this balancing of the budget, the prospect of financial emergencies caused the Renkin Government to ask for special powers during the Parliamentary recess commencing July 20. The party leaders, however, refused to surrender their prerogatives and it was decided to call Parliament in special session.

The Chamber, in special session, approved (September 7) the issuance of a \$42,000,000 long-term loan and authorized the Government to issue Treasury bonds equivalent to \$1,400,000, renew \$1,000,000 of Treasury bonds maturing October 1, and float another foreign loan to re-equip the state telegraph and telephone service. The Socialists opposed the latter project, calling for a referendum by the country. The Renkin Cabinet was forced to resign in October and Count Charles de Broqueville on October 22 formed a coalition ministry of Catholics and Liberals to hold office pending new elections.

In March, Parliament confirmed the higher tariff schedule placed in operation three months earlier on various imports, particularly on foodstuffs. On June 20, the Government reversed this tendency by signing with the Netherlands and Luxemburg one of the first tariff-reduction treaties in tariff-ridden Europe. The treaty pledged the three countries to impose no new duties upon each others' goods and to lower existing rates 10 per cent annually until a certain level had been reached. The agreement frankly abandoned most-favored-nation treatment, but was open to adhesion by any other state. Belgium's participation was attributed partly to resentment at the French quota system, which had seriously restricted Belgian exports to that country.

**THE ELECTIONS.** National elections were held November 27 to fill 96 seats out of the 154 in the Senate and all of the 187 seats in the Lower Chamber. Both Catholics and Socialists gained at the expense of the Liberals, who lost four seats in the Chamber. The Frontist party, standing for the autonomy of Flanders, lost three seats, while the Communists gained two. However the balance of power was unchanged by the election and the Catholic-Liberal coalition remained in office, controlling 103 votes in the Chamber against 84 for the Opposition.



**CABINET AND DEBT CRISIS.** There was much dissatisfaction among the Liberals at their losses in the election, which they attributed in part to their collaboration with the Catholics. Accordingly, the early resignation of the Broqueville Cabinet was predicted. The expected resignation occurred on December 13, the Cabinet seizing upon its refusal to meet the December 15 war-debt payment due the United States government as a favorable issue on which to hang its withdrawal. On November, 10, 11, and 15, the Belgian government dispatched notes or memoranda to Washington urging "a reëxamination of the problems arising from the inter-governmental debts." Informed that Washington expected the December 15 payment of \$2,125,000 to be made, the Cabinet on the 13th drafted a note announcing its intention to default but offering its collaboration in "seeking a general settlement of inter-governmental debts and of the other problems arising from the depression." The default was defended on the ground that Belgium, by accepting the Hoover moratorium of 1931 and the Lausanne agreement of 1932 (see REPARATIONS AND WAR DEBTS), had "sacrificed a credit which was guaranteed to her by the most solemn engagements, and which constituted an essential element for the balancing of her public finances. This sacrifice . . . , added to the effects of the general paralysis of economic activity, has brought (Belgium) face to face with the most serious financial difficulties."

The King asked Count de Broqueville to form a new Cabinet and on December 17 the latter presented the following list, representing another Catholic-Liberal coalition: Premier, Count Charles de Broqueville; Foreign Affairs, Paul Hymans; Finance, Henri Jasper; Interior, Prosper Poullet; Defense, Albert de Veze; Social Welfare and Health, Carton de Wiart; Labor, Philippe van Isacker. MM. Hymans, Jasper, and Poullet were holdovers. On December 23, the Cabinet received a vote of confidence, 100 votes to 80. For the remainder of the year, the ministry was engaged mainly in plans for balancing the 1933 budget. On December 26, it announced a project for effecting a saving of \$12,000,000 by reducing the salaries of officials and military and old-age pensions.

**OTHER DEVELOPMENTS.** Proposals for compensating the National Bank for its losses due to the depreciation of sterling in 1931 and for revision of the so-called "blue laws" preventing the sale of strong alcoholic beverages in hotels, cafés, and restaurants were considered by Parliament during the year. The Government was confronted with serious disorders arising from an extensive strike, which started in Borinage coal region on May 31 and quickly spread to the glass, cement, metallurgical and other industries. After Belgian and foreign Communists had intervened in the struggle, rioting, and the erection of street barricades led to the calling out of regular army regiments and the declaration of martial law. Scores of police and strikers were injured and King Albert hurriedly returned from a vacation in Switzerland. A settlement was finally reached September 7. Within the preceding year, wages were said to have been reduced 30 to 35 per cent in the coal industry and unemployment had increased notably. After an investigation into Communist activities during the strike, the Government expelled several foreign Communists,

including a deputy of the Czechoslovak Parliament, from the country.

Attacks upon the American Congress and President Hoover because of the refusal of Congress to authorize cancellation or reduction of the war debts reached such a height early in the year that Ambassador Hugh S. Gibson protested on behalf of the U. S. Government to the Belgian Foreign Minister. The Foreign Minister apologized.

A law liberalizing the Belgian civil code with regard to the status of married women was passed by Parliament during the year.

See NETHERLANDS, THE, under *History*.

**BELIZE.** See BRITISH HONDURAS.

**BENDIX TROPHY RACE.** See AERONAUTICS.

**BENJAMIN, MARCUS.** An American editor, died in Washington, D. C., Oct. 22, 1932. He was born in San Francisco, Calif., Jan. 17, 1857. Upon his graduation from the Columbia University school of mines in 1878, he followed his profession of chemist for several years, acting as editor of the *American Pharmacist* and its successor, the *Weekly Drug News*, and as lecturer on chemistry at the New York Women's Medical College. In 1889 he received the Ph.D. degree from the University of Nashville. He became editor of the publications of the United States National Museum in 1896, which position he held until his retirement in 1931. He served also on the staffs of *Appleton's Cyclopædia of American Biography*, the *Standard Dictionary*, the *Universal Cyclopædia*, the *Encyclopædic Dictionary*, and the *NEW INTERNATIONAL ENCYCLOPEDIA*, and was a contributor to *Appleton's Annual Cyclopædia* from 1883 to 1902 and to the *NEW INTERNATIONAL YEAR BOOK* from 1907 to 1932, having completed his labors for the present issue of the *YEAR BOOK* a few days before his death. In 1910 he acted as editor-in-chief of *Appleton's New Practical Cyclopædia* (6 vols.), and was editor of various Appleton's guides and hand-books. He was also at different periods a member of the annual United States Essay Commission. During the World War he was an aide in the office of the Naval Intelligence and received the decoration of Officer of Public Instruction (with palms) from France in 1920 and that of Officer of the Crown from Italy in 1927. After 1911 he was a member of the council of the Washington Protestant Episcopal Cathedral. He wrote extensively in biography, especially of scientific men and churchmen, and in history and social science, and all his work was characterized by the care of the expert and proved valuable contributions to science and scholarship. Among his biographical studies a monograph on *John Henry Boner*, poet, editor, and essayist, ranks high.

**BENNETT BALLOON RACE.** See AERONAUTICS.

**BENSON, REAR ADMIRAL WILLIAM SHEPHERD, U. S. N., RET.** An American naval officer, died in Washington, D. C., May 20, 1932. He was born in Macon, Ga., Sept. 25, 1855, and was graduated from the U. S. Naval Academy in 1877. In 1881 he was made ensign, one of his first assignments being to the *Constitution*, on which he participated in the last voyage ever made by that historic vessel. In 1900 he was commissioned lieutenant-commander and the following year was appointed senior assistant to the commander of the U. S. Naval Academy. In 1907 he was made commandant. In 1909 he became chief of



staff of the Pacific fleet, with the rank of captain, and during 1913-15 served as commandant of the Philadelphia navy yard. He was then called to Washington as first chief of naval operations and was raised to the rank of rear admiral. During his incumbency of this office he developed the aviation and submarine branches of the navy and effected many improvements in target practice and manœuvres.

In 1917 Admiral Benson was a member of the commission appointed by President Wilson to confer with the Allies in Paris. At this conference he consented to help strengthen the British blockade by sending several divisions of the U. S. battleship fleet to join the British grand fleet in the North Sea. He served as U. S. naval representative in drawing up the naval terms of the armistice and was naval adviser to the American commission at the Peace Conference in Paris. On his retirement in 1919 he was appointed a member of the U. S. Shipping Board, being later elected chairman. On the reorganization of the board, during the Harding administration, he was made one of seven commissioners, and in 1922 was reappointed for a term of six years. He received the Distinguished Service Medal at the close of the War and also several foreign honors, including the grand cross of the French Legion of Honor; grand cross of the British Order of St. Michael and St. George; the Japanese Order of the Rising Sun, 1st class; and the Papal Order of St. Gregory the Great (military class, 1st order).

**REQUESTS FOR EDUCATION.** See UNIVERSITIES AND COLLEGES.

**BEREA COLLEGE.** A nonsectarian, coeducational institution in Berea, Ky., founded in 1855 and designed to serve the educational needs of the mountain people of the Southern Appalachian region. The enrollment for the autumn of 1932 was 1535, distributed as follows: College, 632; academy, 549; foundation-junior high school, 318; nurses, 36. The enrollment in the summer session of 1932 was 373, of whom 229 were in the college, 120 in the academy, and 24 were nurses. The faculty numbered 108. The endowment amounted to \$9,316,226, and the income for the year ending June 15, 1932, was \$543,880. The library contained about 63,000 volumes. The college of arts and sciences is enriching its curriculum by the extension of the work in the Fine Arts to a full department, and by the addition of theory and practical work in music, making possible music majors in Piano, Violin, Voice, Pipe Organ, and Public School Music. President, William J. Hutchins, D.D., LL.D.

**BERLIN PHILHARMONIC ORCHESTRA.** See MUSIC.

**BERMUDA.** A British colony in the North Atlantic Ocean (32° 15' N. latitude and 64° 51' W. longitude) about 580 miles east of Cape Hatteras, N. C., consisting of a group of 360 small islands. About 20 of the islands are inhabited. Because of its picturesqueness, warm climate, and proximity to New York (677 miles), it is a favorite resort for American tourists. Area, 19.3 square miles; population (census of 1931), 27,789, including 11,353 white. The chief town, Hamilton (population 3000) is an important naval base. Radio-telephone service between the United States and Bermuda was opened Dec. 21, 1931.

Primary schools receiving Government aid numbered 32 in 1930, with 3782 pupils. Potatoes,

onions, lily bulbs, and other vegetables are cultivated for the United States, and Canadian market. Imports in 1931 were valued at £2,463,259 and exports at £119,005. Imports from the United States in 1930 were valued at \$4,700,000 and exports to that country at \$700,000. Revenue in 1931 amounted to £464,351; expenditure, £458,700; public debt, £131,636. The tonnage of vessels entered and cleared, in 1931, aggregated 7,476,497 tons. The Government is administered by a governor, assisted by an executive council of 7 members and a legislative council of 9 members, both appointed by the Crown and an assembly of 36 members chosen by 1523 electors. Governor in 1932, Lieut.-Gen. Sir T. A. Cubitt.

**BES'SARABIA,** *bēs'sā-rā'bl-ā.* A former province of the Russian Empire, joined on Apr. 11, 1918, to Rumania, whose title was confirmed by the Peace Treaties of 1919, but had never been conceded by the government of the Soviet Union. Area, 17,146 square miles; population (provisional 1930 census), 2,865,506. See RUMANIA.

**BIBLE SOCIETY, AMERICAN.** Organized in 1816, this society has steadily carried forward its specific purpose of "circulating the Holy Scriptures without note or comment." This service is rendered without discrimination as to class, color, or creed. Bibles, Testaments, and Portions are sold without purpose of profit, and below cost or donated free when circumstances justify. The work in the United States is carried on through 10 home agencies and some 100 auxiliary, State, and local Bible societies. Twelve additional agencies cover all Latin America and countries in the Near East and the Far East, correspondents helping the work in other countries, especially in Europe and Africa.

During 1931 the society issued 9,745,356 volumes in 182 languages. Engaged in this work were agency secretaries, sub-agents, colporteurs, correspondents, and volunteers, totaling 4145. The number of volumes issued in the United States by 1715 persons was 4,527,776, and in foreign lands by 2430 persons was 5,217,580. During the 116 years of its existence the society has issued 237,979,404 volumes of Scriptures and participated in the translation, publication, and distribution of the Scriptures in more than 300 languages, dialects, and versions.

In translation work during 1931 two languages received for the first time a portion of the Scriptures—the Miao of Siam and the Yao of Siam. The Cakchiquel Indians of Guatemala received for the first time the entire New Testament in their own tongue; the revision of the Turkish New Testament was marked by the publication of the three Gospels—St. Mark, St. Luke, and St. John—and the Acts of the Apostles; in the Sulu dialect of Moro, Philippine Islands, St. Luke's Gospel, revised, became the sole available Scripture in that dialect. Four new translations were received and were being examined before publication: St. Mark in Shilluk (Sudan), St. Matthew in Keres (American Indian), St. John in Valiente (Panama Indian), and St. Matthew and St. Mark in Otetela (Belgian Congo). In 12 other languages new translation or revision work was in process or texts were being examined preparatory to publication.

The budget of the society for 1931 was \$1,180,248. The officers were: J. Frederick Talcott, president; E. Francis Hyde, president emeritus; the Rev. Eric M. North, Ph.D., D.D., and the Rev. George William Brown, M.A., general secreta-

ries; the Rev. Lewis B. Chamberlain, D.D., recording secretary; Gilbert Darlington, treasurer; and Charles W. Fowle, assistant secretary.

**BIBLIOGRAPHY.** See PHILOLOGY, MODERN. **BICYCLING.** See CYCLING.

**BIGOURDAN**, Guillaume. A French astronomer, died in Paris, Feb. 29, 1932. He was born in Sistels, Apr. 6, 1851, and attended the Institut Lacan-Rebouis in Valence-d'Agén. After serving for 20 years as assistant astronomer at the Toulouse Observatory he became, in 1897, astronomer at the Paris Observatory where he distinguished himself through his observations of nebulae, the position of the stars, and the course of the comets. In 1919, on the organization of the International Time Bureau in Brussels, he was made director. He was a member of the Academy of Sciences, being chosen three times laureate by that body. He served also as president of the Bureau of Longitudes and was a chevalier of the Legion of Honor. Among his works are: *L'Équation personnelle dans les mesures d'étoiles doubles* (1886); *Observations de nébuleuses et d'amas stellaires* (4 vols., 1901); *Le Système métrique des poids et mesures* (1901); *Les Annales célestes de Pingré* (1901); and *L'Éclipse du soleil* (1905). He was a contributor to the *Annales de l'Observatoire*, the *Bulletin astronomique*, and the *Comptes rendus* of the Academy of Sciences.

**BILLIARDS.** Ralph Greenleaf, one-time "boy wonder" of Monmouth, Ill., was the leading figure in professional billiards in 1932. Professional balkline players were inactive because of the inability of the authorities to import enough foreign talent for a championship tournament for Jake Schaefer's 18.2 title, so the limelight rested on Greenleaf, who won his eleventh national pocket billiards tournament at New York in December. Greenleaf successfully defended his crown by going through the two arduous weeks of tournament play without a defeat. Jimmy Caras, a youngster from Wilmington, Del. finished second, Erwin Rudolph third, and Andrew Ponzi fourth. Greenleaf dominated the tournament by his string of victories and his high run of the tournament of 106, but best game honors went to Ponzi who turned in a four-inning and a six-inning game.

The veteran August Kieckhefer of Chicago won the world's professional three cushion tournament held at Chicago in February, displacing Arthur Thurnblad as champion. Otto Reisel finished second, Thurnblad third, and Johnny Layton, 1930 champion, fourth.

The amateur campaign was featured by the world's 18.2 balkline tournament held in New York in the spring. Nine of the premier cue artists of the world were entered and Albert Poensgen of Germany retained his title after a playoff with Gustave Van Belle of Belgium. Edmund Soussa of Egypt was third and Albert Corty of France fourth. The world's amateur three-cushion championship held in Paris resulted in a victory for A. Robyns of Holland with Puigvert of Spain, second. Edward N. Lee, United States champion, was eliminated in the early rounds. Percy N. Collins, of Chicago won the national 18.2 balkline championship but later bowed to Edgar T. Appleby of New York in a challenge match.

Three men held the national amateur pocket billiard title during the year, the last being J. Howard Shoemaker of New York, who took

the crown from Vaino Korhonen, also of New York, who had taken it from Edward Fagen, of Bayside, L. I. In three-cushion play Edward N. Lee successfully defended his national amateur title, defeating Charles D. Gill, 150 to 94. Orlando C. Bennett won the national amateur 14.2 balkline tournament after a playoff with James Langdon. The national snooker title was taken by Charles Shongood Jr., and Jerome Strauss, a class B player, won the annual Poggenburg Memorial Cup tournament—handicap event for all classes of amateur players. Late in the year a formal tournament for women pocket billiards players was held in New York. Mrs. Gertrude Baker McAvoy, of Bayside won, defeating Miss Georgia Veatch, of Chicago, 200 to 198.

**BILLINGS, FRANK.** An American physician, died in Chicago, Sept. 20, 1932. He was born in Highland, Iowa Co., Wis., Apr. 2, 1854, and was graduated from the Northwestern University medical school in 1881. After serving his internship at Cook County Hospital he took post-graduate work in Vienna, London, and Paris during 1885-86. He was appointed professor of physical diagnosis at the Northwestern University medical school in 1886 and professor of medicine in 1891. In 1898 he was called to the Rush Medical College in Chicago as professor of medicine, and after 1900 was dean of the faculty of that institution. He was also from 1905 to 1924 professor of medicine at the University of Chicago. During the World War he served with the American Expeditionary Force in the office of the provost marshal general and of the surgeon general, and in 1917 was chairman of the American Red Cross mission to Russia. He was president of the American Medical Association during 1902-04, of the Association of American Physicians in 1906, of the National Association for the Study and Prevention of Tuberculosis in 1907, and of the Illinois State Board of Charities and of the State Charities Commission during 1906-12. Among his works are *Focal Infection* (Lane medical lectures at Stanford University, 1916).

**BILLITON.** See NETHERLAND INDIA.

**BIOGRAPHY.** See LITERATURE, ENGLISH AND AMERICAN; FRENCH LITERATURE; GERMAN LITERATURE, ETC.

**BIOLOGICAL CHEMISTRY.** See CHEMISTRY; ZOÖLOGY.

**BIRDS.** See ZOÖLOGY.

**BIRMINGHAM-SOUTHERN COLLEGE.** A coeducational institution for higher learning in Birmingham, Ala., founded in 1856. The enrollment for the autumn of 1932 was 818 full-time students, and 308 part-time students, and for the summer session 458. There were 54 faculty members. The endowment amounted to \$722,438, and the income for the year was \$285,695. There were 30,000 volumes in the library. During the year, the College became the beneficiary of bequests of the late R. S. Ruter and Angeline G. Ruter to the extent of approximately \$50,000. President, Guy Everett Snively, Ph.D., LL.D.

**BIRTH CONTROL.** See CHILD WELFARE; LAW IN 1932; MEXICO; PUERTO RICO.

**BIRTH RATES.** See FRANCE, GERMANY, GREAT BRITAIN, SPAIN, ITALY, and JAPAN and the other principal countries under *Area and Population*; VITAL STATISTICS.

**BISMARCK ARCHIPELAGO.** See NEW GUINEA.

**BLAIR, ANDREW ALEXANDER.** An American chemist, died in Philadelphia, Pa., Jan. 25, 1932. He was born in Woodford Co., Ky., Sept. 20, 1848, and attended the U. S. Naval Academy, from which he was graduated in 1866. He served a few years as ensign in the Navy, but after 1870 devoted himself to analytical chemistry. From 1875 to 1878 he was employed in testing iron and steel for the U. S. Government at the Watertown Arsenal, and from 1879 to 1881 acted as chief chemist to the U. S. Geological Survey and the Tenth Census. He then became engaged in general practice, devoting himself to improvement in the methods of technical analysis. At the time of his death he was senior partner in the firm of Booth, Garrett & Blair, analytical chemists of Philadelphia. In addition to a number of papers and reports on various special subjects of metallurgy, he wrote *The Chemical Analysis of Iron* (1888).

**BOHEMIA.** The largest and most populous Province of Czechoslovakia; formerly a crown-land of Austria; situated in the northwestern part of the former Austro-Hungarian Empire, with Saxony and Silesia on the north, Moravia on the east, and Lower and Upper Austria on the south. Area, including the small Austrian and German territories which were added by the peace treaty to Czechoslovakia, 20,102 square miles; population on Dec. 1, 1930 (preliminary census), 7,106,766. Bohemia is represented in the Czechoslovak Legislature by nine Deputies and five Senators. See CZECHOSLOVAKIA.

**BOILERS.** The number of stationary steam boilers for power purposes sold in the United States during the first eleven months of 1932, according to the Department of Commerce, was 3350, as compared with 7118 for the corresponding period of 1931. In terms of square feet of heating surface these were, respectively, 3,218,259 and 5,956,022.

An outstanding trend was the increasing number of boilers with fusion-welded drums which practice is now rapidly displacing riveted construction. The extension of this practice followed closely upon the sanction of fusion welding for fired pressure vessels by the Boiler Code Committee of the American Society of Mechanical Engineers during the summer of 1931.

Among new stationary installations steam pressures remained about as heretofore, although no new 1200 to 1400 pound plants were projected. Steam temperatures, however, increased from 750 to 825 or 850 degrees F. One unit has been in service at the Delray Station in Detroit for more than a year at 1000 degrees. Stainless steel has been employed for superheater tubes in some of these new boilers.

More boilers were equipped for stoker firing during the year than for pulverized coal and in certain sections there was a marked trend toward oil firing because of the favorable oil prices resulting from excess production in some of the oil fields. In other sections, served by natural gas pipe lines, many boilers were changed from coal to gas. Also, there was an increase in the number of installations using combination fuels.

During the year eight boiler units were placed in service at the Hudson Avenue Station of the Brooklyn Edison Company. In many respects this installation is outstanding. Per square foot of floor space these boilers serve more than three times the turbine capacity served by the earlier boilers in this station. Each has a capacity of

530,000 pounds of steam per hour and they are fired by the World's largest stokers—26 feet 8 inches long by 26 feet wide. An idea of the magnitude of this installation may be had from the fact that the forced and induced-draft fans serving these eight boilers required nearly 20,000 horse power in motor capacity. Of course, individual boiler units of twice this capacity have been in operation for several years at the Kips Bay Station of the New York Steam Corporation and at the East River Station of the New York Edison Company. These are both fired with pulverized coal.

For one of the Chicago stations a new type of stud-tube construction was developed in which the slag screen and the water walls are studded with pins and refractory coated to collect the molten slag from the pulverized coal furnace and thus protect the tubes of the boiler.

In several of the large stoker installations zoned air control has been employed. By this means under-fire air is supplied automatically to different sections of the fuel bed in accordance with the requirements of the fire.

With the present high capacity boiler, high rates of forcing and high steam pressures, it is necessary to give special attention to the condition of the feed water. Despite the use of evaporators and various methods of feed-water treatment much trouble has been experienced with carry-over of solids in the steam to the turbines. In some cases these solids can be washed out with wet steam but in others they have necessitated shutting down the turbines and manually removing the scale from the turbine blades. In consequence, much experimental work and study has been devoted to this problem, and special types of separators in the boiler drums are now being tried out with encouraging results.

The steaming type of economizer is coming into more general use and higher air preheat temperatures are being carried successfully with stokers due to certain improvements in stoker design. At the Chester Station of the Philadelphia Electric Company underfeed stokers have been operated successfully with 500 degrees preheat. The use of diphenyl mixtures has proved satisfactory in one large station as a heat transfer medium between the preheater in the uptake and the air going into the furnace. This does away with the large amount of duct work necessary where the air is led direct from the preheater to the furnace or fuel burning equipment.

Abroad two new types of boilers have been developed. In one, the Velox boiler developed by Brown Boveri & Co. of Switzerland, the combustion chamber is charged with a mixture of fuel and air under pressure and explosion takes place, producing a pressure 4 to 5½ times the charging pressure. The products of combustion pass at high velocity through the small diameter boiler tubes and very high rates of heat transfer result. The cooled gases are then passed through a gas turbine which drives the charging compressor. On test this boiler has shown an efficiency of 90 per cent and a heat release in the combustion chamber of over 800,000 b.t.u. per cubic foot per hour.

The other boiler is of the rotary type, developed by Sulzer Bros. There is a rotating drum to which is attached tubes in the form of loops, the whole rotating at 3000 revolutions per minute in a specially constructed furnace. Due to the high rotative speed the water in tubes exerts a high

centrifugal force and maintains the desired pressure.

The highest pressure boilers installed in Europe during the year were the Loeffler units at the Technical Institute of Moscow. These operate at 1900 pounds steam pressure and are each capable of generating 350,000 pounds of steam per hour.

In Canada there has been increasing use of electric steam boilers employing surplus hydro power to generate steam for process use in the paper mills and other industries. In the last two years over 350,000 kilowatts of electric steam-generator capacity has been installed or is in order. The total of such capacity in Canada at the present time is 1,275,000 kilowatts.

**BOKHARA**, bō-ka'ra. The name applied to a former central Asian state incorporated in the Uzbek Soviet Socialist Republic, Dec. 5, 1924. See **SOVIET CENTRAL ASIA**.

**BOLIVIA**. A republic occupying the high central Andean region of South America, bounded by Brazil and Paraguay on the east, by Argentina on the south, by Chile and Peru on the west, and by Brazil on the north. Sucre is the seat of the supreme court and is historically regarded as the capital, but the actual seat of the government and the largest city is La Paz.

**AREA AND POPULATION.** The area is 514,155 square miles, excluding the area under dispute with Paraguay; the population was estimated in 1930 at 2,972,583, including about 1,586,050 Indians, 426,200 whites, and 898,400 of mixed race. The 1900 census population was 1,816,000. The chief cities, with their estimated populations in 1929, were: La Paz, 149,500; Oruro, 41,410; Cochabamba, 36,828; Sucre, 35,181; Potosí, 34,679; and Santa Cruz, 30,851. Spanish is the language of the educated classes, that of the natives Aymara and Quechua. Roman Catholicism is the state religion.

**EDUCATION.** Elementary education is free and nominally compulsory, but the percentage of illiteracy remains high. In 1928, there were 83,548 pupils in public primary schools, 22,069 in private schools, and 6537 in secondary and higher schools. There are two universities, at Sucre and La Paz, and eight other institutions offering some university instruction, with a total of about 800 students.

**PRODUCTION.** Bolivia's financial and governmental structure is based primarily upon the exploitation of its tin deposits, which normally provide 90 per cent of the value of all exports. The mass of the Indian population, however, maintains itself on a bare subsistence level by primitive agriculture. For the sixth successive year, Bolivia in 1932 suffered from severe economic depression caused chiefly by the collapse of tin prices. Tin exports during 1931 (31,138 tons, valued at \$17,719,000) were 18.4 per cent less in volume and 35 per cent less in value than in 1930 (38,167 tons, valued at \$27,236,000). All mineral exports during 1931 aggregated 56,826,034 fine kilos, valued at 56,854,828 bolivianos (boliviano equals \$0.3649 at par), a decrease of about 10 per cent in volume and of 35 per cent in value, as compared with the previous year. Besides tin, Bolivia produces copper, silver, lead, bismuth, wolfram, gold, zinc, petroleum, and antimony.

About 6,500,000 acres were under cultivation in 1931, the principal crops being potatoes, cacao, coffee, barley, highland rice, and rubber. Live-

stock in 1931 included about 2,046,300 cattle, 5,786,000 sheep, and 2,000,000 llamas and alpacas. American investments of all kinds in Bolivia, largely in mining and public utilities, increased from \$10,000,000 in 1913 to about \$133,000,000 in 1929. American direct investments (1930) were estimated at \$61,819,000.

**COMMERCE.** The drastic decline in Bolivia's foreign trade from 1929 to 1931 is shown by the accompanying statistics issued by the U. S. Bureau of Foreign and Domestic Commerce.

#### BOLIVIAN FOREIGN TRADE, 1929-31

	Exports	Imports
1929 .....	\$50,795,000	\$25,910,000
1930 .....	36,948,000	21,149,000
1931 * .....	22,197,000	10,920,000

\* Preliminary.

Imports in 1931 were 48.3 per cent less than in 1930, while exports fell approximately 40 per cent. Exports of all Bolivian products except zinc and gold declined sharply. Due to the transfer of Bolivian zinc stocks to European markets, shipments of zinc increased 143 per cent in volume and 85 per cent in value in 1931; there was no marked increase in demand. Silver exports declined to 177 tons, valued at \$1,368,000, from 217 tons, valued at \$2,093,000, in 1930. Cotton and wool textiles, machinery, wheat, sugar, and oil were the chief imports.

Great Britain took 82.1 per cent of the 1931 exports (76.4 per cent in 1930) and the United States 5 per cent (13). The three chief sources of imports in 1931 were the United States, which furnished 25.2 per cent of the total (27.8 in 1930), Germany 17 per cent (13.6), and Great Britain 16.4 per cent (16.7).

**FINANCE.** According to information issued by the Comptroller General's office, actual revenues declined from 35,861,120 bolivianos in 1930 to 22,878,198 bolivianos in 1931, including the supplementary period to Mar. 31, 1932. Ordinary expenditures for the year 1931 and the first quarter of 1932 amounted to 32,920,176 bolivianos, leaving a deficit of 10,031,978 bolivianos, exclusive of 23,316,380 bolivianos falling due during the period on the internal and external debt but which were not paid. Internal credit operations during the period yielded 10,141,111 bolivianos, enabling the comptroller's office to report a balance of 99,133. A deficit of 15,520,657 bolivianos was anticipated for 1932, with revenues estimated at 19,350,000 bolivianos and expenditures at 34,870,657 bolivianos. The 1933 budget, as passed by the Lower Chamber of Congress carried a further deficit of 11,396,022 bolivianos. The outbreak of war with Paraguay during 1932 probably threw the budget further out of balance than the available information indicated.

The national debt on Dec. 31, 1931, was divided as follows: dollar bonds outstanding, \$61,349,523; sterling debt, £156,000, converted at official exchange rate; internal consolidated debt, 26,816,128 bolivianos; internal floating debt, 40,825,704 bolivianos. The average exchange rate of the boliviano (par, \$0.365) was \$0.3638 for 1930 and \$0.3292 for 1931. On Jan. 12, 1932, an official rate of 15 bolivianos to the pound sterling was adopted, valuing the boliviano at slightly less than \$0.25.

**COMMUNICATIONS.** Bolivia in 1932 had about 1384 miles of railway lines, 1630 miles of permanent highway (excluding some 1166 miles of

temporary highway), and a network of airlines operated by the Lloyd Aereo Boliviano connecting the principal cities, which carried 3769 passengers and 97,235 kilograms of freight and mail in 1227 flights during 1931. A steamer service was in operation on Lake Titicaca.

**GOVERNMENT.** The Constitution of 1880 vests executive power in a President, elected for four years by direct popular vote and ineligible for reelection. Two vice presidents are similarly elected. There is a Congress of two chambers, the Senate of 16 members elected for six years, and the Chamber of Deputies of 78 members, elected for four years. One-third of the Senate and one-half of the Chamber retire every two years. The President selects a Cabinet of six members. Constitutional government, suspended on June 28, 1930 by revolution, was reestablished on Mar. 5, 1931, with the inauguration of Dr. Daniel Salamanca as President, following the elections of Jan. 4, 1931. A non-party cabinet was then appointed.

### HISTORY

**THE BOLIVIAN-PARAGUAYAN WAR.** Despite the unceasing efforts of the neutral American nations, supported by the League of Nations, the long-threatened war between Bolivia and Paraguay for possession of the Chaco Boreal broke out in earnest in 1932. The struggle commenced in July and was still in progress at the end of the year, with the result in doubt.

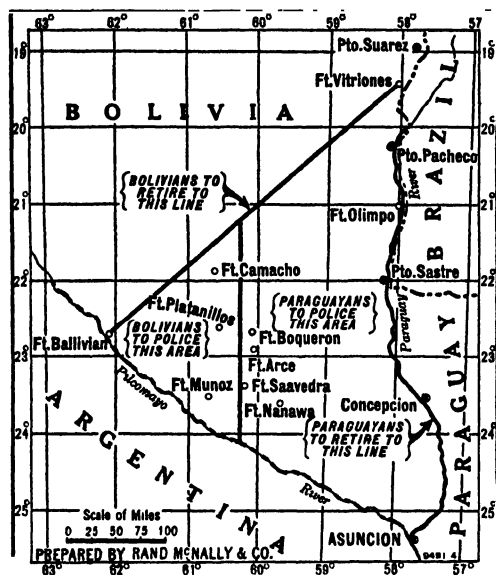
The Chaco Boreal (Northern Chaco) comprised the entire lowland territory lying north of the Pilcomayo River and west of the Paraguay River and extending to the undisputed boundary of Bolivia. Both Bolivia and Paraguay claimed the entire territory. Bolivia, eager to secure an outlet on the navigable waters of the Paraguay River, had gradually pushed her frontier in a southeasterly direction. Finally, after occupying more than half of the disputed territory, Bolivia's further progress was blocked along a north-south line on the sixtieth meridian about 200 miles west of the Paraguay River by a chain of Paraguayan blockhouses guarded by small frontier patrols. Bolivia erected a similar chain of small fortresses and it was along this frontier that the undeclared war of 1932 was fought out.

The prelude to actual war consisted of a series of isolated clashes between border patrols for possession of various points. In 1928 and again in 1931 such clashes caused the neutral Pan American nations and the League of Nations to intervene to prevent a general outbreak. With the 1931 outbreaks, the five neutral nations (United States, Cuba, Colombia, Mexico, and Uruguay) represented on the Pan American Commission of Conciliation, invited both Bolivia and Paraguay to send delegates to Washington to negotiate a non-aggression pact under the auspices of the Commission (see 1931 YEAR BOOK). These negotiations, commenced Nov. 11, 1931, continued unsuccessfully until a renewal of the Chaco clashes in July, 1932, led both disputants to resort to force.

From April on there were persistent reports of a Bolivian mobilization on the frontier. About the same time, the Bolivian Foreign Minister, in a statement criticizing the League of Nations for sending new Mennonite colonists to the Chaco Boreal without asking Bolivia's consent, declared that further colonization west of the Paraguay River would be under Bolivian auspices.

(Large Mennonite colonies had previously been settled in the disputed region under Paraguayan auspices.) The border skirmishes increased, with each side accusing the other of aggression. The Paraguayan Congress on August 1 authorized the President to mobilize the reserves and on the following day Paraguay protested to the League of Nations, charging Bolivian violation of Articles X and XI of the League Covenant. The Commission of Neutrals on the same day (August 2) appealed to Bolivia to suspend hostilities.

When Bolivia rejected the appeal on August 3, the 19 neutral members of the Pan American Union dispatched an identical note to both Bolivia and Paraguay in which they declared that they would not recognize territorial gains made in the Chaco by force of arms. Like Secretary of State Stimson's similar declaration with respect to the Manchurian situation (note of Jan. 7, 1932), the action of the Pan American neutrals



THE CHACO

Showing the Truce Proposals of the Commission of Neutrals Made on Dec 15, 1932

was based upon the Kellogg-Briand Pact. Although the dispute was not officially referred to the League of Nations, the President of the League Council reminded both disputants of their obligations under the League Covenant (see LEAGUE OF NATIONS). Hostilities nevertheless continued. The four neighboring countries (Argentina, Brazil, Chile, and Peru) now acted to prevent the spread of the conflict through a joint agreement to preserve strict neutrality in case war was declared. Representatives of these nations also joined the Commission of Neutrals at Washington in new efforts to terminate the controversy.

On August 10, the Commission of Neutrals presented a joint request for a truce, but the disputants were unable to agree upon the necessary conditions. The commission on August 29 again proposed a truce, this time for 60 days. It was rejected by Paraguay because it would have left temporarily in Bolivia's possession Forts Boqueron, Corrales and Toledo, which the Bo-

livians had captured since June 1, 1932. Bolivia also proposed a 30 day truce, which Paraguay rejected on the same ground. Likewise Paraguay's proposals were rejected by Bolivia. The neutrals now considered more drastic means of bringing the struggle to a close. Proposals for an economic blockade and for the withdrawal of diplomatic representatives at Asunción and La Paz met a favorable reception among virtually all of the American nations except Argentina.

Foreign Minister Saavedra Lamas of Argentina informed the Commission of neutrals that his country would not cooperate in any act "extending beyond the limits of good offices and the moral influence of the opinion of all the continent." He further stated that any proposal to settle the controversy must be first accepted by Bolivia and Paraguay. Argentina's position blocked any effective action by the neutral powers. The League of Nations Council repeatedly reminded the disputants of their obligations under the Covenant and supported the Washington Commission of Neutrals, but with no better success. Bolivia and Paraguay were left to fight out the dispute to its bloody conclusion.

Replying to the Argentine memorandum on November 4, the Commission of Neutrals declared that the American nations would not be fulfilling their duties as members of the family of American states if they did not exert unmistakably and unequivocally their full efforts on behalf of peace. Referring to their proposal of the previous August for a return to the military *status quo* in the Chaco, they said:

"The sanguinary events of the last six weeks have unfortunately justified the appositeness of this proposal of August 2. Had it been accepted the recent bloodshed would have been avoided."

The Commission of Neutrals on December 15 proposed a settlement of the dispute by arbitration, following the automatic cessation of hostilities and the withdrawal of both armies from the territory in dispute. The plan called for the withdrawal of the Paraguayan forces to the Paraguay River and of Bolivian forces to a line running northeastward from Fort Ballivian on the Pilcomayo River to Fort Vitroneros near the upper reaches of the Paraguay River. The proposal was accepted provisionally by Bolivia but was rejected by Paraguay (December 17) on the ground that it was openly favorable to Bolivia. Subsequently Paraguay recalled its delegate to the Commission of Neutrals.

**THE MILITARY PHASE.** No declaration of war was made by either side throughout the Chaco struggle. The conflict entered a serious stage toward the end of July. Probably due to earlier mobilization, Bolivia gained the initial victories, driving the Paraguayans from Forts Boquerón, Toledo, and Corrales. The Chaco region in which the fighting occurred was extremely difficult of access from Bolivia, while within comparatively easy reach from Asunción. This advantage in communications enabled Paraguay to reinforce and supply her forces, which took the offensive toward the end of August.

A month of desperate fighting, in which from 15,000 to 20,000 were engaged on both sides, ended with Paraguay in possession of Forts Boquerón and Toledo, which represented the spearhead of the projected Bolivian advance to tide-water. By September 22, the Paraguayans had recaptured five Paraguayan forts and in addition taken four Bolivian forts. They now

launched an attack southward from the Boquerón area against Fort Arce, the Bolivian advanced headquarters, which they captured on October 23.

Upon the fall of Fort Arce, and the collapse of two cabinets in La Paz within a week, Bolivia on October 26 opened negotiations for peace through the Commission of Neutrals at Washington. While the negotiations dragged on Paraguay continued her victorious advance against stubborn resistance. Fort Platanillos, a strategic junction of several good roads connecting Bolivian forts, fell on November 6. It lies 43 miles west of Fort Boquerón, thus indicating the extent of the Paraguayan advance. The offensive was now directed against Fort Muñoz, the main Bolivian concentration centre, but the advance was held up by the determined opposition at Forts Saavedra, Murguía, and Samaklay.

The Paraguayans continued their desperate efforts to capture the key positions of Saavedra and Muñoz until December 10, but proved unable to break through due chiefly to Bolivia's superior artillery equipment. The Bolivians now resumed the offensive, recapturing Fort Platanillos on December 13. At the suggestion of Pope Pius XI, a Christmas Day truce was agreed upon. The next day the struggle was resumed. On December 26 General Hans Kundt arrived at the front to take charge of the Bolivian drive. The former chief of the Bolivian army, General Kundt was recalled by the Bolivian government from Germany, where he had been forced to flee upon the deposition of President Siles in 1930. In response to his demand for more troops, Bolivia mobilized a new army of 20,000 reserves, bringing the total Bolivian forces sent to the Chaco to 60,000. On December 27, Paraguayan forces began a retreat to their strongly entrenched position at Fort Nana-wa, also known as Fort Ayala.

**DEVELOPMENTS IN BOLIVIA.** The reverses suffered by Bolivian troops in the Chaco aroused the populace in La Paz to fury. It was charged that political intrigue and bickering was hindering the proper organization of the country for war and that the troops at the front were not receiving adequate supplies and support. On November 5, President Daniel Salamanca and his government, which assumed office Mar. 5, 1931, for a four-year term, was forced to resign. In the preceding month the President had formed four cabinets, two of them coalition groups, in a vain effort to secure the cooperation of Congress during the war emergency.

The Liberals, however, who with 36 out of the 78 seats formed the largest group in the Lower Chamber, were determined to return to power. When Vice President Tejada Sorzano (Liberal) refused to cooperate in forming another cabinet, President Salamanca formed one exclusively of his own party. Congressional opposition forced the new cabinet to resign and President Salamanca urged the Vice President to form a coalition cabinet to which he could delegate the Presidential powers. Meanwhile there had been popular demonstration in La Paz, directed mainly against Congress and the politicians.

Earlier in the year Congress passed, by a majority of two votes, and the President signed a bill permitting absolute divorce. On August 14, Congress approved the revision of the Kemmerer banking laws, which went into effect in July, 1928, initiating a central banking system. A decree of May 25 abolished the Permanent Fiscal Commission, created in accordance with the pro-

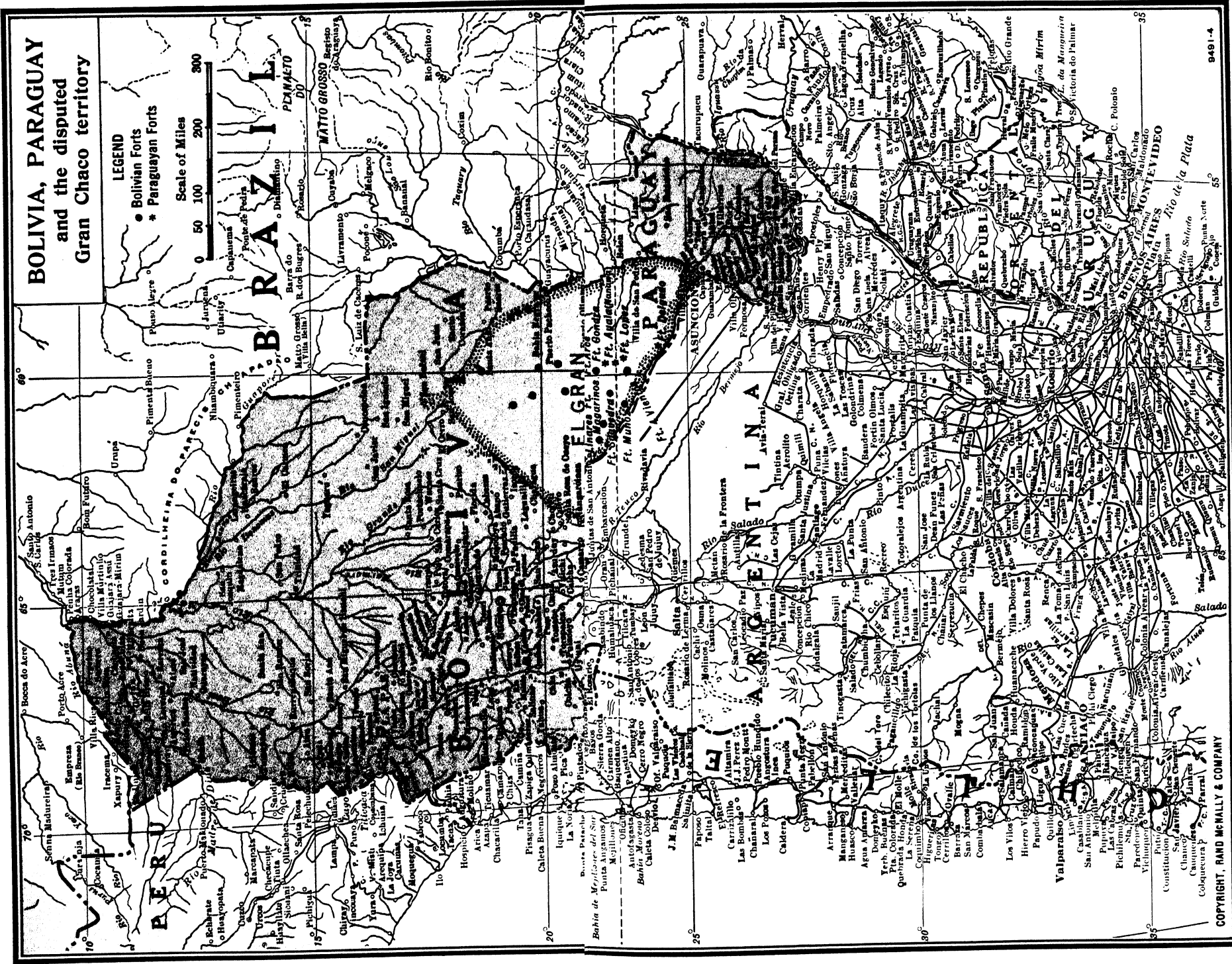




# **BOLIVIA, PARAGUAY** and the disputed Gran Chaco territory

- LEGEND**
- Bolivian Forts
  - \* Paraguayan Forts

Scale of Miles  
0 50 100 200 300









visions of the Equitable Trust Company loan of 1922, and transferred its functions to the National Tax Collecting Company, operating under a concession from the government. The default on the payment of interest and principal due on Bolivia's foreign loans continued throughout the year. On March 16, former President Hernando Siles was convicted by the Senate of illegally deporting Congressmen and of misusing public funds.

**BOLL WEEVIL, BOLLWORM.** See ENTOMOLOGY, ECONOMIC; COTTON.

**BOMBING.** See CRIME.

**BONDS.** See FINANCIAL REVIEW; PUBLIC FINANCE.

**BONUS ARMY.** See UNITED STATES under Administration.

**BONUS LEGISLATION AND PAYMENTS.** See UNITED STATES under Congress; AMERICAN LEGION; PUBLIC FINANCE.

**BOOK PUBLISHERS, NATIONAL ASSOCIATION.** See LITERATURE, AMERICAN AND ENGLISH.

**BOOTLEGGING.** See PROHIBITION.

**BOOTS AND SHOES.** In comparison with other commodities the production of boots and shoes (other than rubber) showed little decline in 1932. According to *Commerce Reports*, the manufacturers in the United States produced 313,289,854 pairs as against 316,239,809 pairs in 1931, a decrease of 0.9 per cent, but an increase of about 3 per cent over the 304,170,000 pairs produced in 1930. Women's shoes constituted 113,943,757 or 36.3 per cent, of the total production in 1932; men's footwear, 74,492,771 pairs, were 23.8 per cent of the total; slippers and moccasins for housewear, 38,211,968 pairs, were 12.2 per cent, and misses and children's shoes, 33,599,982 pairs, 10.7 per cent. The production of women's shoes increased 1.2 per cent over 1931; slippers and moccasins increased 7 per cent, while men's shoes dropped 3.8 per cent from 77,419,567 pairs produced in 1931. About 1,350,000 pairs of boots and shoes were imported into the United States in the first 11 months of 1932, of which 76.2 per cent, or 1,029,500 pairs, came from Czechoslovakia.

The production of footwear in Canada rose in 1932 to 17,879,000 pairs from 17,678,000 pairs for 1931. See LEATHER.

**BORNEO.** See NETHERLAND INDIA, BRITISH NORTH BORNEO, SARAWAK, and BRUNEI.

**BOSELLI, PAOLO.** An Italian statesman, died in Rome Mar. 10, 1932. Born in Savonna June 18, 1838, he studied law at the University of Turin, but instead of practicing became a writer on literary and economic subjects. In 1870 he was elected to Parliament, and in the same year was also appointed a member of the permanent committee on finance and was made professor of financial science at the University of Rome. He had much to do with the formation of the Council for the Mercantile Marine, of which he became president in 1881. In 1888 he entered Crispi's first cabinet as under-secretary to the Ministry of Education and the following year was made Minister of Education, holding that portfolio until the fall of the government in 1891.

When Crispi returned to power at the end of 1893 Boselli became Minister of Agriculture, but six months later was transferred to the Ministry of Finance where he remained until 1896. He became Minister of the Treasury in Pelloux's second cabinet of 1899-1900, and in the first Sonnino ministry of 1906 held once again the

portfolio of Education. On the fall of Salandra in June, 1916, he formed a national government, which included representatives of every important group in the Chamber but the Socialists. His cabinet fell in October, 1917, following the Caporetto disaster. He was created a Senator in 1921, and was also first secretary to the King in the Order of Mauriziano and chancellor of the Order of the Crown. Among the learned societies of which he was president were the Italian Institute of History, the Turin Royal Academy of Sciences, and the Dante Alighieri Society. In addition to various books on social and economic questions he published a biography of the Marchese Lorenzo Parete and a treatise on Italian maritime law.

**BOSHER, KATE LEE LANGLEY** ("KATE CAIRNS"). An American author, died July 27, 1932, in Norfolk, Va., where she was born Feb. 1, 1865. She was graduated from the Norfolk College for Young Ladies in 1882 and five years later was married to Charles G. Bosher. Her *Mary Cary* (1910) and *Miss Gibbie Gault* (1911) won great popularity for their cleverly commingled humor and sentiment. She wrote also *The House of Happiness* (1912); *The Man in Lonely Land* (1913); *How It Happened* (1914); *People Like That* (1915); *Kitty Canary* (1917); and *His Friend, Miss McFarlane* (1918).

**BOSTON MUSEUM OF FINE ARTS.** See ART MUSEUMS.

**BOSTON SYMPHONY ORCHESTRA.** See MUSIC.

**BOSTON UNIVERSITY.** A nonsectarian institution of higher education in Boston, Mass., founded in 1869. The enrollment for the autumn session of 1932 was 10,627, distributed as follows: College of Liberal Arts, 582; College and Extension Courses, 548; College of Business Administration, 2910; College of Practical Arts and Letters, 564; College of Music, 170; School of Theology, 284; School of Law, 491; School of Medicine, 243; School of Education, 2469; School of Religious Education and Social Service, 99; Graduate School, 550. The enrollment for the 1932 Summer Session was 1717. The faculty numbered 568. The endowment amounted to \$4,014,543. In the 10 libraries of the University there were 150,116 volumes. President, Daniel L. Marsh, Ph.D., Litt.D., LL.D.

**BOSTON VEHICULAR TUNNEL.** See TUNNELS.

**BOSTON WATER SUPPLY.** See WATER SUPPLY.

**BOTANICAL CONGRESS, SIXTH INTERNATIONAL.** See BOTANY.

**BOTANY.** The year has been marked by active research in all branches of the science. As in past issues of the YEAR BOOK a brief summary of the more important papers published is given under appropriate headings.

In connection with the general subject a noteworthy fact is that efforts to exterminate the African puncture vine (*Tribulus terrestris*) in California have been costing the State \$150,000 annually, according to Ethelbert Johnson in Bulletin 528 of the University of California.

The executive committee of the Sixth International Botanical Congress was appointed, with Professor Went, of Utrecht, Holland, as president. The congress will meet at Amsterdam Sept. 9-14, 1935.

**MORPHOLOGY AND ANATOMY.** The history of the development of foliar organs continued to be a

favorite subject of investigation. Adriance S. Foster (*Am. Journ. Bot.* 19: 75-98, 1932) reported on cataphyll and foliage leaf ontogeny in the black hickory (*Hicoria buckleyi arkansana*). Edwin B. Metzke (*ibid.* 19: 477-507, 1932) discussed floral variation in *Stellaria media*. He found that flowers approximating bilateral and radial symmetry are more common than those that are wholly asymmetrical, and that surface tension phenomena, prevailing during flower development, may also play some part in determining the distribution of flower parts.

H. Prat (*Ann. des Sci. Nat. Ser. X. t. 14*, 1932) investigated the epidermis of various grasses, and regarded this as having some taxonomic value. Elva Lawton (*Am. Journ. Bot.* 19: 303-333, 1932) studied regeneration and induced polyploidy in ferns.

PHYSIOLOGY. D. T. MacDougall (*Ann. Missouri Bot. Gard.* 19: 31-43, 1932) discussed at length the progress made during recent years in the study of this branch of botany. He pointed out that it has drawn upon chemistry and physics in perfecting a technique which has been extended to genetics, bacteriology, and ecology.

The water lifting power of transpiration and the cohesion of water was demonstrated by Hiram F. Thut (*Am. Journ. Bot.* 19: 358-364, 1932) in a series of experiments. Living leafy twigs were used to pull mercury columns to heights exceeding barometric pressure. Loss of water from the twigs in transpiration caused the water columns to rise in a capillary tube, and these water columns supported columns of mercury. P. J. Kramer (*Am. Journ. Bot.* 19: 148-164, 1932) found that killed root systems absorb as much or more water as living ones. The complex of forces concerned in the absorption of water by plants with little transpiration differs from that of an actively transpiring plant.

Francis E. Lloyd (*Plant Phys.* 7: 131-138, 1932), discussing the fact that rubber is segregated in the parenchyma cells of guayule (*Parthenium argentatum*) instead of in the vascular cells as in Para rubber, suggested that the function may be for the purpose of prompt closure of wounds. J. E. McMurtrey Jr. (*Science*, N.S. 76: 86, 1932) found that the element thallium in the proportion of one part per million in solution is toxic to tobacco plants, the effects produced being similar to those of the disease known as freching.

Hitchcock, Crocker, and Zimmerman (*Contr. Boyce-Thompson Inst.* 4: 155-176, 1932) made an exhaustive study of the effects of illuminating gas on the lily, narcissus, tulip, and hyacinth. The plants were exposed to the gas during different stages of development in concentrations ranging from 1: 75 to 1: 40,000. All were retarded in growth by all concentrations used without causing either death or abscission. The curling and bending of leaves which resulted were found to depend particularly upon the age of the leaf, the rate of growth and the variety experimented upon. The effect upon the flower bud depended upon its age at the time of treatment.

In a field study of the relations of mycorrhiza to conifer seedlings, R. E. McArdle (*Journ. Agric. Res.* 44: 287-316, 1932) successfully inoculated the roots of the northern white pine and the Norway spruce with four different fungi. No proof was discovered that the presence of these mycorrhiza is either harmful or beneficial to the trees.

PHYTOCHEMISTRY. James B. McNair (*Am. Journ. Bot.* 19: 168-193, 1932) made an investigation of the various organic substances found in plant families in relation to climate and habitat. Volatile oils are obtained from 87 families, of which 57 per cent are tropical or subtropical, 18 per cent temperate, and 25 per cent widely distributed. Saponins occur in 71 families, of which 42 per cent are tropical, 16 per cent temperate, and the remainder widespread. Cyanogenic glucosides are found in 39 families, 51 per cent of which are tropical or subtropical and 20 per cent temperate. The production of carbohydrates has not been fully determined, only about 60 families having been investigated.

Citric acid production in the fungus *Aspergillus niger* was studied by Nandor Porges (*Am. Journ. Bot.* 19: 559-567, 1932). He found that sugar concentrations of 15 to 20 per cent were necessary for the highest yield.

PATHOLOGY. The study of various substances as fungicides continued to occupy the attention of many pathologists. John W. Roberts and Leslie Pierce (*Phytopath.* 22: 415-428, 1932) found zinc-lime, a spray composed of zinc sulphate, hydrated lime and water, very effective in controlling bacterial spot (*Bacterium pruni*) and peach scab (*Sclerotinia fructicola*). V. F. Tapke (*ibid.* 22: 429-442, 1932) found that formaldehyde controlled oat smut.

Experimental studies by Ezekiel, Taubenhaus and others on the root-rot fungus, *Phymatotrichum omnivorum* (*Phytopath.* 22: 443-474, 1932) showed that growth was markedly inhibited in the undiluted juices of monocotyledonous resistant plants, while profuse growth was obtained with juices of three out of four dicotyledonous susceptible plants. With diluted juices, on the other hand, good growth resulted even from the resistant species.

James Johnson and Theodore J. Grant (*Phytopath.* 22: 741-758, 1932) indicated that the contentions hitherto made that plant viruses may be fundamentally changed by the host affected are not supported by experimental results, as the properties of each virus were not radically affected by the host plant utilized. The fungi studied were tobacco mosaic, cucumber mosaic, tobacco ring spot and tobacco spot necrosis.

S. M. Zeller and E. K. Vaughan (*Phytopath.* 22: 709-714, 1932) described for the first time the strawberry disease known as "crinkle," at present confined to the Pacific coast States. It has the appearance of a virosis, but its true nature has not yet been determined. W. W. Mackie (*Phytopath.* 22: 637-644, 1932) mentioned a fungus disease new to California on maize and beans (*Rhizoctonia bataticola*). J. C. Dunegan (*U. S. Dept. Agric. Tech. Bull.* 273, 1932) described in detail a bacterial spot disease of the peach and other stone fruits.

E. R. De Ong (*Phytopath.* 22: 861-863, 1932), commenting upon the use of petroleum oil as an insecticide, referred to its lack of fungicidal value. A special form of pine tar oil has been developed that fills this need.

The studies of Starkey on the influence of higher plants on the micro-organic population of soil (*Soil Science* 32: 367-404, 1932), confirmed by Thom and Humfeld (*Soil Science* 34: 29-36, 1932), show that the bacterial flora of the soil tends to be augmented in proximity to the roots of higher plants.

White pine blister rust is proving a bad pest

in the northwest. According to Lachmund and Hansbrough (*Journ. Forestry* 30: 687-691. 1932) the sugar pine and the western white pine are fully as susceptible to this rust as the eastern white pine.

**GENETICS.** Prof. J. B. S. Haldane (*Am. Nat.* 66: 5-24. 1932), treating of the time of action of genes, demonstrated that they can not only act in the zygotes, gametes, or endosperms carrying them, but can be manifested over more than one life cycle. It is contended that change in the time of action has been an important factor in evolution, and that some cases of orthogenesis can be explained on this basis.

Various investigators have carried on cytological and genetic studies in cotton and maize, notably Harland and Hutchinson (*Journ. Genetics* 25: 261-292. 1932).

**ECOLOGY.** A. H. Wright and A. D. Wright (*Ecological Monog.* 2: No. 2. 1932) made an exhaustive survey of the habitats and composition of the vegetation of Okefinokee Swamp, in Georgia. This region is free from tidal influences, salt marshes and dunes, and the natural plant associations may be divided into six groups: (1) shallow marshes, locally called prairies; (2) wooded swamps or "bays"; (3) watercourses; (4) hammocks; (5) barrens; (6) marginal bogs or "strands." In general the vegetation of the swamp belongs to the Lower Austral zone.

V. E. Shelford (*Ecology* 13: 105-120. 1932) suggested some novel basic principles for the classification of plant communities and habitats, and proposes a number of new terms. J. E. Weaver and T. J. Fitzpatrick (*Bot. Gaz.* 94: 113-150. 1932) discussed the various dominant grasses of the tall grass prairie region in the western States, noting that *Andropogon furcatus* forms 80 per cent of the vegetation of the lowland, while *A. scoparius* is the most abundant species. The lowland grasses possess the ability to endure shade and form a thick sod, while the upland forms depend upon their ability to withstand drought.

In an elaborate survey of the ecology of the digger pine (*Pinus sabiniana*) in California, George W. Graves (*Bot. Gaz.* 94: 106-133. 1932) found it confined to the regions between 600 and 4000 feet altitude. It is invading the yellow pine forest in its upper limits, where it forms part of the chaparral, but is apparently not moving downward into the oak savanna.

Length of day in relation to the natural and artificial distribution of plants was discussed by H. A. Allard (*Ecology* 13: 221-234. 1932). David Potter (*Rhodora* 34: 69-89. 1932) reviewed the botanical evidence of post-Pleocene marine connection between Hudson Bay and the St. Lawrence basin.

**TAXONOMY.** An exhaustive monograph of the genus *Cuscuta* was presented by Truman George Yuncker (*Mem. Torr. Bot. Club.* 18: No. 2. 1932). Margaret Ferguson and Alice Ottley (*Am. Journ. Bot.* 19: 385-405. 1932), continuing their studies of the genus *Petunia*, concluded that *P. axillaris* and *P. violacea* are the ancestors of a greater part, if not all of the cultivated forms. The character of the pollen grains was believed to be of diagnostic value.

G. W. Martin (*Bot. Gaz.* 94: 421-435. 1932) discussed the systematic position of the slime molds, which have been regarded both as plants and as animals. If the fungi in general, as a group, are considered as descended from the

green algae, the slime molds must be excluded. But if the fungi are treated as a monophyletic group descended from the colorless flagellates, the Myxomycetes form a natural lowest class, the others being the Phycomycetes, Ascomycetes, and Basidiomycetes. The author also suggested the employment of a more exact terminology in referring to the fungi.

**BIBLIOGRAPHY.** The following are among the important books published during the year. J. C. Liu. *Systematic Botany of the Flowering Families in China*. Henri Vetch, Peiping. F. B. H. Brown. *Flora of Southeastern Polynesia*. 1. *Monocotyledons*. Honolulu. L. Chalk and J. Burt Davy, editors. *Forest Trees and Timber of the British Empire*. I. *Some East African Coniferae and Leguminosae*. Oxford, Clarendon Press. P. A. Rydberg. *Flora of the Plains and Prairies of Central North America*. New York Botanical Garden. *International Address Book of Botanists*. Edited by a committee of the Fifth International Botanical Congress.

**NECROLOGY.** George C. Druce, died Feb. 29, 1932, aged 82. British botanist of note, author of many important local floras. William Willard Ashe, died Mar. 18, 1932, aged 60. Senior inspector of Forest Service, formerly curator of the Biltmore Herbarium, Biltmore, N. C., author of many papers, chiefly taxonomic.

**BOUNDARY DISPUTES.** See BOLIVIA, COLOMBIA, and PERU under *History*.

**BOUQUET CANYON DAM.** See DAMS.

**BOWDOIN CONGRESS.** An institution of higher education for men in Brunswick, Me., founded in 1794. The enrollment of the autumn session of 1932 was 582. There were 61 faculty members. The productive funds of the college amounted to \$6,412,803, and the income for 1931-32 was \$544,474. There were more than 155,000 volumes in the library. President, Kenneth Charles Morton Sills, LL.D.

**BOWLING.** Otto Nitschke, of Cleveland, was the individual star of the 1932 American Bowling Congress held in Detroit in the spring. With the magnificent total of 731 pins, the Cleveland bowler succeeded Walter Clark as singles titleholder. The title carried a cash prize of \$300 with it. At this thirty-second renewal of the A.B.C. the doubles event for \$500, the highest prize awarded, was captured by Charley Daw and Frank Benkovic of Milwaukee with a total of 1385. The all-events honors went to Hughie Stewart of Cincinnati with 1980 for nine games, and the Jefferson Clothiers of Dayton, O., won the five-man team award with a score of 3108.

The International Bowling Association tournament was held at Milwaukee with Hank Marion, of that city, winning individual laurels with a new I.B.A. record score of 760. The St. Paul city team won the five-man championship with 3178.

Main honors in the ancient game of lawn bowling went to the William McPhail rink of Buffalo in the tournament held at Buffalo in August. The team beat the Robert P. Dunlop quartette of Chicago in the final for the Robertson Trophy, emblematic of the national championship.

**BOXING.** A new world's heavyweight champion was crowned in 1932. In a bout, slow and dull, at the new Madison Square Garden Bowl in Long Island City in June, Jack Sharkey, Boston sailor, who had been knocking at the gates of fame for years, was finally given a verdict. He met Max Schmeling, German, who had been

awarded the championship of the world in 1930 when Sharkey fouled. In this second meeting things were about even for the fifteen rounds. The men at the ringside, able to see the way Sharkey's blows missed by slim margins, believed Schmeling retained his title, but the spectators in seats further removed thought otherwise and so did the judges; the decision in favor of the American stirred up tremendous excitement. There probably had never been such a difference of opinion between experts and judges and ringside patrons and those in the cheaper seats. The decision in Sharkey's favor was not the lone surprise of the sultry night in June. Prior to the day of the bout interest in the second meeting between the heavyweights had been low, but on the day of the bout long queues of fans stormed the box offices and when the two fighters entered the ring, 70,000 spectators were massed in the huge wooden crater that had been built in six weeks especially for the championship fight. The gate receipts totaled \$465,000, surprising in view of the depression and the low ebb of boxing in 1931 and early 1932. Sharkey did not defend his title in 1932. Schmeling further added to the still raging controversy by knocking out Mickey Walker in September. Sharkey had fought a draw with Walker in 1931.

Other heavyweights who gave promise of amounting to something of a threat to Sharkey's crown were Max Baer, Californian, who beat both Ernie Schaaf and King Levinsky, and Stanley Poreda, from Jersey City, who listed victories over Primo Carnera, Schaaf, and Tommy Loughran. Tony Shucco, lithe hitter from Boston, also shone in his few performances in the company of lesser lights of the ring.

Three other world's champions were crowned during the year—Kid Chocolate, Cuban negro, in the featherweight class, Jackie Fields among the welterweights, and Marcel Thil, French middleweight. Thil was recognized as middleweight champion, a berth vacant since Mickey Walker relinquished the title to advance to the heavyweight ranks in 1931, by the National Boxing Association. Thil defeated Gorilla Jones, winner of the N.B.A. elimination tournament, in Europe. The New York State Commission did not recognize Thil, considering Ben Jeby and Frank Battaglia the most promising candidates for the title. Fields regained his welterweight crown by outpointing Lou Brouillard, but did not defend his title because of eye trouble. Chocolate attained his high estate by knocking out Lou Feldman and successfully defending the title against Fidel La Barba. Bat Battalino had held the title at the start of the year but appeared for a title bout with Feldman in New York ten pounds overweight and his crown was declared forfeited. Tony Canzoneri, lightweight champion, only found one opponent for his title. He outpointed Billy Petrolle over the fifteen-round route in the fall in Madison Square Garden. Canzoneri fought frequently but could obtain nothing but catchweight bouts. Benny Leonard, former lightweight champion of the world, attempted a comeback but was knocked out by Jimmy McLarnin in a bout that packed Madison Square Garden.

Boxing was still in the doldrums during 1932, no real boxer or fighter rising above his fellows in the manner of Dempsey or Tunney. Nevertheless the standard of fights rose considerably and a lot of promoters and managers saw the fact

that well matched fighters give better exhibitions than poorly matched ones. There was a distinct feeling that professional boxing was on its way back to something like the heights reached in 1926 and 1927.

Outstanding of course in the amateur field was the Olympic competition in which two United States boxers—Eddie Flynn in the welterweights and Carmen Barth in the middleweights—carried off titles. Flynn had previously won the 147-pound title at the national championships in New York. Other winners in that tournament were Louis Salica, in the 112-pound class, Jimmy Martin in the 118-pound class. Dick Carter in the 126-pound class, Nat Bor in the 135-pound class, Fred Caserio in the 160-pound class, Homer Brandis in the 175-pound class and Fred Feary, San Francisco schoolboy, in the heavyweight division.

Dave Stoop of Penn State, Albert Wertheimer of Syracuse, and Alfred Lewis of Penn State were the individual stars in the college ranks. All three won titles in both the Eastern Intercollegiate and the National Collegiate A.A. championships. The list of winners in the Eastern Intercollegiates: 115-pound class, Dave Stoop, Penn State; 125-pound class, Albert Wertheimer, Syracuse; 135-pound class, John McAndrews, Penn State; 145-pound class, Alfred Lewis, Penn State; 155-pound class, Joseph Moran, Syracuse; 165-pound class, Al Gutzman, Syracuse; 175-pound class, Joseph Remus, U. S. Military Academy; team champion, Syracuse University. The winners in the N.C.A.A. competition: 112-pound class, Pete D'Allesandro, Temple; 118-pound class, Dave Stoop, Penn State; 126-pound class, Albert Wertheimer, Syracuse; 135-pound class, Bob Goldstein, University of Virginia; 147-pound class, Alfred Lewis, Penn State; 160-pound class, Dennis Flynn, Loyola (New Orleans); 175-pound class, Theofiel Wageman, New Hampshire; Heavyweight class, Doyle Hill, Tulane.

**BOY SCOUTS OF AMERICA.** An organization incorporated in 1910, and chartered by Congress in 1916, to develop the character of boys and train them for the duties of adult life by influence brought to bear in their work and play. Its national constitution declares the intention to "promote the ability of boys to do things for themselves and others, to train them in scoutcraft, and to teach them patriotism, courage, self-reliance, and kindred virtues." Each boy, on joining the organization, takes the scout oath, admonishing him to keep himself "physically strong, mentally awake, and morally straight." The movement is nonsectarian and without military or political connection.

The membership as of October, 1932, numbered 831,192, of whom 615,476 were scouts (boys 12 to 21), 25,168 cubs (boys 9 to 12), and 190,548 scout leaders (adults connected with the movement, whether as scoutmasters, counselors, or committee members). There were 12 regional districts under the direct supervision of the national scout executives and subdivided into 559 local councils.

There are three plans of organization: a scout troop, a farm or home patrol, and a lone scout tribe. A scout troop consists normally of 32 members, each troop being made up of patrols of eight or less members under a boy leader. A scoutmaster and one or more assistant scoutmasters are provided for each troop. Troops are

usually organized in connection with an existing institution, such as a church or school. A farm or home patrol may be organized with as few as two boys; it is intended for boys in rural areas. Boys who live too far away from a community to join a scout unit may become lone scouts and carry on the scout programme through correspondence, or they may meet occasionally with other boys who are carrying on the scout programme in patrols or as lone scouts.

Among the foremost scout activities are camping and hiking, nature study, sea scouting, and many kinds of athletics, and crafts, such as swimming, first aid, signaling, knot-tying, and bridge making. Successive ranks in membership—tenderfoot, second, and first class—are achieved by passing tests, graded in difficulty. Merit badges, 100 in number, may be attained by the scout of first class rank by meeting requirements for each; they cover proficiency in pursuits both of the useful and the hobby type. In order to attain higher ranks in scouting the boy must meet requirements for length of service, develop his leadership ability, and maintain his scout obligations. These and his earning a certain number of merit badges entitle him to the ranks of star, life, and eagle scout.

In 1932 the organization provided opportunity for 300,000 boys to spend a week or more in boy scout camps. There were 554 camps conducted by local councils and more than 2400 troop camps. In its community service the boy scout movement coöperates with the U. S. Forestry Department in fighting and preventing forest fires and in conserving wild life, and planting trees. It renders services in local campaigns of various sorts, such as clean-up and safety-first campaigns, and coöperates with many national societies and movements.

The official magazine for boys is *Boys' Life*, and for scout leaders, *Scouting*. The national officers in 1932 were: president, Walter W. Head; treasurer, George D. Pratt; national scout commissioner, Daniel Carter Beard; chief scout executive, James E. West; deputy chief scout executive, George J. Fisher. Headquarters of the national council, the governing body, are at 2 Park Avenue, New York City.

**BRADFORD, GAMALIEL.** An American author, died in Wellesley Hills, Mass., Apr. 11, 1932. Born in Boston, Mass., Oct. 9, 1863, he attended Harvard College for a few months in 1882 but was obliged to leave on account of ill health. After 1886 practically all his time was devoted to writing. His early attempts were mostly in the field of the essay and fiction and include *Types of American Character* (1895); *The Private Tutor* (1904); *Between Two Masters* (1906); and *Matthew Porter* (1908). He then developed the "psychograph" method of literary portraiture, an attempt to discover the motives that determine an individual's overt acts, through which he became known as one of the greatest American biographers. Outstanding among his biographical works are: *Lee, the American* (1912); *Confederate Portraits* (1914); *Union Portraits* (1916); *Portraits of Women* (1916); *A Naturalist of Souls* (1917); *Portraits of American Women* (1919); *American Portraits, 1875-1900* (1921); *Damaged Souls* (1923); *The Soul of Samuel Pepys* (1924); *Bare Souls* (1924); *Wives* (1925); *Darwin* (1926); *D. L. Moody—A Worker in Souls* (1927); *As God Made Them* (1929); *Daughters of Eve* (1930); *The Quick*

*and the Dead* (1931); *Saints and Sinners* (1932); and *Biography and the Human Heart* (posthumous, 1932). Also he published several volumes of poetry, including *A Pageant of Life* (1905); *A Prophet of Joy* (1920); and *Shadow Verses* (1920), and the autobiography of humanity, *Life and I* (1928). In 1931 he was elected a member of the American Academy of Arts and Letters.

**BRAZIL.** A federal republic, the largest of the South American states, comprising roughly the east central third of the continent and all the former Portuguese colonies in the New World. Capital and largest city, Rio de Janeiro.

**AREA AND POPULATION.** The area is approximately 3,275,510 square miles, or more than 250,000 square miles greater than that of continental United States, and the total estimated population on Jan. 1, 1930, was 40,272,650, as compared with 30,635,605 at the census of 1920. The population in 1930 was divided among 20 States, one Federal District, and one Territory as follows: Alagoas, 1,189,214; Amazonas, 433,777; Bahia, 4,135,894; Ceará, 1,626,025; Espirito Santo, 661,416; Federal District, 1,468,621; Goyaz, 712,210; Maranhão, 1,140,635; Matto Grosso, 349,857; Minas Geraes, 7,442,243; Pará, 1,432,401; Parahyba, 1,322,069; Paraná, 974,273; Pernambuco, 2,869,814; Piauh, 809,508; Rio de Janeiro, 1,996,899; Rio Grande do Norte, 738,889; Rio Grande do Sul, 2,959,627; Santa Catharina, 948,398; São Paulo, 6,399,190; Sergipe, 547,965; Acre Territory, 113,725.

The chief cities, with the estimated populations in 1930, are: Rio de Janeiro, 1,468,621; São Paulo, 879,788; São Salvador (Bahia), 329,898; Recife (Pernambuco), 340,543; Belém (Pará), 279,491; Porto Alegre, 273,376; Fortaleza, 123,706; Bello Horizonte, 108,849; Nictheroy, 108,233; Maceió, 103,930; Curitiba, 100,135. Parahyba (74,104 in 1929), capital city of the state of Parahyba, was renamed Joao Pessoa in honor of the President of the state assassinated in 1930. Between 1820 and 1930, 4,518,558 immigrants entered Brazil. Of these, 78 per cent were of Latin origin and 2,561,981 settled in the state of São Paulo. Immigrants in 1930 numbered 67,066, of whom 18,719 were Portuguese, 14,076 Japanese, 4719 Poles, 4253 Italians, 4180 Germans, and 3218 Spaniards. The language is Portuguese but Italian and German are widely used in the south.

**EDUCATION.** At the census of 1920, 75.5 per cent of the population was illiterate. Education is free but compulsory in only seven states. In January, 1930, there were in all states 29,430 primary schools, with 2,052,000 pupils and 47,000 teachers; 212 recognized secondary schools and 367 professional schools, with more than 37,000 pupils; and 76 teachers' training schools. Advanced education is furnished by the official University of Rio de Janeiro, two private universities—at Bello Horizonte (Minas Geraes) and Curitiba (Paraná),—56 other faculties conferring degrees, and various professional and other institutions.

**PRODUCTION.** Although potentially one of the greatest agricultural countries of the world, Brazil in 1932 had only about 17,387,000 acres under cultivation, compared with some 1,236,000,000 acres covered by woods and forests. Coffee is both the chief crop and the main support of the national economy; in 1930 it furnished 62 per cent of the value of all exports. Brazil

furnishes about three-fourths of the world's coffee supply, exports in 1931 totaling 17,291,143 bags (of 132 pounds each), against 15,288,409 bags in 1930. It ranks second in the production of cacao (1,500,000 bags of 60 kilos, 1931-32). The 1930-31 yields of other important crops were (in bushels): wheat, 4,980,000; rye, 660,000; corn, 200,144,000; rice, 51,346,000; potatoes, 18,172,000; (in pounds)—coffee, 3,442,712,000; cane sugar, 2,065,574,000; cacao, 201,992,000; tobacco, 187,153,000; cotton, 259,706,000; rubber (exports), 31,942,000; alfalfa, 114,000 metric tons. No livestock census has been taken since 1920, when there were 34,271,000 cattle, 16,169,000 swine, 7,933,000 sheep, and 5,254,000 horses. Shipments of chilled and frozen meat occupied second place among Brazilian exports in 1930.

Manganese ore, ilmenite, gold, mica, low-grade coal, and silver are the chief minerals produced. The output of diamonds (mostly for industrial use) declined sharply in 1930 and 1931. One of the richest iron-ore deposits in the world was being opened up by foreign capital in 1932, total iron resources are estimated at one-fourth the world supply. Cotton weaving is the chief manufacturing industry. In 1929 there were 347 cotton factories with 2,620,471 spindles and 78,910 looms, 13 silk mills, 35 woollen mills, 16 jute mills, 18 paper mills with an output of about 70,000 metric tons annually, 15 packing plants, about 216 sugar factories, and more than 2000 tobacco factories. Electric power was produced by about 500 hydro-electric plants, with an aggregate capacity of 700,000 horse power.

COMMERCE. In the national currency Brazilian foreign trade for 1931 showed a slight gain over that of 1930, totaling 5,265,307 contos, as compared with 5,251,059 contos. This was attributable to heavy coffee shipments, whose value was more than half a million contos greater than in 1930, due to the sharp decline in import values. The Brazilian conto, however, depreciated in exchange value from an average of \$118 in 1929 to \$107 in 1930 and to \$70 in 1931. Converted to American currency, Brazilian foreign trade amounted to \$370,151,082 in 1931 and to \$562,389,000 in 1930. The accompanying table shows imports and exports for the years 1929 through 1931 both in Brazilian currency and the conversion value in U. S. gold.

BRAZILIAN FOREIGN TRADE, 1929-31 \*

	Imports (in contos)	Exports (in contos)	Imports (in dollars)	Exports (in dollars)
1929	3,527,738	3,860,482	416,626,000	455,923,000
1930	2,348,705	2,907,354	251,011,000	311,378,000
1931	1,880,934	3,898,164	131,256,000	238,895,000

\* Commerce Yearbook, 1932.

In terms of pounds sterling, preliminary 1932 trade figures showed exports of £36,629,000 and imports of £21,744,000.

Of the total exports in 1931, coffee amounted for \$164,999,654, or about 69 per cent. Chilled and frozen beef, yerba maté (Brazilian tea), cacao, raw cotton, hides and skins, and tobacco leaf were other exports. Imports were distributed over a wide range of commodities, including wheat, wheat flour, iron and steel manufactures, machinery and implements, drugs, chemicals, etc. The United States in 1931 continued as Brazil's best customer and chief supplier of imports, purchasing 44 per cent of the country's exports and furnishing 26 per cent of its im-

ports, as compared with 40 per cent and 24 per cent, respectively, in 1930. While imports from the United States declined 46 per cent in 1931 as compared with 1930, imports from Great Britain, Germany, and France all fell by 53 per cent and Argentina's share declined 45 per cent.

FINANCE. According to accountants appointed by the Provisional government of Dr. Getulio Vargas, the Federal accounts of the preceding government, headed by Dr. Washington Luis Pereira de Souza, for the years 1927, 1928, and 1929 showed an aggregate deficit of 491,169 contos paper instead of the reported surplus of 404,189 contos paper. A further deficit of 41,782 contos paper was reported in 1930, and in 1931 there was an estimated surplus of 73,575 contos paper. The budget for 1932 estimated revenues at 2,132,119 contos paper and expenditures at 2,126,525 contos, leaving an expected surplus of 5594 contos. The budget was thrown badly out of balance, however, by the outbreak of civil war during the year.

According to the Niemeyer report, the Federal indebtedness on Jan. 1, 1931, amounted to 2,533,916 contos paper of internal funded debt and a foreign debt of about \$671,039,000 divided as follows. Pounds sterling, 100,569,751; gold francs, 193,556,110; paper francs, 135,778,500; United States dollars, 143,336,998. The Department of Commercial Statistics estimated that in 1931 the obligations devolving upon Brazil as a result of foreign loans and investments and the services rendered by foreign corporations amounted to approximately £36,000,000 sterling. To meet these charges, Brazil had a surplus of exports over imports of only £20,948,000, leaving an unfavorable balance for the year of about £15,052,000. Similar adverse balances in previous years had been met by further foreign loans or investments. When the market for foreign financing was virtually closed in 1930 and 1931, the country's gold reserves were soon depleted and on Oct. 17, 1931, the government was forced to declare a three-year moratorium on gold payments on the bulk of the foreign debt. According to *Foreign Policy Reports* for Jan. 6, 1932, the Federal government, states and cities of Brazil were in default on 72 foreign loans. Nevertheless about \$11,651,000 of the Federal debt was amortized between Jan. 1, and Oct. 14, 1932.

The unit of currency is the milreis (\$0.11963 at par). Large accounts are usually quoted in contos (1 conto equals 1000 milreis). The gold milreis is a unit of account employed only in certain official transactions, revenues nominally collectible in gold milreis being actually paid in paper milreis at a rate varying daily with the rate of exchange.

COMMUNICATIONS. At the beginning of 1931 Brazil had 19,840 miles of railways, of which 11,829 miles were owned by the Federal government, 2982 miles were operated under Federal concessions, and 5024 miles belonged to the several states. The Central Brazil Railway (1817 miles) is the principal system and links all Brazilian railways with those of Uruguay, Argentina, and Paraguay. Highways in 1930 extended 75,497 miles, of which 963 miles were macadam. Air lines connected Rio de Janeiro with the chief cities of South America and the United States.

GOVERNMENT. The Constitution of 1891, modified in 1926, was suspended by the Provisional government of Dr. Getulio Vargas estab-



lished Nov. 3, 1930. The Provisional government thereafter governed by decree. Administration of the government was divided among nine departments and the national and state legislatures were dissolved pending the framing of a new electoral law and Constitution. For developments in 1932, see *History*.

#### HISTORY

THE CIVIL WAR. For three months during 1932 the greatest war the Western Hemisphere had witnessed, since the Civil War in the United States, raged in Brazil. A revolt against the Provisional government of Getulio Vargas broke out in São Paulo on July 9, enlisted considerable support from some of the other Brazilian states, and was put down October 3 only after severe fighting on three fronts, in which some 120,000 troops were engaged. The bitterly fought civil struggle left deep scars which promised to require many years to heal.

The causes of the revolt lay primarily in the rivalry between São Paulo and Minas Geraes—the two most important and richest states in the Union—for control of the Federal government. In 1931, Dr. Vargas, then Governor of the State of Rio Grande do Sul, united with Minas Geraes leaders in a successful revolt against the Government of President Washington Luis, a Paulista (see 1931 YEAR BOOK). Washington Luis and Julio Prestes, another Paulista who was President-elect, represented an oligarchy of wealthy landowners which had been in control of the Federal government. While Vargas represented the great landed proprietors of the State of Rio Grande do Sul, he had the support of the masses against Washington Luis and his clique.

Once installed as Provisional President, Dr. Vargas delayed a return to constitutional government pending a revision of the Constitution. He planned to prevent a return of the Paulistas to power by putting into effect the secret ballot and making voting compulsory. Despite the Provisional President's contention that the country was not ready for elections and that a draft Constitution embodying his reforms should first be prepared, he encountered growing opposition. Early in the year his own state withdrew its support and the four Rio Grande do Sul men on his Cabinet resigned, asserting that the time was ripe for a return to constitutional government. Vargas was accused, particularly in São Paulo, of seeking to perpetuate his rule. On May 14, 1932, Dr. Vargas met the demands of the constitutionalists by signing a decree fixing May 3, 1933, as the date for the election of a constitutional assembly. The decree was noteworthy in that it provided for a secret vote and woman's suffrage in choosing the assembly.

The Paulistas were not satisfied with the prospect of a year's delay. They felt the political and economic interests of their state were being neglected. In May there were riots and continual agitation in the state capital and on May 27 the Chief of Police at Rio de Janeiro announced that a score of politicians affiliated with the Washington Luis régime had been arrested for plotting against the government. After several months of preparation, during which a large and well-equipped army was mobilized along the frontier of the state of Rio de Janeiro, the Paulistas inaugurated their revolt by taking control of the city and state of São Paulo. Pedro de Toledo, Federal Governor of São Paulo state, resigned and

was installed as president of the revolutionary government.

The Paulistas had planned to capture Rio de Janeiro by a quick drive. Their offensive was halted, however, by the unexpected invasion of their state from the state of Parana on the south by a Federal army under General Waldomiro Lima. Part of the Paulista forces were dispatched to check General Lima and those remaining on the Rio de Janeiro front were forced to take the defensive. Blocked on two fronts, the Federal forces now commenced a drive into São Paulo from the state of Minas Geraes.

The strategy of the Paulistas was to hold the Federals at bay on these three fronts while striving to enlist the aid of other states. Considerable sympathy for the revolutionary movement was manifested in other states, but the Federal forces in each case were able to maintain control. On July 23 it was reported that Borges de Medeiros, several times Governor of Rio Grande do Sul, had assumed leadership of a revolutionary movement in that state. He was captured, however, by Gen. Flores de Cunha, the Federal interventor. On September 7, the Provisional government at Rio de Janeiro announced that a conspiracy to overthrow the state government of Minas Geraes and join the rebels, had been frustrated. The insurgent leader in the state, former President Arthur Bernardes, was taken prisoner.

Toward the end of September, the Paulista forces began to disintegrate. After the fall of Ribero Preto, on the railway line from São Paulo to Barretos, centre of a great cattle region from which São Paulo was drawing its food supply, Gen. Bertholdo Klinger-Holfer, commander of the São Paulo forces, on September 29 requested an armistice. General Klinger refused to sign the Federal armistice terms but the São Paulo state militia on October 3 declined to continue the struggle and the insurgent commander was forced to surrender unconditionally to the Federal commander-in-chief, Gen. Goes Monteiro. The total casualties on both sides were reported at over 15,000.

With the termination of the struggle, the Federal blockade of the port of Santos, which for three months cut off coffee shipments from the world's leading coffee port, was lifted, as was the embargo on cable and telegraph messages from the state of São Paulo. The Federals treated their defeated foes with moderation. Amnesty was granted to all except those directly responsible for the revolt, who were held for trial before a special tribunal. Approximately 200 revolutionary leaders were deported to Portugal. Pending the elections fixed for May 3, 1933, the Constitution of 1891, modified in part, was to remain in force and a civilian governor was named for São Paulo. General Lima was appointed military governor of the State. Both the Federal government and the state of São Paulo had issued paper currency to pay for their war expenditures, the amounts being reported at 112,000 contos (about \$8,400,000) and 200,000 contos (about \$14,500,000), respectively. The Federal government legitimized the state currency, as well as its own, issuing bonds against the State of São Paulo in order to force it to shoulder the burden of its own issues. Despite the moderation of the Federal government, popular demonstrations against it and the army recurred in São Paulo city on October 16 and again on October 26. In anticipation of the revision of the Constitution and new

elections, extensive political regroupings were under way at the end of the year and the nuclei of at least two new political parties had already been formed. By a decree of December 9, the Provisional Government suspended for three years the political rights of hundreds of persons connected with the Federal Government in 1930 and with the São Paulo revolt.

**OTHER DEVELOPMENTS.** The Provisional government during the year issued a number of decrees bearing upon the economic and political life of the country. On May 17 a new decree, reinforcing that of May 14, 1931, expressly forbade the states and municipalities to create imposts, taxes, or duties whose incidence was on interstate or inter-municipal commerce. The decree also provided for the gradual elimination of the export taxes levied by the states. In an effort to put idle currency in circulation and to aid hard-pressed banks by loaning them money on their frozen credits, the government by the law of June 9, 1932, established the *Caixa de Mobilização Bancária* (Banking Mobilization Bureau). All national and foreign banks were required to deposit in the Bank of Brazil, which financed the new bureau, all cash on hand in excess of 20 per cent of the sum total of their deposits. Interest of 1 per cent per annum was to be paid on such deposits.

A decree establishing the 8-hour day and six-day week in all industrial establishments was signed by President Vargas on May 4, 1932. The electoral law promulgated by the Provisional President Feb. 24, 1932, standardized election requirements throughout the country, not only for the projected national election of a constitutional convention but also for all elections held in Brazil, whether state, Federal, or municipal. All citizens over 21 years of age, both male and female, were made eligible to vote, unless they were paupers, enlisted men in the Army and Navy, or illiterates. In October, 1932, the government announced that it had expended about \$4,500,000 for drought relief in the northeastern states.

**THE COFFEE SITUATION.** The chief problem facing the Provisional government in its efforts to check the economic depression was the catastrophic decline in coffee prices, caused by the huge surplus which had accumulated over several years. On June 30, 1931, there were 18,000,000 bags of coffee in the São Paulo retaining warehouses. Added to the 17,500,000 bags at which the 1931-32 crop was then estimated, these made a total of 35,500,000 bags available in São Paulo alone. As the average coffee exports through Santos were estimated at 9,500,000 bags annually, this left a surplus of 26,000,000 bags to be disposed of if the market was to be restored. Accordingly the Provisional government in December, 1931, established a National Coffee Council to protect the industry during the period of transition from artificial stabilization of prices to free production based on the world demand.

The Council decided to purchase and destroy the surplus low-grade coffee and levied a 10-shilling tax on each bag exported for this purpose. In addition, new plantings were virtually prohibited, and steps were taken to improve coffee grades and increase world consumption. Up to June, 1932, the Council had purchased and destroyed more than 7,786,000 bags of 132 pounds each, or more than 1,027,752,000 pounds of coffee, at a cost of approximately \$63,000,000.

**EXTERNAL RELATIONS.** The seizure by Peruvians on September 1 of Colombia's Amazon River port of Leticia and Colombia's preparations to restore its sovereignty there by military force caused the Brazilian government on December 6 to send General Almerido de Moura to Fort Tabatinga on the Upper Amazon to maintain Brazilian neutrality. Heavy military, naval, and air reinforcements were placed at his disposal (see *COLOMBIA under History*).

For Brazil's rôle in the efforts to end the Bolivian-Paraguayan war in the Chaco, see *BOLIVIA under History*. The Brazilian-Venezuelan boundary commission resumed demarcation of the frontier in September, 1932.

**BREMEN.** See *GERMANY under Area and Population*.

**BRENNAN, LOUIS.** An Irish inventor, died in Farnborough, England, Jan. 17, 1932. He was born in Castlebar, Ireland, Jan. 28, 1852, but lived in Melbourne, Australia, from 1861 to 1880, where he was educated as a civil and electrical engineer. About 1880 he invented the dirigible torpedo bearing his name, which he sold to the British government. In 1887 he was made superintendent of a special government factory where this torpedo was manufactured for more than 20 years but was later supplanted by other models. From 1906 to 1912 he carried out his experiments with a gyroscopic monorail car which he predicted would revolutionize transportation but which, however, did not find favor with the railroad companies. During the World War he was assigned to the munitions inventions department of the Ministry of Munitions, being engaged in confidential aircraft research work, and from 1919 to 1926 held the same position with the Air Ministry where he developed the helicopter. He was created a Companion of the Bath in 1892 and was elected an honorary member of the Royal Engineering Institute in 1906. He was also a foundation member of the National Academy of Ireland.

**BRENTFORD, WILLIAM JOYNSON-HICKS, 1st VISCOUNT.** A British statesman, died in London, June 8, 1932. Born in Bexhill June 23, 1865, he attended the Merchant Taylors' School and practiced as a solicitor in London. Subsequently he entered politics and was elected to Parliament for northwest Manchester in 1908, for Brentford in 1911, and for the Twickenham division of Middlesex in 1918; he represented the latter constituency until 1929, serving also as chairman of the parliamentary air committee and of the parliamentary road transport committee. During 1922-23 he was parliamentary secretary to the Overseas Trade Department in Bonar Law's Cabinet. In the same government he was successively Postmaster-General and Paymaster-General and Financial Secretary to the Treasury, with a seat in the Cabinet. He was appointed Privy Councillor in 1923. On Stanley Baldwin's appointment as Premier he was made Minister of Health (1923-24) and Home Secretary (1924-29). During his tenure of the latter office there occurred the raid on Arcos, the London quarters of the Soviet trade delegation, which resulted in the severance of diplomatic relations between Great Britain and the U.S.S.R. He took a prominent part in defeating the Prayer-Book Measure, which he justified in *The Prayer-Book Crisis* (1928). He was a member of the Joint Select Committee on Indian Affairs and of the roads advisory committee of the Ministry of Transport. A baronetcy

was conferred on him in 1919, and in 1929 he was raised to the peerage as Viscount Brentford of Newick, Sussex.

**BREST-LITOVSK AFFAIR.** See POLAND under *History*.

**BRETHREN, CHURCH OF THE.** A church established in the United States in 1719 in Germantown, Pa. It originated in Schwarzenau, Germany, in 1708 and is the largest of the five branches of the denomination formerly known as the German Baptist Brethren or Dunkers. Other churches of this group are: The Church of God (New Dunkards); Brethren Church (Progressive Dunkers); German Seventh-day Baptists; and Old Order German Baptist Brethren. The policy of the Church of the Brethren corresponds more nearly to the Presbyterian than to any other specific ecclesiastical form. It comprises 49 district conferences and holds a general conference annually.

In 1932 there were 1027 churches and 1464 meeting houses, with a membership of 143,425, and 1190 Sunday schools, with an enrollment of 116,891. Foreign missionary work was carried on in India, China, and Africa, the total membership in the mission field being 5469. Expenditures for the year ending Feb. 28, 1931, totaled \$274,659. The denomination maintained eight colleges, one academy, and one theological seminary and training school, with an enrollment of 4199 students. At the close of school June, 1932, Mt. Morris College closed its doors after operating for 93 years. The *Gospel Messenger* is the official organ.

Officers of the general conference in 1932 were: moderator, the Rev. Chas. D. Bonsack; reading clerk, the Rev. Chas. D. Bonsack; and secretary, the Rev. J. E. Miller, all of Elgin, Ill. The Rev. J. W. Lear of Elgin, Ill., was executive secretary of the council of boards; the Rev. Otho Winger of North Manchester, Ind., president of the general mission board; the Rev. C. S. Ikenberry of Daleville, Va., president of the board of Christian Education; the Rev. H. L. Hartsough of North Manchester, Ind., president of the general ministerial board; and Dr. C. C. Ellis of Huntington, Pa., president of the general education board. With the exception of the general education board, which is located at 3635 Ordway Street N.W., Washington, D. C., the headquarters of all the boards are in Elgin, Ill.

**BRIAND, hr'ian, ARISTIDE.** A French statesman, died in Paris, Mar. 7, 1932. He was born in Nantes Mar. 28, 1862, and attended the College of St. Nazaire. Although trained as a lawyer, his interests were in the fields of journalism and politics. For several years he was a contributor to Radical and Socialist journals, such as *Le Peuple*, *La Lanterne*, and *La Petite République*, and with Jean Jaurès founded *L'Humanité*. He made himself conspicuous by advocating at a laborers' congress in Nantes in 1894 the adoption of the general strike idea. In 1902, after several unsuccessful attempts to enter Parliament, he was elected to the Chamber of Deputies, as a Socialist Radical, for the Department of the Loire. As *rapporteur* of the committee appointed to draft the bill providing for the separation of Church and State in France, he drew up a report which was a masterpiece of historic study, and which became the basis for the law of separation. In 1906 he received the portfolio of public instruction and worship in the Sarrien cabinet, and won the support of moderate elements. How-

ever, his acceptance of a post in a bourgeois ministry caused his exclusion from the Union-Socialist party. He held the same portfolio in Clémenceau's first cabinet (1906) and in 1908 was appointed keeper of the seals and minister of justice and worship.

In 1909, on the fall of Clémenceau's government, Briand became the first Socialist premier of France. Also he held the portfolio of the interior. The outstanding event of his ministry was the general railroad strike of 1910, which had been called by the General Confederation of Labor, a revolutionary syndicalist organization. More than 30,000 employees on government and private lines had responded and had disorganized the railway system of France. When acts of violence and sabotage became frequent, Briand decided upon an unusual but effective course. The strikers who were still subject to military service were "called to the colors" as reserves for three weeks' training. They were compelled to protect the railroads under threat of military punishment, and thus became their own strike breakers. The move, however, earned for the premier the hatred of the French working class, who bitterly denounced him as a renegade and a dictator. His defense was that the government was confronted by what was virtually rebellion and that society had the right to use all means, even illegal ones, for its own safety on the ground of *salus publica suprema lex*. In February, 1911, his ministry fell because it was accused by the Radicals with having shown remissness in enforcing the religious laws.

After acting as minister of justice in Poincaré's cabinet during 1912 Briand succeeded him as premier and minister of the interior in January, 1913. His tenure of office, however, was short, his resignation being occasioned in March by the defeat in the Senate of the bill, already passed by the Chamber, establishing proportional representation. He was keeper of the seals and minister of justice in Viviani's cabinet from August, 1914, to October, 1915, and then succeeded his chief as head of a coalition government in which he took over also the portfolio of foreign affairs. During the War period he worked steadily for greater unity of direction among the Allies, in spite of such difficulties as those with Great Britain over the Saloniki expedition. He remained in power until March, 1917, when he was succeeded first by Ribot and then by Clémenceau.

Emerging from his retirement, Briand was again made premier and minister of foreign affairs in January, 1921. In November of that year he attended the Washington Disarmament Conference, where he eloquently presented France's need of a strong military defense for "protectionist" purposes but at the same time denied all charges of imperialism. He met opposition in the carrying out of the terms of the Versailles Treaty, especially with regard to reparations, in the face of the demands of French nationalists for stronger and stronger measures against Germany. He retired voluntarily in January, 1922.

In 1924 Briand was appointed delegate to the League of Nations and was later made president of the French delegation to the Assembly. In this body he found an enlarged scope for his brilliant diplomatic and debating powers. In April, 1925, Painlevé made him minister of foreign affairs, an office which he held continuously thereafter,

with the exception of the three-day Herriot ministry in July, 1926, in spite of the many changes of cabinet chiefs. He was again premier from November, 1925, to July, 1926, during the difficult and discouraging period of the depreciation of the franc, his ministry falling and being reformed three times during those eight months. As foreign minister he was more successful, carrying out a policy of rapprochement with Germany marked by the Locarno treaties (December, 1925), the entry of Germany into the League of Nations (September, 1926), and the agreement to call committees of experts to discuss the reparations problem and the possible evacuation of the Rhineland before 1935, the date set by the Versailles Treaty (September, 1928). In 1926 he and Dr. Gustav Stresemann, German foreign minister, with whom he had worked with infinite patience, received the Nobel Peace Prize for 1925 for their efforts in drawing up the Locarno Pact, which fulfilled the "security" demands of both countries in its guarantee of a Franco-German frontier.

In 1927 Briand suggested a pact to outlaw war between France and the United States, which developed into the Kellogg-Briand Pact, a multilateral treaty for the renunciation of war as an instrument of national policy, signed by 15 nations at Paris in August, 1928, and subsequently ratified by the United States and numerous other signatories. In July, 1929, he was called upon for the eleventh time to form a ministry which lasted until October. His overthrow was caused by dissatisfaction with the terms of the Young Plan, and the popular belief that, at The Hague, the premier had bartered away French occupation of the Rhineland for a doubtful reparations promise on the part of Germany. In 1930 Briand issued to 26 governments, excluding Russia and Turkey, his famous memorandum on the organization of a European federal union. His last post was that of minister of foreign affairs in the government of Pierre Laval, where his policy of conciliation often clashed with the ultra-nationalism of the other cabinet members. His death occasioned tributes from statesmen of all nations for his conspicuous service toward achieving world peace and understanding.

**BRIDGE.** See **CONTRACT BRIDGE.**

**BRIDGES.** While the economic situation resulted in a much curtailed programme for new construction during the year, there were several notable bridge openings, and two immense bridge projects, those at San Francisco, appear to have at last reached the point where construction is about to begin.

**STEEL ARCHES.** Foremost among the bridges opened for traffic during the year is the great Sydney Harbor Arch in Australia. Eight years had passed since construction began when this 1650-foot silicon steel arch was opened in March. Only 2 feet less in span than the Bayonne Bridge of the Port of New York Authority, the Sydney Arch is a much heavier structure. The last, and most interesting, construction operation was that required to effect the "closure" of the arch trusses. These were built by the cantilever method from each shore to meet at the centre of the span. Inasmuch as temperature and other conditions make it impossible to determine beforehand the exact length required for the last chord and other members of the arch to be used in making a closure, it is necessary to adjust the

two halves of the arch to meet exactly at the centre. In the Sydney Harbor Bridge the two upper chords of each half arch were stayed back by means of  $2\frac{3}{4}$ -inch cables, 128 to each chord member, anchored in tunnels driven into rock on each shore. The final adjustment, lowering each half of the arch into position, was made by lengthening these back-stay cables—a difficult and delicate operation.

An interesting and novel method of construction was used in erecting a 547-foot steel highway arch over the Merrimac River at Tyngsborough, north of Lowell, Mass. Reversing the usual method of construction, the floor system of this bridge was placed on falsework and the arch was then erected over it.

Among the smaller steel arch structures placed in service during the year was the New Lambeth Bridge over the Thames at London, Eng. This work is primarily of historical interest, for its five steel arches (maximum 165-foot span) replace the old suspension bridge, built in 1862, which was the longest wire-rope suspension in England.

**CONCRETE ARCHES.** In concrete arch spans we note the formal opening on February 21, of the Arlington Memorial Bridge. This should be classed as a monumental architectural work rather than a bridge. The New Ridge Road or Veterans' Memorial Bridge (300-foot main span) over the gorge of the Genesee River in the city of Rochester, N. Y., properly belongs in the same classification.

In both cases, granite facing has been used to disguise the actual construction. In the former, an aluminum cover, molded and painted to resemble stone, has been placed on a steel bascule lift, and the latter, although a typical modern concrete arch, has been made to resemble an old, solid spandrel, Roman bridge.

Obviously, such methods cannot be accepted as meeting the standards of good engineering esthetics. Indeed engineers find the Rogue River (Ore.), Bridge (seven concrete arch spans of 230-feet each) and the great Westinghouse Arch at Pittsburgh far more interesting. The former (see 1931 YEAR BOOK) is the first American bridge in which the new method, devised by the French concrete expert, Freyssinet, for decentering and stress adjustment, has been used. It was completed in January.

The George Westinghouse Arch, with its central span of 460 feet centre to centre of piers, now takes its place as the longest concrete arch in America. The centring for this remarkable arch was very interesting. The two wide, flat ribs of the arch were reinforced, top and bottom, with 17  $1\frac{1}{4}$ -inch square steel bars. An innovation in placing this steel consisted in welding the splices in these main bars.

**VIADUCTS.** On November 24 one of the greatest viaduct structures in the world was opened to traffic. This 3-mile construction joins the west exit of the Holland Tunnel to the great New Jersey highway leading south to shore points and Trenton. It crosses the Hackensack and Passaic Rivers and several railroad lines, and it avoids several points of heavy traffic concentration. The two cantilever bridges, and the steel spans and concrete pier constructions brought the cost of this work to the huge figure of \$7,000,000 per mile.

Several smaller works of the viaduct type, such as the Burrard Street Bridge at Vancouver, B. C., opened July 1; the new Lorain Central Viaduct at

Cleveland, O., and the new Henley Street Viaduct at Knoxville, Tenn., indicate that the problem of relieving traffic congestion in and near our great cities will continue to stimulate this type of construction.

**SUSPENSION BRIDGES.** Although traffic during the first year of operation of the George Washington Memorial Bridge over the Hudson was disappointing (actual, vehicles  $5\frac{1}{2}$  million, pedestrians  $\frac{1}{2}$  million, against estimates of 8.7 and 1.4), it was stated that a net profit had been earned on this work. The completion of the costly granite facing of the New York approach and anchorage has been postponed.

The proposed 57th Street Suspension Bridge over the Hudson at New York, long a favorite project of the veteran bridge engineer, Gustav Lindenthal, is still in abeyance. It has been bitterly opposed by the Port of New York Authority and, with existing financial conditions, the realization of this great venture seems remote.

At the same time, the dangerous condition of New York City finances has forced the suspension of work on the great Tri-Borough Bridge over Hell Gate and the Harlem River. About six millions have been expended in completing the tower foundations and anchorages and work is still being continued on the designs and plans.

Suspension bridge interest thus centres in the West where the two great San Francisco projects, after many delays, appear to be at last under construction.

**THE GOLDEN GATE BRIDGE.** The right of the Golden Gate Bridge and Highway District to tax and to issue bonds was upheld by the California Supreme Court and the U. S. District Court early in the year. In August it was announced that the opponents of the project, backed largely by the ferry interests, had waived their right to appeal to the U. S. Supreme Court. Under these conditions, the legal obstacles seemed at last to be removed and an official ground-breaking ceremony was observed on December 17.

In the meantime, the right of way over government property for the south approach had been secured and exploratory borings for the tower and other foundations of the huge 4200-foot span were practically completed. The consulting board also undertook a final revision of plans and these plans as revised received the approval of the War Department in May.

With legal matters settled it was also possible to secure a market for the first of the \$35,000,000 of bridge bonds which had been authorized. An application for assistance which had been made to the Reconstruction Finance Corporation was accordingly withdrawn. In August a local syndicate agreed to purchase \$6,000,000 in bonds at 92 with interest at 5 per cent. The legality of thus selling bonds under par has been questioned but, apparently, has caused no further delay in operations.

These preliminary delays and difficulties, however, made it necessary to readvertise some of the work. Contracts made in June, 1931, were first extended six months and then an additional six months. When they lapsed in June, 1932, it was found possible to renew only that for \$10,484,000 covering the steel superstructure. Accordingly, new bids were called for on the other items and contracts for all other work, except paving, totaling \$12,794,904, were let November 4. Paving, which will not be required for some time, is to be let later.

**SAN FRANCISCO-OAKLAND BAY BRIDGE.** Through a conditional purchase of \$62,000,000 of the authorized \$75,000,000 bond issue, by the Reconstruction Finance Corporation, it has been possible to make plans to start this unique construction early in 1933. Bids for piers are called for on Feb. 2, 1933.

This huge construction, costing over twice the amount to be expended on the Golden Gate Bridge, will be  $7\frac{1}{2}$  miles long and will cross the 5-mile water barrier between San Francisco and Oakland.

The East Bay channel between Oakland and Yerba Buena Island requires a main cantilever span of 1400 feet and five 504-foot and fourteen 238-foot truss spans. In crossing the island a 500-foot tunnel is planned which is to be 70 feet wide and 50 feet high—a section not paralleled in size except in the Rove Canal tunnel at Marseilles, France.

The West Bay crossing, from Yerba Buena Island to San Francisco, is to be made entirely by suspension bridge construction. Two suspensions of 2310 feet each with side spans of 1160 feet are required. Progress on this work, so novel in conception and so extensive in scope, will be watched with great interest.

**MOVABLE BRIDGES.** Several noteworthy spans of this type were completed or under way during the year.

The Missouri, Kansas, and Texas R. R. built what is probably the longest railroad vertical lift span in the world (408 feet) over the Missouri River at Boonville, Mo. It is interesting to note that this is the fourth bridge at this site. The first bridge was built in 1874 and had a useful life of 10 years. Its successors lived 12 and 36 years, in each case being replaced by new bridges designed for heavier loads. Thus the design load for the original structure is unknown but it was replaced by a bridge designed to carry a Coopers E-24 locomotive loading, this by an E-30, and the present bridge for an E-70—a striking illustration of the growth of American train loads.

Another railroad vertical-lift bridge is the 302-foot span of the Rock Island Lines at Joliet, Ill., over the Des Plaines River. San Francisco, also, has replaced the old Third Street Bridge by a new bascule lift.

Attention should also be called to the small but unique, diamond shaped skew bascule built by the New Jersey Highway Department on U. S. Route 25 between Princeton and Trenton. This bridge crosses the Delaware and Raritan Canal and carries a 40-foot roadway. Skew bridges have been in general avoided by engineers both because their structural analysis is complicated and because they are difficult to fabricate. This bascule lift is therefore of great technical interest, particularly because of the great angle of skew,  $66^\circ$ , and the unique arrangement of the operating mechanism.

**MISCELLANEOUS.** The difficulty of stating with authority that any particular bridge is the longest or highest in its class in the world is illustrated by the news that in far off Czechoslovakia the longest all-welded bridge in the world was completed in 1931. The span of this bridge at Plzen (161 feet) is not remarkable compared with other types but it is, nevertheless, a record-breaking structure.

It is also reported that the Danish Government has let the contract in England for what will be the longest bridge in Europe. The bridge will

connect the islands of Zealand and Falster and will replace the present steamer service. The total length will be over 2 miles and it is planned to include two two-hinged arch spans of 440 feet and one of 540 feet in the construction which will consist primarily of steel deck arches encased in concrete. The cost is to be about \$10,000,000.

Outside of the two remarkable works at San Francisco the year 1933 will offer little of interest to the bridge engineer. Plans are indeed under way for a James River Bridge at Richmond, Va., and for a \$5,000,000 suspension of 1400-foot span at Vancouver, B. C., but it would appear that the great era of highway bridge building which has been chronicled in recent YEAR BOOKS has been brought, if not to a close, at least to a condition of suspended animation.

**BIBLIOGRAPHY.** *The Wichert Truss*, a new book by the well-known bridge engineer, Dr. D. B. Steinman, published by Van Nostrand, describes and defends a novel type of continuous truss construction. It is claimed that this new truss form, by a unique arrangement and proportioning of members, overcomes certain of the limitation of applicability of the usual continuous truss and offers new opportunities for economy of material. Its appearance at this time emphasizes the fact that, particularly in periods of depression, the engineer is forced to the development of new and more economical means of meeting the constantly increasing traffic needs of the country.

**BRIEUX**, bré', EUGÈNE. A French dramatist, died in Nice, Dec. 6, 1932. He was born in Paris, Jan. 19, 1858, and began his career as a journalist in Rouen, where he edited the *Nouvel-iste de Rouen*. At the age of 21 he collaborated with Gaston Salandri in the production of a one-act play, entitled *Bernard Palissy*. He did not, however, begin writing seriously for the stage until 11 years later, when he made his first success in *Ménage d'Artistes*, a defense of morality against caprice and of the family against disorder, which Antoine presented at the Théâtre Libre. After this he became one of the most prolific of French dramatists, his work being distinguished by seriousness of purpose and a deep insight into the social conditions of the time. His plays, almost without exception, dealt with definite social problems of the day. *Blanchette* (1892) was an arraignment of the system of public education in its application to girls of the working class. *M. de Réboval* (1892) was a satire on pharisaism. *L'Engrenage* (1894) showed the overwhelming temptations that a public official is subjected to under the French political system. *Les Bienfaiteurs* (1896) was a scathing denunciation of the insincerity and frivolity of fashionable charity. In *L'Évasion* (1896) were exposed the fallacies of an indiscriminate belief in the scientific doctrine of heredity, and in *Les trois Filles de M. Dupont* (1897) the miseries that French law and custom impose on dowerless girls of the middle class. *Le Berceau* (1899) was a plea for the indissolubility of the marriage bond after a child has been born. *Le Résultat des Courses* (1898) showed the evil results of betting among Parisian workmen, while *La Robe rouge* (1900), which was crowned by the Academy, exposed certain weaknesses of the French judicial system.

In *Les Remplaçantes* (1901) Brieux attacked the practice of putting children out to nurse. In *Les Avariés* (1901; Eng. trans., *Damaged Goods*) he painted the horrors of venereal disease. In

*Petite Amie* (1902) he portrayed the life of a Parisian shop girl. *Maternité* (1904) was an arraignment of society for its attitude toward the unmarried mother. *La Foi* (1909; Eng. trans., *False Gods*) was a study of dogmatic religion. *La Femme seule* (1912) showed chiefly how much more handicapped the French woman was when compelled to earn her own living than were the women of some other nationalities. His other plays include: *Les Hannetons* (1906); *La Française* (1907); *Simone* (1908); *Suzette* (1909); *Le Bourgeois aux Champs* (1914); *Au Japon par Java* (1914); *Les Américains chez Nous* (1920); *Trois bons Amies* (1921); *L'Avocat* (1922); *L'Enfant* (1923); and *La Famille Lavolette* (1928). He was elected a member of the French Academy in 1909, and was also made a commander of the Legion of Honor.

**BRIGHAM**, ALBERT PERRY. An American geologist, died in Washington, D. C., Mar. 31, 1932. He was born in Perry, N. Y., June 12, 1855, and was graduated from Colgate College in 1879. He attended also the Hamilton Theological Seminary and Harvard University. On ordination to the Baptist ministry he held pastorates in Stillwater, N. Y. (1882-85) and Utica, N. Y. (1885-91). In 1892 he became professor of geology at Colgate where he remained until his retirement in 1925. He taught at the summer schools of Harvard, Cornell, and the University of Wisconsin, and at the Oxford University school of geography. During 1902-13 he was chief examiner in geography for the College Entrance Examination Board, and during 1911-13 and 1917-19 was examiner in geography for the New York State Education Department. At the time of his death he was consultant in geography for the Library of Congress. He was president of the New York State Science Teachers' Association in 1905 and of the Association of American Geographers in 1914, and was a fellow of the Geological Society of America and of the American Association for the Advancement of Science. Besides editing the *Bulletin of the American Geographical Society* he wrote *A Text-Book of Geology* (1900); *Introduction to Physical Geography* (with G. K. Gilbert, 1902); *Geographic Influences in American History* (1903); *Students' Laboratory Manual of Physical Geography* (1904); *From Trail to Railway through the Appalachians* (1907); *Commercial Geography* (1911); *Essentials of Geography* (with C. T. McFarlane, 1916); *Cape Cod and the Old Colony* (1920); *Manual for Teachers of Geography* (with C. T. McFarlane, 1921); *Glacial Geology and Geographic Conditions of the Lower Mohawk Valley* (1929).

**BRIGHAM YOUNG UNIVERSITY.** A co-educational institution in Provo, Utah, founded in 1875 and maintained under the auspices of the Church of Jesus Christ of Latter-day Saints. It comprises a graduate school; colleges of arts and sciences, education, commerce, applied science, fine arts; and a division of research and extension. In the 1932 summer session, 535 students were enrolled; the autumn session enrollment was 1355. The faculty numbered 117 members. The library contained 75,000 volumes and 50,000 pamphlets. The budget for the year was \$218,518. President, Franklin Stewart Harris, Ph.D.

**BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.** An association founded in York, England, in 1831, for the purpose of emphasizing the solidarity and unity of

interests among workers in all branches of science and to give a stronger impulse to scientific research, both theoretical and practical. It was incorporated by Royal Charter in 1928.

The annual meeting was held in York Aug. 31 to Sept. 6, 1932, under the presidency of Sir Alfred Ewing, late principal and vice-chancellor of the University of Edinburgh. His address at the opening session was entitled "An Engineer's Outlook." The section presidential addresses were as follows: section A (mathematical and physical sciences), "Some Aspects of Applied Geophysics," delivered by Prof. A. O. Rankine; section B (chemistry), "Some Aspects of Stereochemistry," by D. W. H. Mills; section C (geology), "The Contacts of Geology: The Ice Age and Early Man in Britain," by Prof. P. G. H. Boswell; section D (zoölogy), "The Pioneer Work of the Systematist," by Lord Rothschild; section E (geography), "The Geographical Study of Society and World Problems," by Prof. H. J. Fleure; section F (economic science and statistics), "Britain's Access to Overseas Markets," by Prof. R. B. Forrester; section G (engineering), "The Call to the Engineer and Scientist," by Prof. Miles Walker; section H (anthropology), "The Place of Archæology as a Science and Some Practical Problems in Its Development," by Dr. D. Randall MacIver; section J (psychology), "Current Constructive Theories in Psychology," by Prof. Beatrice Edgell; section K (botany), "The Growing Tree," by Prof. J. H. Priestley; section L (educational science), "The Advancement of Science in Schools: Its Magnitude, Direction, and Sense," by W. Mayhouse Heller; and section M (agriculture), "Sheep Farming: A Distinctive Feature of British Agriculture," by Prof. R. G. White. In view of the fourteenth International Physiological Congress in Rome there were no meetings of section I (physiology).

The association's annual meeting in 1933 was to be held in Leicester, under the presidency of Sir F. Gowland Hopkins, professor of biochemistry at the University of Cambridge. The other officers elected for 1932-33 were: general secretaries, Prof. P. G. H. Boswell and Prof. F. J. M. Stratton; general treasurer, Sir Josiah Stamp; and secretary, O. J. R. Howarth. Headquarters are in Burlington House, London.

**BRITISH CAMEROONS.** See under CAMEROON.

**BRITISH COLUMBIA.** The most westerly province of Canada, bounded by Yukon, and the District of Mackenzie on the north, Alberta on the east, the Pacific Ocean and Alaska on the west, and the State of Washington on the south. Capital, Victoria.

The area is 355,855 square miles and the population was 694,263 at the census of 1931 (524,582 at census of 1921). The chief cities, with 1931 census figures, and 1921 figures in parenthesis follow: Victoria, 39,082 (38,727); Vancouver, 246,593 (163,220); and New Westminster, 17,524 (14,495). In 1931, births totaled 10,867; deaths, 6397; marriages, 4097. For the year 1930 there were 1017 elementary schools, with 90,508 pupils; 29 superior schools, with 648 pupils; 82 high schools, with 14,075 pupils; 8 junior high schools, with 5186 pupils; the University of British Columbia (Provincial), with 1904 students; and Victoria College (Provincial) with 279 students.

The area sown to field crops in 1931 totaled 432,299 acres, and these crops were valued at

\$12,484,000, and the estimated gross agricultural revenue for 1931 was \$35,155,000. The net value of manufactured products of British Columbia and the Yukon was \$117,990,663 for 1930, compared with \$132,286,208 in 1931.

On Jan. 1, 1932 the installation of turbines in the development of water power was equal to 655,992 horse power. The gross value of mineral production in 1931 was \$34,883,028, a decline of \$20,508,812 from the 1930 output. The value of the principal minerals in 1931 was: Coal, \$7,684,155; lead, \$6,742,282; copper, \$5,280,363; zinc, \$5,237,520; gold, \$3,310,886; silver, \$2,247,514. The 1932 mineral output was estimated at \$26,675,000. The 1932 canned salmon pack totaled 1,081,031 cases (of 48 pounds), worth \$6,358,000.

In the fiscal year ended Mar. 31, 1930, provincial receipts totaled \$25,498,409 and expenditures \$25,066,980. The 1930-31 budget estimated receipts at \$28,115,000 and expenditures at \$28,073,000. Appropriations for 1931-32 amounted to over \$29,000,000. A provincial income tax, effective Apr. 1, 1931, levied 1 per cent on all incomes over \$15 a week in the case of single wage earners and over \$25 a week in the case of married wage earners. The gross funded debt on Mar. 31, 1930, was \$99,425,700; sinking funds, \$18,711,723.

Government is under a lieutenant-governor and legislative assembly of 48 members elected for five years. The 18th legislative assembly, elected July 18, 1928, consisted of 36 Conservatives, 11 Liberals, and 1 Laborite. In the Dominion Parliament the Province is represented by 6 Senators and 14 members of the House of Commons. Lieutenant-Governor in 1932, John W. F. Johnson. Premier and Minister of Railways, Dr. S. F. Tolmie. See CANADA.

**BRITISH EAST AFRICA.** A British possession covering a large area of Africa, and comprising KENYA Colony and Protectorate, UGANDA Protectorate, ZANZIBAR Protectorate, and the mandated territory of TANGANYIKA (formerly German East Africa). See these articles.

**BRITISH EMPIRE.** An empire consisting of: (1) GREAT BRITAIN and NORTHERN IRELAND, CHANNEL ISLANDS, and ISLE of MAN (2) the IRISH FREE STATE, INDIA, and the various British Dominions, Colonies, Protectorates, and Dependencies. Consult these articles. Including the mandated territories of PALESTINE, SOUTH-WEST AFRICA, CAMEROON, TOGOLAND, WESTERN SAMOA, and NAURU, the British Empire has a total area of 13,355,426 square miles, or about 26 per cent of the area of the world (51,723,000 square miles excluding polar regions). The population according to the 1931 census was approximately 485,302,800, or about 24 per cent of the estimated world population of 1,992,500,000 in 1929.

**BRITISH GUIANA,** gë-ä'nä. A British colony on the northeastern coast of South America, including the settlements of Berbice, Demerara, and Essequibo; bounded on the east by Dutch Guiana, on the south by Brazil, and on the west by Venezuela. Area, 89,480 square miles; population, according to the census of 1921, 297,691, excluding about 9700 aborigines. Estimated population in 1931, 312,000, including about 130,000 East Indians. In 1930 births totaled 10,438 and deaths 7174. Georgetown, the capital, had 57,921 inhabitants. Elementary schools receiving government aid in 1930 numbered 237 with 42,634 pupils.



Sugar is the principal crop, accounting normally for one-half the total value of exports. The sugar output (1930-31) was 115,000 tons from 56,126 acres. Rice, coffee, cacao, and limes are other leading crops. Cattle raising, mining, and lumbering are subsidiary occupations. Cattle in 1930 numbered 153,684. The gold production (1930) was valued at £25,276; diamonds, £323,836. British Guiana exported 119,616 tons of bauxite (the ore from which aluminum is extracted) in 1930. Manganese and mica are also found. The forested area of 78,000 square miles produces hardwoods and balata (gum). Imports in 1931 were valued at £1,595,205 and exports at £2,010,462, compared with £1,597,301 and £2,021,549, respectively, in 1930. Canada and the United Kingdom were the leading markets.

In 1931 revenues amounted to £916,939 and expenditures to £1,075,983. The funded public debt on Jan. 1, 1932, was £4,632,160. Accounts are kept in dollars and cents and both British and United States coins are in circulation. Vessels entered and cleared at the ports in 1930 numbered 2928, of 1,434,190 tons, as compared with 2860 vessels of 1,324,312 tons in 1929. There are 78 miles of railway, 500 miles of motor highways, 39 miles of canals, and 450 miles of navigable rivers. The colony is administered by a governor, assisted (since July 18, 1928) by a legislative council. Governor in 1932, Sir Edward Brandis Denham, who assumed office in June, 1930.

**BRITISH HONDURAS**, hōn-dōō'ras. A British Crown colony on the Caribbean coast of Central America, east of Guatemala, and 700 miles west of Jamaica; sometimes referred to as Belize. Area, 8598 square miles; population, census of 1931, 51,347. Chief town and capital, Belize (population, 1931, 16,687). In 1930, there was a total school enrollment of 8701 and an average attendance of 6975.

The principal exports are bananas, mahogany, logwood and other forest products, plantains, coconuts, and chicle. In 1930-31 exports were valued at £933,119, imports at £1,013,442. Revenue for the fiscal year 1930-31 amounted to £238,774 and expenditure to £233,672. The public debt in 1929-30 was £384,652. Ships entering the ports in 1930 aggregated 313,587 tons (291,451 tons in 1928). There are 25 miles of railway. Wireless communication is maintained with New Orleans and Jamaica. Planes used in the bi-weekly air-mail and passenger service between Miami, Fla., and Cristobal, Canal Zone, stop at Belize. The United States gold coins are the standard of currency; the British sovereign is also legal tender.

The administration is under a governor assisted by an executive council of seven members and a legislative council of six official and seven unofficial members. Governor and Commander-in-Chief in 1932, Sir Harold Kittermaster, appointed, November, 1931.

**BRITISH IMPERIAL ECONOMIC CONFERENCE.** See AGRICULTURE under *World Agriculture*; CANADA; and GREAT BRITAIN.

**BRITISH INDIA.** See INDIA.

**BRITISH LABOR PARTY.** See SOCIALISM.

**BRITISH MALAYA.** British Malaya includes the Straits Settlements, the Federated Malay States, and the Unfederated Malay States. It extends from 6° 50' N. latitude to Singapore 1° 17' N. Total area, 52,603 square miles; total population (1931 census), 4,381,342, including

17,767 Europeans. The chief cities are Singapore, the capital, with a population (1931 census) of 445,778 and Georgetown (Penang), population (1921 census), 123,069. Three other British protectorates in Malaysia—British North Borneo, Brunei, and Sarawak—are seldom included in the term British Malaya and are never covered by British Malayan statistics. The statistics of the foreign trade for British Malaya include the Straits Settlements, the Federated and the Unfederated Malay States. The chief agricultural products are rubber, copra, palm oil, sugar, tapioca, pineapples, and resin. The production of rubber in 1931 was 425,086 long tons. Exports of canned pineapple amounted to 57,959 long tons in the same year. Mineral production (long tons) for 1931 was as follows: Coal, 374,500; tin (metal content of ore), 52,527; 780 tons of tungsten and 65 tons of wolfram were mined, mainly as by-products of the tin mines. Exports in 1931 were valued at 432,976,000 Straits dollars; imports at 462,059,000 Straits dollars. For component native states of the several protectorates and their respective statistics, see STRAITS SETTLEMENTS, FEDERATED MALAY STATES, UNFEDERATED MALAY STATES; see also BRITISH NORTH BORNEO, BRUNEI, and SARAWAK.

**BRITISH NEW GUINEA.** See PAPUA.

**BRITISH NORTH BORNEO.** A British protectorate, comprising the northern part of the island of Borneo (q.v.). Area, about 31,106 square miles; population, at the census of 1931, 270,043, most of whom were Mohammedan settlers in the coast regions and aborigines in the interior. Europeans numbered only 533. The chief towns are Sandakan (11,936) on the east coast, and Jesselton, on the west coast.

Finance and trade statistics for 1930, with 1929 figures in parentheses, were: Revenue, £395,577 (£449,261); expenditure, £267,758 (£262,648); imports, £841,750 (£1,137,825); exports, £1,140,493 (£1,536,223). Trade is carried on chiefly, through Singapore and Hong Kong, with the British Empire. The chief products are rubber, timber, tobacco, rice, coconuts, and coffee. A railway runs from Jesselton to Melalap 127 miles in the interior. The territory is under the jurisdiction of the British North Borneo Company and is administered by a governor in Borneo and a board of directors in London. Governor in 1932, A. F. Richards (appointed February, 1930).

**BRITISH ROYAL COMMISSION ON UNEMPLOYMENT INSURANCE.** See UNEMPLOYMENT.

**BRITISH SOMALILAND.** See SOMALILAND PROTECTORATE.

**BRITISH SOUTH AFRICA.** See SOUTH AFRICA, UNION OF.

**BRITISH WEST AFRICA.** The general name given to the following British colonies, protectorates, and territories mandated to Great Britain, in West Africa: Nigeria colony, protectorate, and that part of the Cameroon mandated to Great Britain; Gambia colony, and protectorate; Gold Coast colony with Ashanti, Northern Territories, and the area in Togoland mandated to Great Britain; Sierra Leone colony, and protectorate. Consult the separate articles.

**BRITISH WEST INDIES.** A number of scattered island possessions of the British Empire in the West Indies, which are divided into six groups: (1) Bahamas, (2) Barbados, (3) Jamaica with Turks Islands, (4) Leeward Is-



lands, (5) Trinidad with Tobago, (6) Windward Islands. The islands have an aggregate area of 12,239 square miles and a population of slightly more than 1,900,000. A commission, headed by Sir Charles Fergusson, was appointed, during 1932, to look into the possibility of a closer political union between Trinidad and the Windward and Leeward Islands. See separate article on each group.

#### BROADCASTING. See RADIO.

**BROOKINGS, ROBERT SOMERS.** An American merchant and philanthropist, died in Washington, D. C., Nov. 15, 1932. He was born in Cecil, Co., Md., Jan. 22, 1850, and attended the West Nottingham Academy. At 17 he began his business career as a clerk with the firm of Cupples & Marston, manufacturers and jobbers of woodenware, St. Louis, Mo. In 1872 when the firm was reorganized as Samuel Cupples & Co. he was admitted to partnership, and again in 1882 when it was reincorporated as the Samuel Cupples Wood-ware Co. he was made vice-president and general manager. On his retirement from business in 1896 he devoted himself to philanthropy and to the development of various cultural projects, among which were the Mercantile Library of St. Louis, the St. Louis Choral Symphony Society, and Washington University, of whose corporation he was president from 1897 to 1928. In the latter capacity, not only through gifts from his own fortune, but by his success in interesting citizens of St. Louis in contributing the necessary funds, he practically refounded the university, transferring it to a new site of more than 160 acres, erecting new buildings of the highest class and equipment, and raising the endowment to more than \$12,000,000. He erected and equipped also during 1913-14 all the buildings of the reorganized medical school of Washington University, placing this school and its group of hospital buildings in the front rank of institutions of its kind in the United States.

During the World War Mr. Brookings was a member of the War Industries Board, serving as commissioner of finished products. He was made also a member of the Allied Purchasing Commission and chairman of the Price Fixing Committee, which determined what the Allies should pay for all war purchases in the United States, with the exception of food and fuel. In 1919 he was a member of the Capital and Labor Commission appointed by President Wilson. His experiences during the war convinced him that there was need for constructive aid in the development of sound national policies, and to this end he founded in 1918 at Washington the Institute for Government Research. He next founded in 1922, with the aid of the Carnegie Corporation of New York, the Institute of Economics, which was to consist of a permanent body of trained experts to study the world's basic economic problems, and in 1924, with the aid of the Laura Spelman Rockefeller Memorial Foundation, George Eastman, and others, the Robert Brookings Graduate School in Economics and Government, whose purpose was to offer training of a super-graduate character to students of the social sciences. These three institutions were merged in 1927 into the Brookings Institution (q.v.), of whose board of trustees Mr. Brookings was made chairman. He was also a trustee of the Carnegie Institution of Washington and the Carnegie Endowment for International Peace and was a regent of the Smithsonian Institution. In addition to receiving the Distin-

guished Service Medal for his war services he was made an officer of the French Legion of Honor and a commander of the Order of the Crown of Italy. In 1925 he was made honorary adviser to the U. S. Army Industrial College. He was the author of *Industrial Ownership* (1925); *Economic Democracy* (1929); and *A Suggested Evolution of Capitalism* (1930).

**BROOKINGS INSTITUTION.** An organization devoted to public service through research and training in the social sciences, established in Washington, D. C., in 1927. Its purposes are: to aid constructively in the development of sound national policies, and to offer training of a super-graduate character to students of the social sciences. It maintains, as operating units, the Institute of Economics, the Institute for Government Research, and a division of training in which only those who have had two years of graduate work are accepted as research fellows. It provides also headquarters for visiting scholars who come to the national capital to make use of the material available there on economic, political, historical, social, administrative, and legal problems, as found in library collections and in the records of the various government departments.

By charter provision the investigations of the institution are conducted "without regard to the special interests of any group in the body politic, whether political, social, or economic." During 1932 the following studies were published: *The Society of Nations: Its Organization and Constitutional Development*; *War Debts and World Prosperity*; *Bankers' Profits from German Loans*; *Credit Policies of the Federal Reserve System*; *Advertising Allowances*; *A Phase of the Price-Making Process*; *Unemployment Insurance in Austria*; *State Centralization in North Carolina*; *The Federal Radio Commission*.

The institution is supported from endowment funds and annual grants. The board of trustees, a self-perpetuating body, has general responsibility for determining the institution's policies and its programme of work, but does not assume responsibility for each particular investigation. The officers of the board of trustees for 1931-32 were: chairman, Robert S. Brookings (q.v.), founder of the institution; vice chairman, Leo S. Rowe; treasurer, Frederic A. Delano; and president, Harold G. Moulton. Headquarters are at 722 Jackson Place, Washington, D. C.

**BROOKLYN INSTITUTE OF ARTS AND SCIENCES.** An institution in Brooklyn, N. Y., composed of four divisions—education, museum of arts and sciences, children's museum, and a botanic garden. It was founded in 1824 and incorporated in its present form in 1890. Membership is open to all who are interested in any branch of science or art. The education division is divided into the following departments, composed of members interested in a particular field: Agriculture, astronomy, botany, dramatic art, electricity, fine arts, geography, geology, music, pedagogy, philology, philosophy, photography, physics, political science, psychology, and sociology. These departments conduct courses and sponsor addresses, lectures, and concerts. A forum conducted by the departments of political science and sociology provides for the discussion of current problems. The enrollment in the school of pedagogy in 1932 was 2240, with an attendance at lectures of 320,149.

The institute's museums contain collections in

the fields of art, ethnology, and natural science; its botanic garden comprises more than 50 acres. Attendance at the museums during the year was 1,313,186 and at the botanic garden, 1,101,876. The library contains more than 27,000 volumes. In 1932 the permanent funds of the institute amounted to \$3,380,885; the funds to meet current expenses totaled \$890,245. The president of the board of trustees was Edward C. Blum; director of the division of education, Charles D. Atkins; of the museum of arts and sciences, William Henry Fox; of the children's museum, Anna B. Gallup; and of the botanic garden, C. Stuart Gager. Headquarters are at Brooklyn Academy of Music, 30 Lafayette Avenue, Brooklyn, N. Y.

**BROOKLYN MUSEUM.** See ART EXHIBITIONS.

**BROWN, JOSEPH MACKEY.** An American railroad executive and politician, died in Marietta, Ga., Mar. 3, 1932. He was born in Canton, Ga., Dec. 28, 1851, and was graduated from Oglethorpe University in 1872. In 1877 he entered the service of the Western and Atlantic Railroad Co. and advanced through various positions to traffic manager in 1889. He retired from that field in 1898 to enter politics. In 1904 he was appointed a member of the State Railroad Commission but was dismissed by Gov. Hoke Smith three years later. The Legislature had increased this commission from three to five members so as to secure a majority that was not dominated by railroad interests. In the primaries of June, 1908, however, Mr. Brown, supported by the business and railroad interests of the State won the gubernatorial nomination over Governor Smith (which in Georgia is equivalent to election). The panic of 1907 and the ensuing "hard times" also had caused a reversion in political sentiment; popular campaign slogans were "Hoke and Hunger," "Brown and Bread." Governor Brown was returned to office a second time in December, 1911, following Hoke Smith's election to the U. S. Senate to fill the unexpired term of A. S. Clay. The Democratic party in Georgia, however, continued to be dominated by the rival Smith and Brown factions until their reconciliation in the national campaign of 1928. Mr. Brown wrote: *The Mountain Campaigns in Georgia* (1886); *Kennesaw's Bombardment or How the Sharpshooters Woke Up the Batteries* (1890); and *Astyanax* (1906).

**BRYAN UNIVERSITY.** An institution of higher education in Providence, R. I., founded in 1764. It consists of an undergraduate college for men, including a division of engineering; Pembroke College for undergraduate women; the graduate school; and the division of university extension. The enrollment in the autumn of 1932 was 1289 undergraduate men, 490 undergraduate women in Pembroke College, 322 graduate students, and 58 special students in education. The faculty consists of 229 members, including 121 professors, 50 instructors, 7 lecturers, and 51 assistants. Among the new appointees were: Albert J. Farmer, visiting professor of French; Lawrence C. Wroth, research professor in American history; Hans Kurath, professor of German and general linguistics; Carel J. Smit, assistant professor of economics (for research); George E. Downing, assistant professor of art. The productive fund of the University on June 30, 1932, was \$10,404,525. The total income from these funds was \$505,025. The libraries contained approximately 460,000 volumes, including the fol-

lowing special collections: John Carter Brown Library of Americana, the Harris Collection of American Poetry, the McLellan Lincoln Collection, the Hoffman Napoleon Collection, the Rider Collection of Rhode Island History, the Wheaton Collection of International Law and the Mathematics Library. Enlarged and improved facilities have been provided for the department of art, its programme of courses has been expanded through cooperation with the Rhode Island School of Design, and a community programme in art has been undertaken with special funds provided for the purpose. A programme of courses in general linguistics has been added to the work of the several departments of languages and literatures. A special research project on the international gold standard was inaugurated by the department of economics with the aid of special funds given for the purpose. The headquarters of the Linguistic Atlas of the United States and Canada has been established at Brown University. President, Clarence Augustus Barbour, D.D., S.T.D., LL.D.

**BRUNEI, brōō-nī'.** A British protectorate on the northwestern coast of the island of Borneo (q.v.). Area, about 2500 square miles; population, 1931 census, 30,162 (60 Europeans). Brunei, the chief town, has about 12,000 inhabitants. Mangrove extract, rubber, sago, and jelutong are the chief products. Revenue in 1931 totaled £39,901; expenditure, £37,659; public debt, £40,083. Exports in 1931 were £58,508; imports, £255,910. Sultan in 1932, Ahmed Tajudin Akhazul Khairi Waddin, a minor, who receives an annual allowance of £1400 from state funds. Government is administered by the British resident. Resident in 1932, T. F. Carey.

**BRUNSWICK, brūnz'wīk.** A state of the German Republic. See GERMANY under *Area and Population*.

**BRYANT, HENRY GRIER.** An American explorer and geographer, died in Philadelphia, Pa., Dec. 7, 1932. He was born in Allegheny, Pa., Nov. 7, 1859, and was graduated from Princeton University in 1883 and with the LL.B. degree from the University of Pennsylvania in 1886. In 1891 he explored the Grand Falls of Labrador and the following year was second in command of the Peary Relief Expedition to Greenland. In 1894 he commanded the Peary Auxiliary Expedition in which well-known men of science participated and which gave opportunity for fruitful researches as to glacial and other Arctic phenomena. He was in charge in 1897 of the expedition to Mt. St. Elias in Alaska. He explored also the St. Augustine River in Labrador in 1912 and made mountain ascents in the Canadian Rockies and other parts of the world. For various terms during 1897-1932 he served as president of the Geographical Society of Philadelphia and also as president of the American Alpine Club in 1911-13 and of the Association of American Geographers in 1913. He was elected a Fellow of the Royal Geographical Society (British) and was a corresponding member of Swedish and Swiss geographical and anthropological societies.

**BRYN MAWR COLLEGE.** An institution for the higher education of women in Bryn Mawr, Pa., founded in 1885. The enrollment for the autumn of 1932 totaled 481. The teaching staff numbered 82. The productive funds of the college amounted to \$5,960,870 in the autumn of 1932 and the receipts for the year 1931-32 were \$832,505. The number of volumes in the

library was 140,000. President, Marion Edwards Park, Ph.D., LL.D.

**BUCKNELL UNIVERSITY.** A coeducational Baptist institution of higher learning in Lewisburg, Pa., founded in 1846 under the name of University of Lewisburg but renamed in 1886 in honor of its benefactor, William Bucknell. In the autumn of 1932 the enrollment was 1016, of whom 602 were men and 354 women. Of the 435 students enrolled in the summer session of 1932, 272 were men and 153 were women. The faculty numbered 78. The productive funds amounted to \$1,700,000 and the income for the year was \$700,000. The library contained 60,000 bound volumes. President, Homer Price Rainey, Ph.D., LL.D.

**BUCKWHEAT.** The buckwheat crop of the United States in 1932 according to estimates published by the Department of Agriculture amounted to 6,844,000 bushels produced on 464,000 acres, the average yield per acre being 14.8 bushels. The yield in 1931 was 8,890,000 bushels, the area 505,000 acres and the average yield per acre 17.6 bushels. The buckwheat acreage during recent years has been on the decline. Among the 23 States reporting buckwheat production the yields of the leading States were as follows: New York 2,458,000 bushels, Pennsylvania 2,070,000 bushels, West Virginia 315,000 bushels, and Maine 273,000 bushels. New York and Pennsylvania produced about two-thirds of the entire crop of the country. The average yield per acre of the reporting States ranged from 5 bushels in North Dakota to 22 bushels in Vermont. The northeastern States reported the higher yields. During the fiscal year ended June 30, 1932, the exports of buckwheat were 524,000 bushels as compared with only 85,000 in the preceding fiscal year.

In the United States the buckwheat crop is used mainly for griddle cakes which are made either from straight or mixed flour. A small part of the crop is milled into groats which furnish material used in soups, as porridge and as breakfast foods. Of the by-products the middlings have the greatest feeding value especially when fed with other suitable protein feeds to dairy cattle and swine. In feeding experiments the middlings have been found to give as good results as linseed meal or cottonseed meal when used as part of the protein mixture.

**BUDGET.** See STATISTICS; PUBLIC FINANCE.

**BUFFALO, THE UNIVERSITY OF.** A coeducational institution of higher learning in Buffalo, N. Y., founded in 1846 under a charter received from the State Legislature. The enrollment for the autumn of 1932 was distributed as follows: college of arts and sciences, 745; school of law, 204; school of dentistry, 131; school of medicine, 286; school of pharmacy, 123; school of business administration, 196; University of Buffalo evening session, 1782. The enrollment for the 1932 summer session was 788. The faculty numbered 447 in the autumn of 1932. The library contained 89,170 volumes and 84,000 pamphlets. Chancellor, Samuel P. Capen, Ph.D., L.H.D., Sc.D., LL.D.

**BUGS.** See ENTOMOLOGY, ECONOMIC.

**BUILDING.** The value of the buildings for which permits were granted in 215 cities in the United States suffered an almost inconceivable deflation in 1932 and, according to *Bradstreet's* annual summary, dropped to a total but slightly higher than the war-time restricted figure of \$374,081,000 in 1918. The total in these cities was \$399,288,930 in 1932, or a decline of 65½

per cent from 1931, of 76 per cent from 1930, and of 86 per cent from 1929. In no month of the year did the total in the value of building permits issued in 120 identical cities rise to the lowest month's level in 1931. The peak, in May, of \$37,894,000 was slightly higher than the total for January; but the slight flurry of activity immediately subsided, and the succeeding months showed little fluctuation. The low ebb was reached in December, when permits to the value of \$20,066,000 were issued. At no time since 1911, except during the three closing months of 1918, were lower figures recorded for any month of any year.

The cause of the great decline in building operations is readily interpreted. Notwithstanding lower costs of building in labor and materials, municipal taxes have shown no appreciable reduction. The real estate market was at a standstill during the year, with few transactions. Buyers were not attracted by any prices; and with a falling market, mortgage loans were difficult to negotiate. In the field of residence buildings, the normal development induced by an increasing population was offset by the continued unemployment and the consequent doubling-up of families. In the office- or factory-building field, the high percentage of vacant space in the one and the idleness or semi-idleness in the other were not conducive to the erection of competitive structures. In New York City, according to *Bradstreet's*, the permits for the entire 12 months of 1932 amounted to \$78,183,889 as against \$355,737,349 in 1931, or a decline of 78 per cent. Outside of New York City the total permits aggregated \$321,105,041 as against \$803,225,924 in 1931, or a decline of 60 per cent. In 14 cities of Canada building permits totaled \$34,800,110 as against \$88,885,602 in 1931, a decline of 55 per cent.

The normal depreciation of property, and the measure of price stability attained in building construction during the latter months of the year, were the bases of an estimate by *Bradstreet's* for a moderate optimism in future operations.

The following table gives the building permit values of 120 identical American cities over the period of years from 1911 to 1932:

Year	Value	Year	Value
1932 . . . . .	\$ 336,318,000	1921 . . . . .	\$1,493,464,000
1931 . . . . .	1,005,626,000	1920 . . . . .	1,255,808,000
1930 . . . . .	1,407,833,000	1919 . . . . .	1,181,251,000
1929 . . . . .	2,489,553,000	1918 . . . . .	374,081,000
1928 . . . . .	2,795,229,000	1917 . . . . .	641,100,000
1927 . . . . .	2,870,512,000	1916 . . . . .	926,647,000
1926 . . . . .	3,230,414,000	1915 . . . . .	770,010,000
1925 . . . . .	3,386,043,000	1914 . . . . .	734,519,000
1924 . . . . .	2,907,529,000	1913 . . . . .	808,069,000
1923 . . . . .	2,832,439,000	1912 . . . . .	877,924,000
1922 . . . . .	2,811,915,000	1911 . . . . .	821,717,000

In a grouping of 215 American cities by sections, the Middle Atlantic section, comprising the States of New York, New Jersey, Pennsylvania, Delaware, and Maryland, showed the greatest percentage of decline for the year, dropping from an aggregate of \$500,798,593 in 1931 to \$134,374,448 in 1932, a decline of 73 per cent. The least affected section of the country was the South Atlantic, showing a loss of 40 per cent, or a drop from \$82,622,936 in 1931 to \$44,863,964 in 1932. The accompanying tabulation covers the eight sections:

**BUILDING PERMITS IN THE UNITED STATES  
FOR 215 CITIES, 1931-1932**  
[From *Bradstreet's*]

	1932	1931	Change per cent
New England ..	\$ 34,424,759	\$ 33,580,964	-88.2
Middle Atlantic ..	134,374,448	500,798,593	-78.2
South Atlantic ..	44,868,964	82,622,936	-46.3
East Central ....	59,234,144	184,969,760	-68.0
South Central ...	31,777,864	87,982,407	-63.9
West Central ....	27,288,952	71,210,585	-61.7
Mountain .....	5,521,810	14,125,707	-60.9
Pacific .....	61,802,889	123,672,301	-50.0
Total U. S. .	399,288,980	1,158,963,273	-65.5
New York City ..	78,183,889	355,737,349	-78.0
Outside New York City .....	321,105,041	803,225,924	-60.0
Canada (14 cities)	39,800,110	88,885,602	-55.2

The summary of heavy engineering construction compiled by the *Engineering News-Record*, New York, for the year 1932, showed a total of private and public (including Federal) engineering contracts amounting to \$1,219,309,000 as compared with \$2,432,314,000 in 1931, or a drop of almost 50 per cent in money value. But since lower construction costs prevailed throughout the year than through the preceding year, the figures do not accurately indicate the comparative decrease in construction work in the two years. The *Engineering News-Record Cost Index* for the

year 1931 averaged 181.35 as compared with 150.97 for 1932, or an average drop in costs of 13.4 per cent. Public works in all classifications, except that of earthworks and waterways, declined during the year, the total being \$898,885,000 as against \$1,396,310,000 for 1931, or a drop of 35.6 per cent in money value. Private construction contracts for the year fell off to a more marked extent, the aggregate amounting to \$320,424,000 as against \$1,036,004,000 in 1931, or a monetary decline of 69 per cent. New England and the Middle Atlantic States showed the greatest percentages of decline, the aggregate contracts for both public and private construction in these two groups being \$475,466,000 in 1932 as against \$1,154,594,000 in 1931, or a drop of almost 59 per cent. The accompanying table gives construction by classes and geographical divisions as compiled by *Engineering News-Record* in millions of dollars.

Contracts for all classes of construction in the 37 States east of the Rocky Mountains, according to the Dodge Statistical Research Service and compiled by the F. W. Dodge Corporation, showed a greater decline in values for 1932 than for the previous year—a drop from \$4,523,114,600 in 1930, to \$3,092,849,500 in 1931, and to \$1,351,158,700 in 1932. The contract records cover a total of 76,129 projects involving a total of 155,575,400 square feet, and include various types

**CONTRACTS AWARDED BY TERRITORIES—YEAR 1932**  
[F. W. Dodge Corporation]

Territory	Residential building	Non-residential building	Public works and utilities	Total construction
New England .....	\$ 38,771,000	\$ 43,010,800	\$ 32,271,300	\$ 114,053,100
Metropolitan New York and vicinity .....	62,760,300	73,150,600	34,767,300	190,678,200
Upstate New York .....	12,776,200	31,840,800	31,338,200	75,955,200
Middle Atlantic .....	53,102,400	112,689,800	81,822,900	227,615,100
Pittsburgh .....	24,762,000	47,020,000	79,830,300	151,612,300
Southeastern .....	18,154,700	24,703,100	40,402,600	83,260,400
Chicago .....	20,803,800	52,971,300	79,066,800	152,841,500
Central Northwest .....	7,112,000	14,458,100	39,946,300	61,516,400
Southern Michigan .....	5,653,200	16,080,100	19,981,800	41,715,100
St. Louis .....	12,149,700	15,323,400	55,608,500	83,076,600
Kansas City .....	8,752,300	21,318,400	46,609,800	76,680,500
New Orleans .....	5,808,800	12,101,400	18,011,100	35,921,300
Texas .....	9,461,400	16,121,600	30,649,800	56,233,000
37 Eastern States .....	\$280,607,900	\$480,789,600	\$590,301,200	\$1,351,158,700

**CONSTRUCTION BY CLASSES AND GEOGRAPHICAL SECTIONS**

[*Engineering News-Record*]  
(In millions of dollars)

	1932	1931
Waterworks .....	35	56
Sewers .....	25	73
Bridges, public .....	80	104
Earthwork and waterways .....	101	21
Streets and roads .....	380	529
Unclassified, public .....	38	84
Buildings, public .....	241	249
Total public .....	899	1,396
Buildings, industrial .....	93	166
Buildings, commercial .....	166	561
Bridges, private .....	1	11
Earthwork, private .....	1	...
Unclassified, private .....	56	298
Total private .....	820	1,086
Total engineering construction .....	1,219	2,432
New England .....	72	186
Middle Atlantic .....	404	969
South .....	123	234
Middle West .....	205	380
West of Mississippi .....	236	396
Far West .....	174	267

of construction as shown in the accompanying table.

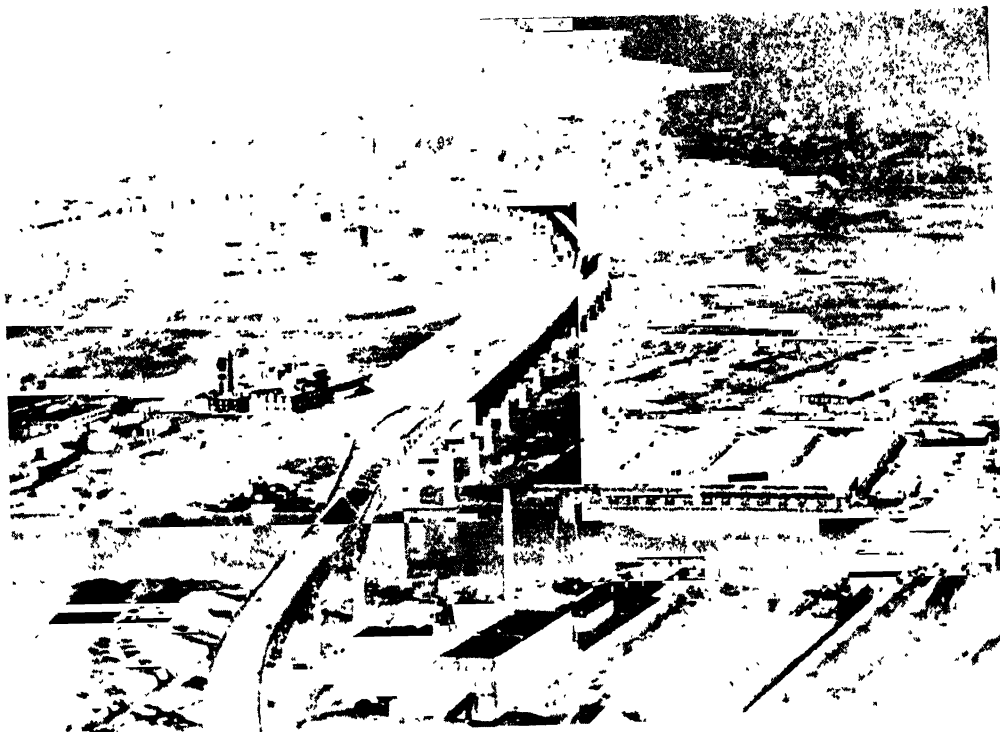
**CONSTRUCTION VALUES IN THE 37 STATES  
EAST OF THE ROCKY MOUNTAINS, 1932**  
[From F. W. Dodge Corporation]

Commercial buildings .....	\$ 122,718,200
Factories .....	43,490,900
Educational buildings .....	82,307,500
Hospitals and institutions .....	48,358,000
Public buildings .....	117,982,500
Religious and memorial .....	27,255,000
Social and recreational .....	38,682,500
Total nonresidential .....	\$ 480,789,600
Residential buildings .....	\$ 280,067,900
Public works and utilities .....	590,801,200
Total construction .....	\$1,351,158,700

The distribution of these contracts by territories is shown by the same company in the table given herewith.

**BUILDING AND LOAN ASSOCIATIONS.**  
See COÖPERATION.

**BUISSON**, hwa'son', FERDINAND EDOUARD. A French educator and publicist, died in Thieuloy-



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HIGH LEVEL MOTOR VIADUCT  
From Jersey City to Newark, N. J.



*Copyright, International*

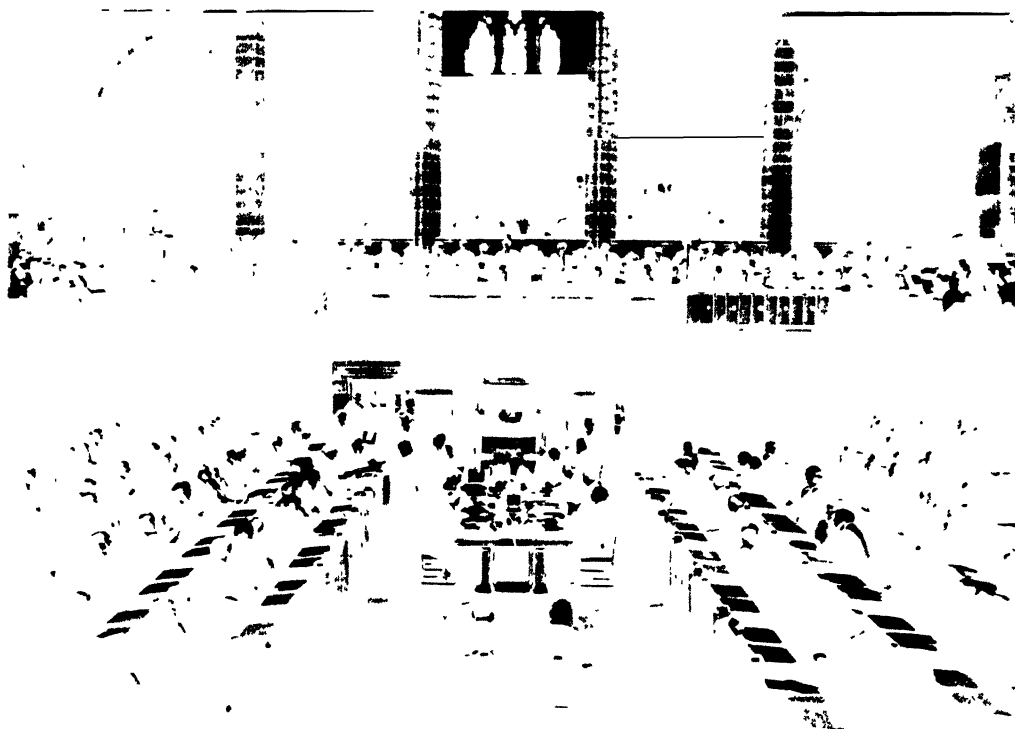
GEORGE WESTINGHOUSE BRIDGE  
Pittsburgh, Pa.  
BRIDGES



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#### INDIAN DELEGATES TO THE IMPERIAL ECONOMIC CONFERENCE OTTAWA CANADA

Left to Right (Front Row) Sir Padamji Pestonji Ginzala, the Begum Haroon, Lady Chatterjee, Lady Smyth, Miss Doulat Haroon (Back Row) Sir Atul Chatterjee, behind the Begum Haroon, Saherzada Abdussamad Khan, Yusoff Haroon, R.C.K.S. Chetty, M.L.A., Seth Hapi Abdoola Haroon, and two advisers to the Indian delegation



Wide World

#### IMPERIAL ECONOMIC CONFERENCE, OTTAWA, CANADA

Rt Hon R. B. Bennett, Prime Minister of Canada and Chairman of the Conference signing the final papers at the final plenary session

Saint-Antoine, Oise, Feb. 16, 1932. He was born in Paris, Dec. 20, 1841, and attended the Lycée Bonaparte in Paris and the Collège d'Argentan. In 1871 he was appointed inspector of elementary schools in Paris by Jules Simon, then Minister of Public Instruction. His nomination was bitterly attacked, more particularly by Dupanloup, Bishop of Orleans, who denounced, in the National Assembly, several pamphlets published by Buisson in which he recommended the exclusion from the schools of all moral instruction not purely secular, and the omission of sacred history from the curriculum for the younger pupils. Compelled to resign, Buisson was afterward appointed commissioner, in charge of public instruction, to the expositions held in Vienna (1873) and Philadelphia (1876). In 1878 he became chief inspector of elementary education, and in the following year Jules Ferry appointed him director of that department in the Ministry of Public Instruction. The introduction of new educational methods in the elementary schools under his jurisdiction had been remarkably rapid. On his resignation in 1896 he was appointed professor of pedagogy at the Sorbonne.

In 1902 Buisson entered politics, representing the Department of the Seine in the Chamber of Deputies until 1914. He served again from 1919 to 1923 as Socialist deputy from the third district of Paris. From 1916 to 1926 he was president of the League of the Rights of Man, and at the time of his death was honorary president of that organization. In 1927, with Prof. Ludwig Quide of the University of Munich, he received the Nobel Peace Prize in recognition of his efforts as "the world's most persistent pacifist." His most important works are *Dictionnaire de pédagogie* (6 vol., 1882-1893) and *Nouveau dictionnaire de pédagogie* (1911). Also he was the author of *Le Vote des femmes* (1910); *La Foi laïque* (1912); and *Le Fond religieux de la morale laïque* (1919).

**BULGARIA.** A constitutional monarchy in the Balkans lying to the south of Rumania, east of Yugoslavia, and north of Greece and European Turkey. Capital, Sofia; reigning King in 1932, Boris III, who succeeded to the throne upon the abdication of his father, Oct. 3, 1918.

**AREA AND POPULATION.** As a result of the World War, the area of Bulgaria was reduced from 53,305 to 39,814 square miles. The population according to the census of 1926 was 5,478,741, as compared with the 1920 census population of 4,846,971. The estimated population on June 30, 1931, was 6,006,000 (79.3 per cent rural and 20.7 per cent urban). The chief cities, with their populations at the 1926 census, are: Sofia, 213,002; Philippopolis (Plovdiv), 84,655; Varna, 60,563; Ruschuk (Ruse), 45,788. About 81 per cent of the population is Bulgarian and 10.5 per cent Turkish. According to preliminary figures, the movement of population in 1930 was: Births, 179,964; deaths, 92,693; marriages, 54,387. The national faith is that of the Orthodox Church, with some 789,000 Moslems composing the largest religious minority.

**EDUCATION.** Elementary education is free and compulsory for children between the ages of 7 and 14. In 1929-30, 600,219 pupils were enrolled in elementary schools, public and private; 150,628 in secondary schools; 28,870 in special and professional schools; and 6400 in Universities. The State University at Sofia had 354 teachers and 5031 students.

**PRODUCTION.** The cultivated land, totaling about 9,182,000 acres, is widely distributed among small proprietors and supports 80 per cent of the population. About 7,203,160 acres are forested. Yields of the chief crops, in metric tons, in 1931, with 1930 figures in parentheses, were: Wheat, 1,605,476 (1,559,938); rye, 306,637 (320,571); barley, 360,550 (432,587); oats, 124,909 (110,550); and corn, 997,148 (775,108). The 1931 figures are provisional. Other products included mixed grain, potatoes, tobacco, grapes (69,345,000 gallons of must in 1930), sugar beets, sunflower seed, attar of roses, fruit, cotton, and silk cocoons. Livestock in 1926 included 8,739,803 sheep, 1,817,437 cattle, 1,002,089 swine, and 482,180 horses.

Industry is relatively unimportant, the principal lines being leather, wood and furniture, ceramics, and woolen textiles. On Jan. 1, 1930, the government was subsidizing 1158 manufacturing industries. There are several state monopolies, of which the manufacture of tobacco is the most important. Coal production in 1930 was 1,593,041 metric tons (1,517,100 in 1931); copper, 27,448 metric tons (31,370 in 1929); zinc-lead, 2762 (11,396); lead-copper, 9737 (9923); aluminum, 5747 (3613); and salt, 1704 (3653).

**COMMERCE.** While Bulgarian exports in 1931 declined to 5,934,174,000 leva from 6,191,140,000 leva in 1930, imports increased slightly to 4,660,063,000 leva from 4,589,725,000 leva in the previous year (the lev exchanged at par of \$0.0072 in 1930 and 1931). The favorable trade balance was 1,274,111,000 leva, as against 1,601,415,000 leva in 1930. The leading exports in 1931 (in 1000 leva), with 1930 figures in parentheses, were: Tobacco, 2,579,730 (2,654,238); eggs, 849,990 (887,282); corn, 295,102 (537,870); attar of roses, 85,095 (194,402). The principal imports (in 1000 leva) were: textiles, 1,472,811 (1,271,518); metals, 909,642 (777,920); machinery, 604,180 (649,988); skins, 211,264 (159,292); resin and mineral oils, 170,984 (273,225). Germany was the chief source of imports, supplying 1,084,194,000 leva of the 1931 total, followed by Italy, the United Kingdom, Czechoslovakia, Austria, France, and Rumania, in the order named. Exports went principally to Germany, Austria, Belgium, Italy, Switzerland, and Czechoslovakia in the order named.

Exports for 1932 were valued at 3,384,082,000 leva and imports at 3,471,507,000 leva, leaving an unfavorable trade balance of 87,425,000 leva. Exports declined 55 per cent and imports 25 per cent, as compared with 1931 values.

**FINANCES.** Budget estimates for the year ended Mar. 31, 1932, placed revenue at 6,400,000,000 leva, including 2,460,000,000 leva from indirect taxation, and expenditure at the same figure, including 2,150,000,000 leva for public debt charges. Preliminary returns for the year showed a deficit of about 900,000,000 leva, as compared with a deficit of 1,284,000,000 leva for the 1930-31 fiscal year. The proposed budget for 1932-33, as submitted to Parliament in April, 1932, placed receipts and expenditures at 6,000,000,000 leva, a figure recommended by the Financial Committee of the League of Nations.

The national debt on Dec. 31, 1931, stood at 27,226,000,000 leva (26,795,000,000 leva, when loans on account of certain Departments are deducted). The total was divided into foreign debt, 20,998,000,000 leva (consolidated, 15,772,000,000; reparations, 4,641,000,000; floating,

585,000,000), and internal debt, 6,228,000,000 leva (consolidated, 2,516,000,000; floating, 3,712,000,000). See *History*.

**COMMUNICATIONS.** Bulgaria in 1930 had 1821 miles of railways (1515 miles of ordinary gauge and 306 miles of narrow gauge), all state owned and operated; 10,026 miles of highways, including 4687 miles of state roads; 1397 miles of non-railway telegraph lines; and 8349 miles of telephone lines. In the same year 5953 vessels of 1,973,728 tons entered the Black Sea ports and 5963 of 1,976,464 cleared. Vessels entering the Danube ports numbered 11,417 of 2,311,054 tons; vessels clearing, 11,470, of 2,332,621 tons.

**GOVERNMENT.** Under the Constitution of 1879, as amended in 1893 and 1911, the King is the executive authority and is assisted by a Council of Ministers nominated by him. Legislative power rests with the *Sobranie*, or National Assembly, a single chamber of 227 members elected for four years by proportional representation. Laws passed by the *Sobranie* require the King's assent and he may dissolve it at any time. The composition of the *Sobranie* elected June 21, 1931, was: National Bloc, 162 (including 72 Agrarians, 42 Democrats, 29 National Liberals, 7 Radicals, and 2 others); Democratic Entente (*Liapcheff* group), 64; Labor (formerly Communist), 31; National Liberal (*Smiloff* group), 14; Macedonian group, 8; Social Democratic, 5; total, 274. The Cabinet as reorganized Oct. 12, 1931, included: Premier and Minister for Foreign Affairs and Public Worship, Nicholas Mushanoff (Democrat); Minister of Interior, Dr. Alexander Ghirghinoff (Democrat); Education, Constantine Muravieff (Agrarian); Justice, Dimitri Varbenoff (National Liberal); Commerce, Gheorgi Petroff (National Liberal); Finance, Stephen Stephanoff (Democrat); Public Works, Gheorgi Yordanoff (Agrarian); Posts and Railways, Stoian Kosturkoff (Radical); Agriculture, Dimitri Ghitcheff (Agrarian); War, General Kissioff.

### HISTORY

**THE FINANCIAL CRISIS.** As in other Balkan states, the economic and financial problems arising from the depression took precedence over all other issues during 1932. The acuteness of the situation at the beginning of the year was indicated by the fact that Bulgaria had a foreign exchange surplus of only 100,000,000 leva monthly with which to meet foreign debt and reparation charges aggregating 91,000,000 leva in addition to payments on an outstanding debt of 1,300,000,000 leva for goods purchased abroad. With the continued decline in exports, the impossibility of continuing full payments on these foreign obligations became obvious. On January 8 Premier Mushanoff indicated the approaching necessity of default, unless aid was obtained from outside sources. This was followed by the announcement of Minister of Agriculture Ghitcheff on February 8 that under no circumstances would Bulgaria make further reparation payments.

In response to frantic appeals, the Financial Committee of the League of Nations sent three representatives to Bulgaria to study the situation. The findings of the commission, made public on February 13, were in sharp contrast to the pessimistic statements of government officials. It found the lev stable, the private banks liquid, and a 37 per cent currency coverage. Due chiefly to the foreign exchange restrictions of Bulgaria's

neighbors, the commission recommended that from April to September a moratorium should be declared on 50 per cent of the interest and sinking-fund payments due abroad. It suggested that the payments withheld be deposited in a blocked account in the National Bank, recommended the continuation of the Hoover moratorium on Bulgaria's reparation payments, and urged that the government balance the budget by September.

Premier Mushanoff accepted these recommendations, with modifications. The budget for 1932-33 was tentatively balanced (see *Finance*). And on April 15 he notified the League Council that, beginning April 1, the government was suspending the transfer of 60 per cent of the country's foreign debt service, instead of the 50 per cent suggested. At the same time, the government requested the trustees of its foreign loans to form a committee of the bondholders to negotiate with it regarding the future service of the loans.

Under pressure of the Agrarian party, the ministry also took steps in March to relieve the critical financial straits of many peasants by suspending until Nov. 1, 1932, all forced sales for taxes. It further sponsored a plan to convert the debts of farmers up to \$1000 into long-term obligations. The Agrarians, however, remained dissatisfied with the policies of Minister of Agriculture and Public Works Yordanoff, who refused their insistent demands that he resign voluntarily. This conflict precipitated the resignation of Premier Mushanoff and the entire cabinet on September 7. A new cabinet was immediately formed by Premier Mushanoff, with the same personnel except that Virgule Dimoff, general secretary of the Agrarian party, replaced Yordanoff. Another cabinet crisis was precipitated December 27, when the three Agrarian members of the ministry resigned because their colleagues rejected their proposals for economic and financial reforms. The following day Premier Mushanoff presented the resignation of the entire cabinet to the King. On December 31, M. Mushanoff formed a new cabinet, with himself as Premier and Minister of Foreign Affairs. Lacking the support of the National Liberals, the new ministry was without a parliamentary majority and it was expected to be short-lived.

The possibility of a military dictatorship in Bulgaria developed during the year as a result of the rapid gains made by the Communist party, which captured a majority in the Sofia Council, and the widespread discontent among the peasants. General Sirmanoff, head of the Reserve Officers' Union, warned the political leaders that unless bolshevism and political bickering were checked the officers would "step over" the political parties "to save the country." The 31 Communist Deputies were thrown out of the Parliament building October 28 after they had prevented King Boris from delivering the speech from the throne by shouting "Down with the Fascist government."

Like Germany, Bulgaria in 1932 showed increasing restiveness under the restraints imposed by the peace treaties. Besides demanding the cessation of reparation payments, the government sought at the Disarmament Conference in Geneva (see *DISARMAMENT*) to secure the restoration of compulsory military service. The ostensible reason given was that conscription was less expensive than the small professional army permitted under the Treaty of Neuilly.



**BULTFONTEINITE.** See MINERALOGY.

**BURIAT-MONGOL REPUBLIC.** See SIBERIA.

**BURGESS, GEORGE KIMBALL.** An American physicist, died in Washington, D. C., July 2, 1932. He was born in Newton, Mass., Jan. 4, 1874, and was graduated in 1896 from the Massachusetts Institute of Technology, where for two years he served as assistant in physics. He then studied at the University of Paris, receiving the Sc.D. degree in 1901. On his return to the United States he taught physics at the Universities of Michigan and California. In 1903 he went to Washington as associate physicist of the Bureau of Standards, and in 1913 became physicist and chief of the division of metallurgy. In 1923 he succeeded Dr. S. W. Stratton as director of the bureau. During the World War he served as member of various commissions of the National Research Council that cooperated with scientists in the Allied countries in the study of various problems arising in connection with the war. He was also chairman of the Federal Fire Council, director of the American Engineering Standards Association, and U. S. delegate to the International Conference on Weights and Measures held in Paris in 1927 and to the World Engineering Congress held in Tokyo in 1929. The results of his many investigations were published in a series of papers on the constant of gravitation, on high-temperature measurements, and on the properties of metals and alloys. Besides translating *Le Châtelier's High Temperature Measurements* (1901) and *Duhem's Thermodynamics and Chemistry* (1903) he wrote *Recherches sur la constante de gravitation* (1901); *Experimental Physics—Freshman Course* (1902); *The Measurement of High Temperatures* (with H. Le Châtelier (1911); *A Micropyrometer* (1913).

**BURMA.** The largest and most easterly Province of British India. Burma has an area of 262,732 square miles, or approximately the size of Texas. The Province is divided into Burma proper, 184,102 square miles; the Shan States, 62,305 square miles; and 16,325 square miles of unadministered territory. Capital, Rangoon.

The population, census of 1931, totaled 14,667,146. Burmans are of the Mongoloid race group and are overwhelmingly Buddhist; they have little in common with the people of India proper in language, race, or religion. Rangoon, with 400,415 inhabitants, and Mandalay, with 147,932, are the leading cities. In 1930-31 there were 545,401 pupils in 7567 recognized schools and colleges, and 192,866 pupils in unrecognized institutions. There is a university at Rangoon, an agricultural college and research institute and also an intermediate college at Mandalay, a forestry school at Pyawmna, and a technical institute and a veterinary school at Insein.

**PRODUCTION.** Agriculture is the principal occupation, supporting 9,159,000 out of the total population. Four-fifths of the total cultivated area of some 17,000,000 acres is under rice, which is the chief money crop of the people, forming 83 per cent of the exports by value in 1930. The decline in the price of unmilled rice from 160 rupees (1 rupee averaged \$0.3369 in 1931) per 100 baskets in 1930 to 65 rupees per 100 baskets in July, 1931, greatly reduced the purchasing power of the people and trade and industry were drastically restricted. There are about 20,000,000 acres of forest land, which yield ap-

proximately 1,000,000 tons of timber annually, half of it teak. In 1929 the teak output was 478,518 tons; other woods, 570,173 tons. Petroleum production in 1929 totaled 253,000,000 Imperial gallons (262,187,263 gallons in 1928). Tin, tungsten, silver, lead, zinc, and wolfram are mined. Factories in 1930 numbered 948, principally rice mills and sawmills, and employed nearly 100,000 persons.

**COMMERCE.** For the fiscal year ended Mar. 31, 1931, imports of foreign merchandise (excluding the coastal trade with India proper) declined to the equivalent of \$50,185,097 from \$76,160,268 in the previous fiscal year. Exports declined in value to \$117,434,064 from \$143,819,793 in 1929-30. The United States in 1930-31 supplied \$5,470,620 of imports (\$6,748,850 in 1929-30) and purchased \$1,634,470 of exports (\$1,953,115). In the fiscal year 1931-32, trade showed even more drastic declines. Rice is the leading export and cotton piece goods the chief import.

**FINANCE.** For the fiscal year 1930-31, revised estimates for revenue were 1010 lakhs (1 lakh = 100,000 rupees; 1 rupee = \$0.3369 in 1931) and for expenditure 1109 lakhs. Burma made no contribution to the central government of India in 1930-31.

**COMMUNICATIONS.** Due to the rugged northern and eastern frontiers, communication with India and the outside world is entirely by water. About 98 per cent of Burma's imports and 85 per cent of its exports pass through Rangoon, situated 20 miles from the sea on the Rangoon River. In 1930-31, a total of 1811 steamers of 4,419,000 net tons entered the port, unloading 1,551,329 tons of goods and loading 3,677,542 tons of Burmese products. The Irrawaddy River is navigable for 900 miles and forms the main highway of commerce. In 1930-31 there were 2057 miles of state-owned railway lines. Surfaced highways extended 1741 miles; unsurfaced, 7822 miles.

**GOVERNMENT.** In 1923, Burma was constituted a Governor's Province under the Government of India Act of 1919. There is an appointive executive council and a legislative assembly of 103 members, of whom 80 are elected and 23 nominated and *ex-officio*. The Shan States are administered by the local chiefs under supervision of the Commissioner of the Federated Shan States. Governor, Sir Hugh L. Stephenson who succeeded Sir Charles Innes on Dec. 20, 1932.

**HISTORY.** The Round-Table Conference on Burma, which convened in London, Nov. 27, 1931, closed on Jan. 12, 1932. Substantial agreement had been reached between the British and Burman representatives regarding a proposed Constitution under which Burma would be separated from India and given a larger measure of autonomy. The provisional settlement presupposed that a substantial majority of the Burmans favored withdrawal from the projected Indian federation (see INDIA under *History*).

Meeting no such racial, caste, and religious divisions as those which held up an Indian settlement, the Burma conference envisaged new elections in November, 1932, followed by the establishment in 1933 of a new constitutional régime. The projected Constitution called for a bi-cameral legislature, with a senate of about 40 members, partly elected and partly nominated, and an elected assembly three times as large. The Cabinet was to be collectively responsible to the Legislature, which was to control virtually

all branches of the government except defense, maintenance of the country's financial credit, guidance of the Shan States, and the protection of minorities. These latter functions were to be reserved to the British Governor.

Many Burman leaders were dissatisfied with the number and importance of the governmental functions reserved to the British rulers. In the general election of November to fill the 77 seats in the Legislature the victorious Anti-Separationist party ran on a platform calling for entrance into the Indian federation on terms permitting Burma to secede at will. It was believed that this policy would enable Burma to obtain complete autonomy sooner than would immediate separation under the proposed Burman Constitution. The Anti-Separationists won 39 seats in the Legislature, as against 29 by the Separationists and 9 by neutrals. Dr. B. A. Maw, leader of the Anti-Separationists, refused on November 17 the invitation of Governor Sir Charles Innes to form a government. He said that his party regarded the election as a verdict against separation on the basis of the Constitution offered by Great Britain and as a mandate to work for full responsible government for Burma.

**BURNS, WILLIAM JOHN.** An American detective, died in Sarasota, Fla., Apr. 14, 1932. He was born in Baltimore, Md., Oct. 19, 1861, and attended parochial and public schools in that city and Columbus, Ohio. On his father's appointment as police commissioner of Columbus he found opportunity, in an unofficial capacity, to exercise his budding talent for criminal investigation. His success in revealing the tally-sheet forgeries in Ohio in 1885 led to his appointment four years later as a member of the U. S. Secret Service. He was assigned to the headquarters in St. Louis, Mo., and from there was transferred in 1894 to Washington. One of his early convictions was that of the Costa Rican counterfeiters, De Requesons and De Costa, who in 1890, to foment a revolution in Costa Rica, undertook counterfeiting the currency of that country in the United States. He also successfully handled the Brockway and the Taylor and Bredell money counterfeiting cases and the Jacobs case of counterfeiting revenue stamps. In 1903 he resigned from the Service to take charge, at the request of Secretary of the Interior E. A. Hitchcock, of the investigation of the gigantic system of public land frauds in the West. His disclosure of the methods by which thousands upon thousands of acres of valuable lands in Washington, Oregon, and California had been systematically stolen from the United States government resulted in the prosecution and conviction of a number of Federal, State, and city officials, including, U. S. Senator John H. Mitchell of Oregon. He next investigated, with Francis J. Heney, the charges of corruption against Eugene F. Schmitz, mayor, and Abraham Ruef, political boss of San Francisco, which resulted in a sensational trial in 1907. He later played a prominent part in disclosing municipal corruption in Atlantic City and Detroit.

In 1909 Mr. Burns founded in New York City the William J. Burns National Detective Agency, with branch offices in the principal cities of the United States. This was later expanded into the William J. Burns International Detective Agency, Inc. Following the dynamiting of the Los Angeles *Times* building on Oct. 1, 1910, he tackled the most difficult assignment of his entire career.

This outrage was the climax of a seven-years' war which the National Association of Structural Iron and Bridge Workers had waged against the open shop in building trades all over the United States. The ringleaders were found to be John J. McNamara, secretary and treasurer of the structural iron and bridge workers' union, and his brother James. Their arrest and conviction, together with that of about 40 other high labor union officials, broke up one of the most vicious conspiracies in the history of the United States. In 1921 Mr. Burns returned to the service of the United States government, being appointed by Attorney General Harry S. Daugherty director of the bureau of investigation of the Department of Justice. Outstanding among the investigations which he conducted was an inquiry into the activities of the Ku Klux Klan. On his resignation four years later he resumed his connection with the Burns Detective Agency in an advisory capacity. He was the author of *The Masked War* (1913), a history of the Los Angeles *Times* dynamiting case; *The Crevice* (1915); and *The Argyle Case* (1927).

**BUSINESS REVIEW.** Pessimistic analysis alternating with better predictions featured the opening of the year 1932 in business; but it was evident, from the first, that, at best, the year must be a period of slow improvement, with gains gradually made and their continuance, or even their considerable development at any time, dependent upon the adoption of constructive national policies. The continuance of a heated Congressional campaign, up to the middle of July, and the early coming on of an election contest which proved to be unsurpassed in bitterness, soon dashed such hopes as had been entertained of regular, steady improvement. An unexpected, and rather hectic advance in stock market conditions during the middle of summer, whether caused by natural forces of reconstruction or the result of manipulation, did not apparently reflect any actual underlying change of business conditions. It was believed by some to be a long-range forecast of ultimate improvement thought perhaps to be under way in its beginning. However, developments during the later months of the year at no time justified such expectations, and the consequence was that the closing weeks of 1932 showed advance only in few rather distinct fields of effort, prominent among which were railway carloadings and power production, in both of which indexes pointed to slightly improved prospects. A spurt in textile industries during midyear, and temporarily larger employment, soon died out, leaving unemployment at peak.

The fore part of the year was deeply affected by fears of adverse Congressional action, and by expectations of receiverships, while the year throughout was marked by very low industrial earnings, some outstanding bankruptcies as notably the Kreuger failure, and by many closings of banks and other financial institutions (see article on **BANKS AND BANKING**). Inability to readjust the price level promptly and completely to changed conditions prevented not a few institutions from placing themselves in touch with the real economic position, while inability to secure readjustment of wages, as in the case of the railways, resulted in an equally adverse result with regard to others. The net outcome of these factors, so far as industrial

production was concerned, may be briefly surveyed in the accompanying table:

### INDEX OF INDUSTRIAL PRODUCTION

[Index numbers adjusted for seasonal variations, 1923-1925 average = 100]

Mos.	1924	1925	1926	1927	1928	1929	1930	1931	1932
Jan.	100	105	106	107	106	117	102	82	71
Feb.	102	105	107	109	109	117	110	86	71
Mar.	100	104	107	111	109	119	109	87	68
Apr.	95	103	107	109	109	122	110	89	64
May	89	103	106	111	109	123	106	89	61
June	85	102	107	108	108	126	99	84	59
July	83	103	107	106	109	124	89	83	56
Aug.	89	103	111	107	112	123	88	79	59
Sept.	94	102	112	105	114	121	91	76	68
Oct.	94	105	111	103	114	117	87	73	68
Nov.	97	106	108	99	112	106	84	72	65
Dec.	101	108	105	99	113	99	82	71	60
Annual index	95	104	108	106	111	119	96	81	64

**DISTRIBUTION.** Poor manufacturing conditions and lack of demand for goods, except in cases where supplies were totally exhausted or nearly so, made the year 1932 an unfavorable period generally, but distributive conditions, as in former years, continued to be rather better, comparatively speaking, than those that prevailed in productive enterprises. A factor that militated heavily against retail trade was furnished by the fact that consumers, who in former years had still retained a considerable volume of savings which could be applied to purchasing for their current wants, were now far less able than formerly to supply the demand that was called for

### DEPARTMENT STORES—SALES, STOCKS

[Index numbers; 1923-1925 average = 100]

Month	Index of sales <sup>a</sup>			
	Adjusted for seasonal variation		Without seasonal adjustment	
	1931	1932	1931	1932
January	97	78	79	64
February	98	78	80	64
March	97	72	92	70
April	106	80	101	76
May	97	73	97	73
June	95	71	90	67
July	91	67	65	47
August	88	66	67	50
September	84	70	87	73
October	86	71	93	77
November	83	65	95	74
December	81	..	142	109
Year	92	..	91	70

Month	Index of stocks (end of month)			
	Adjusted for seasonal variation		Without seasonal adjustment	
	1931	1932	1931	1932
January	88	75	78	67
February	86	73	81	69
March	84	70	87	72
April	83	70	87	72
May	83	68	85	70
June	82	68	80	66
July	81	64	75	60
August	79	61	76	59
September	81	61	84	63
October	80	61	88	67
November	79	62	89	70
December	78	60	73	56
Year	82	65	82	66

<sup>a</sup> Based throughout on figures of daily average sales—with allowance for changes from month to month in number of Saturdays and for six national holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas. Adjustment for seasonal variation makes allowance in March and April for the effects upon sales of changes in the date of Easter.

to maintain sales. Accordingly, indexes of department store sales, adjusted for seasonal variations, not only revealed a generally lower average than during the preceding year, running some 15 points lower, but despite a temporary improvement in early October, tended again downward toward the close of the twelve-month. The distributive conditions, moreover, varied considerably as between different parts of the country, and were poorer in regions where unemployment was most severe. It was again true that chain store earnings did better, and were more sustained than was true of other retail enterprises, and there was, more than ever, a difficulty on the part of independent retailers in competing with chain store enterprises in general. The accompanying table illustrates the general position of department stores.

**COMMODITY PRICES.** The marked shrinkage of commodity prices—especially of agricultural staples—which had been in process during 1931 with such disastrous results, appeared at the opening of 1932 to have been arrested. This however, was appearance only, for fresh declines developed during the latter part of the year, not only in cotton, wheat, and other fundamental articles of commerce, but in nearly every branch of agricultural produce, and the movement extended itself also to metals and other raw materials. Average prices were already so low at the opening of the year, that the reductions thus referred to constituted only a relatively small percentage change in the general index, and so gave to the year's operations the appearance of relative stability, as is made evident by the following table reviewing the price movement by monthly averages. The tendency toward recession became more marked toward the close of the year, but it is only when the prices of particular groups of commodities are studied, that the real nature of the changes that were occurring is understood. Consumable goods succeeded in holding their own better than raw materials, by far, but in so doing rendered the consequences of the price reduction in extractive industries the more difficult to endure on the part of the operators. Retail food prices, however, showed a fair tendency to follow wholesale values through with some lag. See the accompanying table:

### MOVEMENT OF WHOLESALE PRICES

Month	1926	1927	1928	1929	1930	1931	1932
January	..	97.0	96.3	97.2	93.0	77.0	67.3
February	102	96.0	96.4	96.7	92.0	75.5	66.3
March	..	100	95.0	96.0	92.5	91.0	74.5
April	..	100	94.0	97.4	96.8	91.0	73.3
May	..	101	94.0	98.6	95.8	89.0	71.3
June	..	101	94.0	97.6	96.4	87.0	70.0
July	..	100	94.0	98.3	98.0	84.0	70.0
August	..	99	95.0	99.8	97.7	84.0	70.2
September	..	100	97.0	100.1	97.5	84.0	69.1
October	..	99	97.0	97.8	96.3	83.0	68.4
November	..	98	96.7	96.7	94.4	80.4	68.3
December	..	98	96.8	96.7	94.2	78.4	66.3

**MANUFACTURING.** During the year 1932, re-adjustment of wages and working time to meet the needs of the difficult industrial situation continued. There was no longer any pretense of keeping wages up to the 1929 standard, or of going back to a similar basis as regards various other elements of cost or outlay. Reductions of wages additional to those that had been applied during the preceding year were instituted from time to time, and rough estimates of salary reductions indicated a general cut of possibly 20

per cent below the levels of 1931. Railway wages, which had been cut 10 per cent at the close of 1931, continued to hold to their reduced figure, but at the close of 1932 another reduction of 10 per cent was asked by the executives of the principal railways, and was under consideration at the close of the period. Recognition that overhead costs of all sorts must be lessened led to new policies of manufacturing, and to an attempt to find cheaper substitutes for many articles that had previously been regarded as standard. In cases where demand seemed temporarily to brighten during the summer, as in the case of cotton textiles, advantage of the situation was taken to reduce inventory by getting rid of old stock, rather than to enlarge production which, generally speaking, continued on a rigidly controlled level. The accompanying table showing unfilled orders of the U. S. Steel corporation reflects the general indisposition to place advance orders:

UNFILLED ORDERS  
[U. S. Steel Corporation]

Month	1932	1931	1930
January ..	2,648,150	4,132,351	4,468,710
February ..	2,545,629	3,965,194	4,479,748
March ..	2,472,413	3,995,330	4,570,653
April ..	2,326,926	3,897,729	4,354,220
May ..	2,177,162	3,620,452	4,059,227
June ..	2,034,768	3,479,323	3,968,064
July ..	1,866,302	3,404,816	4,022,055
August ..	1,869,595	3,169,457	3,580,204
September ..	1,985,090	3,144,333	3,424,338
October ..	1,997,040	3,119,432	3,481,763
November ..	1,968,301	2,933,891	3,639,636
December ..	1,968,140	2,735,353	3,943,596

The low point reached by Steel's backlog earlier in the year was at the end of July when only 1,866,302 tons of unfilled orders remained on the books of the corporation. This figure represented at the time the lowest reserve of orders since the corporation was founded in 1901.

AGRICULTURE. So far as output was concerned, the agricultural year developed favorably, with a total outturn that was fully up to average in most crops. Distribution of moisture was pretty generally good, and normal yields were the rule in nearly all of the staple producing regions. Cotton produced about 13,000,000 bales, as against the unusually heavy yield of near 17,000,000 bales for the preceding year; while wheat (spring and winter) produced a total of 840,000,000 bushels. The desperately low prices for all staples had left the producer with money incomes of only 40 to 50 per cent of those of the preceding year, and in many cases without motive to ship his output at all, inasmuch as shipping charges would consume his entire income. The farmer was thus placed in exceptionally bad condition, even when his general volume of yield had been good. During midsummer, there was a brief period coinciding with the months of advance in the stock market, when a better outlook seemed to be developing. This soon faded, and the close of the year found the farmer with the lowest prices for cotton and wheat that he had received for many years past, and with an unprecedented number of defaults upon farm mortgages. The political campaign was fruitful in schemes of all sorts for raising agricultural prices and for relieving the farmer of his mortgage burdens; and the opening of Congress witnessed the development of many of them in

bill form and otherwise, pending the arrival of the new administration.

U. S. AGRICULTURAL PRODUCTION, 1932  
[000 omitted]

Product	Production	Value
Corn .....	2,908,045 bushels	\$565,611
Oats .....	1,242,037 do.	169,766
Cotton .....	12,727 bales	396,989
Cottonseed .....	5,659 tons	(*)
Barley .....	299,950 bushels	55,616
Apples .....	139,156 do.	52,314
Oranges (2 States) .....	47,700 boxes	70,385
White potatoes .....	389,463 bushels	135,766
Wheat .....	726,831 do.	252,545
Hay .....	68,543 tons	444,978
Tobacco .....	1,024,200 pounds	104,340

\* Not available.

GENERAL BUSINESS. The year proved disastrous in the general business field. Dividend reductions and omissions, which had been so numerous during 1931, continued, many old-established rates of distribution being reduced or the dividend entirely passed. These were not so numerous as those of the preceding year, owing to the great inroads already made into the previously established dividend-structure, which naturally left only a smaller field within which shrinkage could operate, but the changes were the more noteworthy, because they affected enterprises which had succeeded in keeping up their payments for an unexpectedly long period. Some indeed, as a matter of general welfare, maintained dividend payments by the use of accumulated surplus on the ground that such surpluses had been laid aside in good years, in order to permit dividend maintenance in just such contingencies as the prevailing one. Corporate earnings, however, in some instances, as notably in the case of certain of the stronger railways, revealed improvement, especially toward the close of the year, largely owing to reductions of expenses and curtailment of overhead, resulting in a better net showing than had been previously the case. Still, it remained true that, save in certain of the closely controlled and monopolized industries or those enjoying an exceptionally stable demand, the results of the year were worse than for the preceding period.

BUSINESS FAILURES. In the accompanying table the failure situation prevailing during 1932 in all classes of business is depicted, following the figures furnished by *Bradstreet's* for 1932 and the preceding years. The aggregate number of failures shown is 28,773 as against a total for the preceding year of over 26,000. As during the preceding year, too, the figures indicated an exceptionally difficult situation, due to the business conditions already depicted, with the added element of danger afforded by the fact that many corporations and partnerships which had been able to "hold on," during the years after 1929 now found their receipts so heavily curtailed, and their payments so much a burden, due to a lessening volume of assets, that they recognized it as inevitable to surrender. The resulting reduction of enterprises, in not a few varieties of business, produced remarkable transformations in several important lines, and laid the foundation for a much closer control, or even monopoly, of trade for the future. It was also true that the reduction of competition in some ways aggravated conditions by rendering possible a more effective "pegging" of prices, which,

if fully availed of, must result in still further disturbing the equilibrium of the price structure, and so rendering more troublesome the variations of prices already widely noted as a factor militating against recovery.

steeply in value to \$135,960,000 (1931), from \$271,669,000 (1930). Gasoline produced from natural gas attained, for 1931, 680,339,000 gallons, as against 829,713,000 (in value \$57,974,000) for 1930. The production of natural gas

**TOTAL NUMBER OF COMMERCIAL FAILURES IN THE UNITED STATES, WITH ASSETS AND LIABILITIES, FOR FIVE YEARS, AS REPORTED TO BRADSTREET'S**

Region	Number of Failures					Assets		
	1932	1931	1930	1929	1928	1932	1931	1930
New England States	3,117	2,545	2,641	2,462	2,383	\$ 78,047,000	\$ 157,744,140	\$ 21,410,441
Middle States . . .	8,473	7,619	7,560	5,348	5,570	286,369,000	447,298,242	841,856,457
East Central States	6,553	6,068	5,314	4,229	4,537	473,374,000	468,616,651	184,408,181
Northwestern States	2,263	1,939	1,496	1,457	1,454	127,477,000	85,089,710	88,260,902
Southern States . .	5,368	5,648	4,899	4,208	4,295	156,858,000	247,655,470	372,895,491
Far-Western States	2,999	2,562	2,305	1,199	2,181	168,828,000	66,905,587	29,557,824
Totals, United States . . . .	28,773	26,381	24,209	19,203	20,370	\$1,240,853,000	\$1,473,309,800	\$988,389,396

Assets		Liabilities					
1929	1928	1932	1931	1930	1929	1928	
\$ 13,692,401	\$ 14,184,826	\$ 186,169,000	\$ 199,349,512	\$ 54,107,502	\$ 42,850,255	\$ 39,065,612	
76,858,138	46,521,157	490,041,000	788,418,789	543,112,753	187,591,819	128,861,882	
57,986,230	62,150,869	675,832,000	705,948,290	322,881,251	98,726,626	105,588,119	
23,335,619	32,073,770	189,299,000	129,117,474	60,739,436	40,365,597	50,260,249	
148,531,008	108,078,300	209,278,000	109,572,281	448,151,821	202,908,452	182,929,502	
30,546,259	15,373,280	209,278,000	109,572,281	56,718,916	57,047,984	30,904,065	
\$351,149,650	\$278,382,152	\$1,945,873,000	\$2,280,829,316	\$1,485,591,679	\$628,990,633	\$517,603,929	

**BUSSES.** See AUTOMOBILES.

**BUTLER, NICHOLAS MURRAY,** PROGRAMME FOR THE CONTROL OF LIQUOR TRAFFIC. See PROHIBITION.

**BUTTER.** See DAIRYING.

**CAISSON CONSTRUCTION.** See FOUNDATIONS.

**CALIFORNIA. POPULATION.** According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 5,677,251, as against 3,426,861 in 1920. Sacramento, the capital, had (1930) 93,750 inhabitants; Los Angeles, 1,238,048; San Francisco, 635,394.

**AGRICULTURE.** The following table gives the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod. Bu.	Value
Oranges . . .	1932 . . . . .	33,400,000 <sup>a</sup>	\$46,760,000	
	1931 . . . . .	34,900,000 <sup>a</sup>	38,390,000	
Grapes . . .	1932 . . . . .	1,882,000 <sup>b</sup>	20,112,000	
	1931 . . . . .	1,320,000 <sup>b</sup>	26,508,000	
Hay . . . . .	1932 1,982,000	4,524,000 <sup>b</sup>	33,121,000	
	1931 1,861,000	3,802,000 <sup>b</sup>	38,600,000	
Barley . . .	1932 1,246,000	39,249,000	9,812,000	
	1931 820,000	13,776,000	6,199,000	
Dry beans . .	1932 225,000	2,484,000 <sup>c</sup>	7,080,000	
	1931 334,000	3,467,000 <sup>c</sup>	9,553,000	
Wheat . . .	1932 593,000	10,674,000	5,871,000	
	1931 456,000	6,475,000	3,756,000	
Peaches . . .	1932 . . . . .	26,836,000	4,167,000	
	1931 . . . . .	24,127,000	8,600,000	
Cotton . . .	1932 123,000	126,000 <sup>d</sup>	4,095,000	
	1931 192,000	177,000 <sup>d</sup>	5,443,000	
Rice . . . .	1932 110,000	7,040,000	2,534,000	
	1931 125,000	8,500,000	3,740,000	
Potatoes . .	1932 33,000	6,369,000	8,376,000	
	1931 87,000	7,215,000	5,411,000	
Corn . . . .	1932 99,000	3,069,000	1,473,000	
	1931 90,000	2,610,000	1,670,000	
Sugar beets .	1932 104,000	1,280,000	(*)	
	1931 89,000	1,060,000 <sup>b</sup>	7,847,000	

<sup>a</sup> Boxes. <sup>b</sup> Tons. <sup>c</sup> 100-lb. bags. <sup>d</sup> Bales. \* Not available.

**MINERAL PRODUCTION.** Though California maintained in 1931 the second place among the petroleum-producing States of the Union, her production of petroleum declined substantially in point of quantity, to 188,830,000 barrels for

1931, from 227,329,000 for 1930, and still more for 1930 (the latest year for which totals were available) was 334,789,000 M cubic feet, as against 342,214,000 M for 1929; by value, \$69,071,000 for 1930 and \$68,972,000 for 1929. Portland cement shipped from plants in the State totaled 7,496,080 barrels for 1931 and 10,438,479 for 1930; in value, \$11,659,428 (1931) and \$15,241,089 (1930). The mining of gold, by a course natural to that industry, increased while the other mineral industries in general declined. There were mined in 1931 523,135 ounces of gold, as against 450,289 in 1930; by value, \$10,814,162 (1931) and \$9,308,300 (1930). For 1932 the gold production (Mint figures) was 566,031 ounces; by value, \$11,700,000. The production of potassium salts, in which California held the lead in the Union, was also active in 1931, providing one of the State's secondary sources of mineral extraction. The production of salt was fairly maintained, at 334,900 short tons for 1931, as against 350,370 for 1930; in value, it was \$2,000,567 for 1931 and \$2,080,133 for 1930. The mining of copper was greatly curtailed, to 8,344,901 pounds for 1931, from 26,262,447 (in value \$3,500,000 approximately) for 1930. Among the totals for products tabulated only through 1930, clay products attained for that year a value of \$16,209,437, as against \$22,733,974 for 1929. Borates were produced to the quantity of 177,360 short tons for 1930 and of 169,870 for 1929; and to the value of \$5,351,999 for 1930 and \$4,515,375 for 1929. The output of stone was, for 1930, 10,960,030 short tons, in value \$9,794,870. The total value of the State's mineral product, duplications eliminated, was \$479,049,507 for 1930; for 1929, \$555,001,213.

**FINANCE.** State expenditures in the year ended June 30, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments \$77,191,832 (of which \$27,961,936 was for local education). For conducting public-service enterprises, \$1,882,646; for interest on debt, \$5,365,048; for permanent improvements, \$35,512,636; total, \$119,952,162 (of which \$32,247,108 was for highways, \$6,803,172 being for maintenance and

\$25,443,936 for construction). Revenues were \$126,249,119. Of these, property and special taxes furnished 10.1 per cent; departmental earnings and compensation to the State for officers' services, 5.8; sale of licenses, 67.6 (in which was included a gasoline sale tax that produced \$26,677,833). Funded debt outstanding on June 30, 1931, totaled \$133,583,576, of which \$59,400,000 was for highways. Net of sinking-fund assets, the debt was \$132,471,336. The State levied in the year no general ad-valorem taxes on property.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 8317.17. About 100 miles had been brought into operation in the previous year and about 23 miles abandoned.

**EDUCATION.** Heavy and widespread reductions in the budgets for public schools were reported to have been made during the year, largely through the activities of the California Tax-payers' Association. According to the *Journal* of the National Education Association, these reductions exceeded in their aggregate all retrenchment in other sorts of public expenditure within the authority of the State and its subdivisions. The number of persons of school age in the State, as of October, 1930, the latest time of available data thereon, was reported as 1,383,650. It was exceeded by the number of enrolled pupils for the academic year 1931-1932, which was 1,470,573. Of those enrolled, 784,410 were in common schools or elementary grades; in high schools, 582,097. The year's expenditure for public-school education totaled \$143,339,482.

**POLITICAL AND OTHER EVENTS.** A popular referendum was held on May 3 upon the Sharkey Act, prescribing the means to determine the quantity of petroleum that might be produced by the wells of the State under general limitation, and allocate its share of this quantity to each field and producer, through a State control board. The popular vote rejected the act, thus requiring that curtailment of the production of petroleum proceed on a basis of voluntary agreement. The State Supreme Court ruled in April that the act prohibiting the sale of the State's bonds at less than par, and likewise prohibiting sale at par less a commission, was valid. Among occurrences connected with economic depression in the State was a decision of the State Supreme Court, rendered March 1, to the effect that property taken by an irrigation district, formed under the State Irrigation District Acts, to satisfy delinquency on assessments, ranked as State property and could not be taxed by the counties.

Among the unemployed there was a revival of small-scale mining of gold, by the old primitive methods; some of the 8000 so engaged obtained a living. In some cases the bonded debt of irrigation districts that had met with adversity had to be refunded by composition. Representatives of 9000 grape growers adopted on April 25 a resolution advocating the revision of the Eighteenth Amendment in a fashion to permit the sale of naturally fermented beverages. Plans were made at San Diego to hold an international exposition from July 4, 1934, to July 4, 1935, to commemorate the city's centennial. Governor Rolph formulated in June a plan to establish employment in the offices of the State on the basis of 5 days a week, for the sake of retrenchment. Los Angeles, by municipal ordinance, adopted a like plan taking effect April 1. An effort to remove Mayor John C. Porter of Los

Angeles by a recall vote was defeated on May 3 by a margin of 50,000 votes. The tenth of the modern series of Olympic Games (q.v.) was held at Los Angeles, starting July 29, attended by some 95,000 spectators. In the August primaries William G. McAdoo gained the Democratic nomination for Senator.

The Reconstruction Finance Corporation agreed, according to announcement of October 8, to lend \$62,000,000 to the State upon the latter's bonds, for constructing the San Francisco-Oakland Bay Bridge as a self-liquidating project.

**ELECTIONS.** President Hoover's home State voted the Democratic National ticket on November 8 by a majority of over 3 to 2. The popular vote for President was officially reported as: Roosevelt (Dem.), 1,324,157; Hoover (Rep.), 847,904. For Roosevelt, it was some 700,000 greater than the Smith vote of 1929; for Hoover, some 300,000 smaller than the Hoover vote of 1928. For United States Senator, William Gibbs McAdoo, Democrat, Secretary of the Treasury under Wilson, defeated Tallant Tubbs, Republican and opponent of prohibition. By popular vote was adopted an initiated proposal to repeal the State law for the enforcement of prohibition. An initiated proposal to legalize betting on horse races was defeated. A proposal to create taxes on incomes and on sales for the special purpose of school revenues was likewise rejected.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, James Rolph, Jr.; Lieutenant-Governor, Frank F. Merriam; Secretary of State, Frank C. Jordan; Treasurer, Charles G. Johnson; Comptroller, Ray L. Riley; Attorney-General, Seth E. Howard; Superintendent of Public Instruction, Vierling Kersey; Director of the Department of Agriculture, Dudley Moulton.

**Supreme Court:** Chief Justice, William H. Waste; Associate Justices, William H. Langdon, John W. Preston, Jesse W. Curtis, Emmet Seawell, John W. Shenk.

**CALIFORNIA, UNIVERSITY OF.** A coeducational institution of higher learning with headquarters at Berkeley, Calif., founded in 1868. Branches are found in various parts of the State. At Mt. Hamilton is the Lick Observatory; at San Francisco, the California School of Fine Arts, Hastings College of the Law, medical school, the George Williams Hooper Foundation, college of dentistry, California College of Pharmacy; at Los Angeles, the University of California at Los Angeles, branch of the college of agriculture in southern California, Los Angeles medical department; at Davis, branch of the college of agriculture; at Riverside, branch of the college of agriculture in southern California, including the citrus experiment station and graduate school of tropical agriculture; at La Jolla, the Scripps Institution of Oceanography.

The total number of resident students in the academic and professional departments, fall and spring sessions, 1931-32, was 20,361, of whom 10,896 were men and 9465 were women. At Berkeley 12,529 students were enrolled; at Los Angeles, 6814. The enrollment in the university extension division in 1931-32 was 28,095 in classes and correspondence courses. The 1932 summer session enrollments (Berkeley and Los Angeles) totaled 6042. At the beginning of the autumn term there were approximately 2000 members on the regular teaching staff and 800 on the extension staffs. The total income for 1931-32 was \$14,758,000,

including gifts totaling \$1,189,280 for permanent improvements and \$1,233,472 for endowments. Total assets were listed at \$69,920,000 including \$45,991,000 in real estate, improvements, and equipment and \$17,973,000 in endowment and trust funds. The libraries contained approximately 1,236,700 volumes.

During the year 1932 final improvements were completed on a 13-acre addition to the Berkeley campus for physical education and competitive sports. The cost of this project was approximately \$3,350,000 for land purchase, grading, and construction of a track stadium, baseball bleachers, and a million dollar gymnasium. More than one-third of this cost was met by students from football receipts. Construction on a \$600,000 addition to the medical school in San Francisco to house the hospital out-patient department was continued. This required the wrecking of the museum of anthropology and the removal of its contents to an unused building on the Berkeley campus. At Los Angeles two gymnasia, one for men and one for women, were completed at a cost of \$1,000,000, and an additional wing for the physics-biology building, costing \$300,000, was completed. At Riverside an entomology building was completed at a cost of \$150,000.

Among the most important gifts received in 1932 was a 750-acre ranch in southern California, with buildings and a stock of 87 pure-bred Arabian horses, from Mr. and Mrs. W. K. Kellogg. An endowment of \$600,000 for the support of breeding experiments was included. Another gift totaling \$580,000 was received from the estate of the late Mrs. Christine Breon of San Francisco for medical research; one of \$250,000 from Regent and Mrs. Sidney M. Ehrman for scholarships and a chair in European history; and one of \$100,000 from the Boys and Girls Aid Society of San Francisco for child welfare research.

Among the more important research announcements of the year was the isolation of a growth-promoting hormone and a sex hormone from the pituitary gland by Dr. Herbert M. Evans; the development of a new type of X-ray-producing apparatus, capable of furnishing emanations as powerful as any yet used more cheaply and easily; and the perfection of a new source of energy to be used for splitting the nuclei of atoms and studying the structure of all atoms in the table of chemical elements. Robert Gordon Sproul, LL.D., was president of the University of California; Monroe E. Deutsch, Ph.D., vice-president and provost; Ernest Carroll Moore, Ph.D., vice-president and provost of the University of California at Los Angeles.

**CALIFORNIA INSTITUTE OF TECHNOLOGY.** An institution for collegiate and graduate instruction and research in the pure and applied sciences in Pasadena, Calif., founded as Throop Polytechnic Institute in 1891. The enrollment in 1932 was 777, of whom 533 were in the undergraduate and 244 in the graduate school. The faculty numbered about 200. The endowment was approximately \$8,000,000 and the annual income \$750,000. There were 30,000 volumes in the library. During the year an astrophysical laboratory and the W. K. Kellogg radiation laboratory for the study of high-potential X-rays were completed, and an optical shop (part of the 200-inch telescope project) was under construction. Prof. Albert Einstein again visited the institution during 1932. The administration centres in an executive council of eight, of which

Robert A. Millikan, Ph.D., LL.D., Sc.D., is chairman.

**CALORIES.** See **FOOD AND NUTRITION.**

**CAMBODIA,** kām-bō'di-a. A French protectorate constituting one of the five component states of French Indo-China. Executive authority is exercised by the French Resident-Superior, who acts through King Sisowathmonivong (crowned July 22, 1928). Resident-Superior, F. Lavit. See **FRENCH INDO-CHINA.**

**CAMEROON,** kā'me-rōon, or **CAMEROONS.** The former German territory of Kamerun on the Gulf of Guinea, West Africa, bounded on the north by Nigeria and on the east and south by French Equatorial Africa and Spanish Guinea. Occupied by French and British troops in 1916, it was divided between the two nations in 1919 under mandates of the League of Nations.

**FRENCH CAMEROON.** France received an area of 166,489 square miles, in addition to 107,270 square miles ceded to Germany in 1911 and later incorporated in French Equatorial Africa. The population of French Cameroon in 1931 was estimated at 2,192,163, including 2163 Europeans. In 1929, there were 89 Government schools, with a total attendance of 7000, and 38 private schools, with 6748 pupils. Tobacco, almonds, palm oil, timber, rubber, cacao, and ivory are the chief products. Imports in 1930 totaled 172,852,000 francs (1 franc equals \$0.039) and exports 136,793,049 francs. The general budget for 1930 balanced at 76,290,574 francs; the special railway budget amounted to 32,073,000 francs. Highways extended 2777 miles and railroads, 292 miles. In 1930, 445 vessels entered Douala, the chief port. Yaoundé is the seat of administration. Commissioner in 1932, M. Marchand.

**BRITISH CAMEROONS.** The British portion, extending along the Nigerian frontier from the sea to Lake Chad, has an estimated area of 34,236 square miles; population (1931 census), 773,840. Chief products: bananas (dried), palm kernels, palm oil, cacao, rubber, ivory, and ebony. Imports in 1931 were valued at £107,769; exports at £155,432. Government revenue (1930-31) amounted to £81,945; expenditure, £149,952. A total of 118 vessels of 203,744 tons entered the port of Victoria, and 102 vessels of 70,329 tons entered Tiko, in 1931. British currency is in use. The capital is Buea, population about 3000. The Governor of Nigeria administers the territory. See **NIGERIA.**

**CAMP FIRE GIRLS OF AMERICA.** An organization primarily for the adolescent girl, whose purpose is to "seek beauty, give service, pursue knowledge, be trustworthy, hold on to health, glorify work, and be happy." It was organized nationally in March, 1911, and chartered in 1912, with Dr. Luther H. Gulick as president, but its foundations were laid some time before by a group who felt that the leisure time of young girls could and should be used to help them grow. A flexible programme of activities in seven fields, or crafts, and a system of awards, or honors, for accomplishment in these fields was outlined. A girl may win honors in any of the seven crafts: Home, health, hand, camp, nature lore, business, and citizenship. The purpose of these activities is not the attainment of particular skill, but the development, and happiness through development, of the individual girl who discovers new interests and new talents and at the same time enjoys the companionship of other girls. The programme also appeals to her æsthetic



sense through its ritual and symbolism, based on Indian lore and handicraft, and upon joining she chooses a symbol which signifies her ambition or ideal.

A special project is launched each year by Camp Fire Girls. Home Decoration was the theme of the 1932 project, and the girls studied the history of decoration, set up model rooms in stores, redecorated their own rooms, and asked experts in the field to teach them the principles of arrangement and color harmony so that they would be able to make their own homes more harmonious and beautiful.

The membership of the organization in 1931 was 236,032, including 173,416 Camp Fire Girls and Guardians and 36,250 Blue Birds, the youngest members. During the school year of 1930-31 and the summer of 1931, 151 training courses were given, with an attendance of 4556 leaders and college students who desired to become leaders. During the summer of 1931, 16,367 Camp Fire Girls attended 94 Class A Camps (camps having an attendance of 25 or more), while thousands of others went camping in small groups with their leaders. The organization publishes *Everygirl's*, a monthly magazine for girls, and *The Guardian*, a programme resource for leaders.

The national council, composed of delegates from local councils, is responsible for the management of the organization. The executive officers of the national board of directors, elected by the national council, have charge of special departments covering the activities of groups not under the council as well as those organized in council territory. At the meeting of the board of directors held in New York City, Oct. 7, 1932, Mrs. Lida Foote Tarr was elected president; Miss Florence Hughes, first vice president; Dr. Joseph E. Raycroft, second vice president; Dr. Jay B. Nash, third vice president; Dr. Myron T. Scudder, treasurer; Lester F. Scott, secretary and national executive. National headquarters are at 41 Union Square, New York City.

**CANADA.** The largest and most populous Dominion of the British Commonwealth of Nations. Capital, Ottawa.

**AREA AND POPULATION.** Canada comprises nine Provinces and two Territories, whose approximate land areas in 1932 and populations at the censuses of 1921 and 1931 are shown in the accompanying table. The total water area is about 180,035 square miles.

AREA AND POPULATION OF CANADA

Provinces	Land area, sq. miles	Population	
		1921	1931
Prince Edward Island	2,184	88,615	88,038
Nova Scotia	20,743	523,837	512,846
New Brunswick	27,710	387,876	408,219
Quebec	571,004	2,360,665*	2,874,255
Ontario	363,282	2,933,662	3,431,683
Manitoba	224,777	610,118	700,189
Saskatchewan	237,975	757,510	921,785
Alberta	248,800	588,454	731,605
British Columbia	349,970	524,582	694,268
Yukon Territory	205,346	4,157	4,230
Northwest Territories	1,258,217	7,988	9,723
Total	3,510,008	8,787,948*	10,376,786

\* Revised in accordance with the Labrador award of the Privy Council, Mar. 1, 1927.

\* Including 485 members of the Royal Canadian Navy counted in their homes in the census of 1931.

The population of Canada increased 45.6 per cent from 1871 to 1901 and 93.1 per cent from 1901 to 1931. Continuation of this increase "at

a relatively rapid rate" was anticipated by the Dominion Bureau of Statistics as a result of the progressive exclusion of immigrants into the United States. However, the rate of increase for the decade from June 1, 1921, to June 1, 1931, was only 18.05 per cent, as compared with 21.94 per cent and 34.17 per cent during the decades 1911 to 1921 and 1901 to 1911, respectively. The 1931 census revealed a distinct movement of population from east to west. The population of the four western Provinces increased during the decade from 2,480,664 to 3,047,792, or 22.86 per cent, while that of the five eastern Provinces rose from 6,294,655 to 7,315,041, an increase of only 16.2 per cent. The three eastern maritime Provinces had 9.72 per cent of the total population, as against 11.38 per cent in 1921 and 13.01 per cent in 1911.

Density of population in 1931 was 2.96 per square mile; in 1921, 2.50. For the 1921-31 decade, the urban population increased by 1,219,936, while the rural population gained only 366,311. Of the total 1931 population, 41.74 per cent resided in towns and cities of over 5000, compared, with 52.3 per cent of the population of the United States residing in such places. The urban population of Canada in 1931 exceeded the rural by 769,920, comprising 53.71 per cent of the total, as against 46.29 per cent rural. In 1931 there were 518 males to 482 females in the entire population, the respective totals being 5,374,541 and 5,002,245. For the decade, masculinity increased in the eastern Provinces and decreased in the western Provinces, where it was formerly greatest.

The 1931 population was divided by religious faiths as follows, according to preliminary census returns: Roman Catholic, 4,098,547 (39.48 per cent); United Church, 2,016,897; Anglicans, 1,635,269 (15.76 per cent); Presbyterians, 870,482; Baptists, 443,229; Lutherans, 394,052; Greek Catholic, 186,587; Jews, 155,606.

Populations of cities having over 50,000 inhabitants in 1931, with the 1921 figures in parentheses, were: Montreal, 818,577 (618,506); Toronto, 631,207 (521,893); Vancouver, 246,593 (163,220); Winnipeg, 218,785 (179,087); Hamilton, 155,547 (114,151); Quebec, 130,594 (95,193); Ottawa, 126,872 (107,843); Calgary, 83,761 (63,305); Edmonton, 79,197 (58,821); London, 71,148 (60,959); Windsor, 63,107 (38,591); Verdun, 60,745 (25,001); Halifax, 59,275 (58,372); Regina, 53,209 (34,432).

In 1930, exclusive of the Territories, there were 243,495 births, 109,306 deaths, and 71,657 marriages. The birth rate per 1000 of population was 23.9; death rate, 10.7. For 1929 the respective rates were 23.5 and 11.3. The birth rate in Quebec was 29.6 in 1930, compared with 21 in Ontario. For vital statistics of the Provinces, see separate article on each. For the fiscal year ended Mar. 31, 1932, immigrants into Canada numbered 25,752, compared with 88,223 in 1930-31 and 163,288 in 1929-30. Of the 1931-32 arrivals, 7088 were from the United Kingdom, 14,297 from the United States, and 4367 from other countries.

**EDUCATION.** According to preliminary census returns, the total school population on June 1, 1931, was 2,152,262, or 20.77 per cent of the total population, as against a school population of 1,710,598, or 19.49 per cent of the total, in 1921. On June 1, 1931, 92.34 per cent of the population could read and write (90 per cent in



1921). In 1930, there were 32,209 educational institutions of all kinds, with 83,144 teachers and 2,490,023 pupils. Expenditure on education for the year totaled \$165,361,198. The educational system included 30,188 ordinary day schools under Provincial control, with 2,106,878 pupils; 795 ordinary day schools, under private control, with 92,275 pupils; 342 Dominion Indian schools, with 15,743 pupils; and 152 institutions of higher learning, with an aggregate attendance of 73,515, of whom 37,400 were of university grade. Of the standard universities, six (New Brunswick, Toronto, Manitoba, Saskatchewan, Alberta, and British Columbia) are provincially controlled; four (Dalhousie, McGill, Queens, and Western) are undenominational; and the remainder are denominational. For educational statistics of the Provinces, see article on each Province.

**AGRICULTURE.** Of the total land area of the nine Provinces (1,401,316,388 acres in 1931), approximately 358,162,190 acres are available for use in agricultural production. Preliminary 1931 census returns showed 728,664 farms in these Provinces aggregating 163,568,369 acres, as compared with 711,090 farms aggregating 140,887,903 acres at the census of 1921. All the Provinces east of Manitoba showed a decrease in the number of farms during the decade, while the western Provinces showed an increase. The number of farm owners, including managers, operating their own farms decreased during the decade from 615,180 to 586,339, or 4.69 per cent, while the number of tenants increased from 55,948 to 74,385, or 32.95 per cent, and the occupiers classed as "part owners and part tenants" increased from 39,962 to 67,940, or 70.01 per cent.

The average size of all farms in Canada in 1931 was 224.48 acres (198 acres in 1921). The value of farm property (land and buildings) was \$4,046,223,300, against \$5,071,804,309 in 1921, a decrease of 20.22 per cent. The value of land in farms declined to \$2,704,760,300 from \$3,689,170,009 in 1921, or 26.68 per cent. During the decade the average value of land per farm declined to \$3712 from \$5188 and the average value of farm land per acre fell to \$16.54 from \$26.18. This fall in the value of farm property was comparable with the fall in values of commodity prices over the same period. At the 1931 census, owners of 244,201 farms, or 33.51 per cent of the total, reported mortgages to the value of \$677,564,100, or 16.75 per cent of the value of all farms.

Canadian agriculture was severely affected by reduced crops and very low prices during the period 1929 to 1932. The estimated gross agricultural revenue declined to \$880,241,000 in 1931 from \$1,262,047,000 in 1930, \$1,631,081,000 in 1929, and \$1,806,020,000 in 1928. The estimated value of field crops, which amounted to \$1,125,003,000 in 1928, decreased to \$948,981,000 in 1929, \$662,041,000 in 1930, and \$425,065,000 in 1931. The area under field crops in 1931 was estimated at 57,964,000 acres, compared with 62,215,000 acres in 1930. The average price per bushel received by growers for their wheat was estimated at 38 cents in 1931, 49 cents in 1930, and \$1.05 in 1929. After September, 1931, however, prices of grains remained on a somewhat higher level. The estimated gross farm income in 1931 was divided as follows: Field crops, \$425,065,000; farm animals, \$95,748,000; wool, \$1,044,000; dairy products, \$237,922,000; fruits

and vegetables, \$36,234,000; poultry and eggs, \$65,178,000; fur farming, \$4,000,000; maple products, \$3,538,000; tobacco, \$7,178,000; flax fibre, \$179,000; clover and grass seed, \$1,497,000; and honey, \$2,058,000. Yields of the leading field crops in 1929, 1930, and 1931, with preliminary returns for 1932, are shown in the accompanying table.

CANADIAN CROP YIELDS, 1929-32  
[Units in thousands of bushels, except as indicated]

	1929	1930	1931	1932*
Wheat .....	804,520	420,672	304,144	431,200
Oats .....	282,838	428,148	328,278	394,876
Barley .....	103,313	135,160	67,382	82,981
Rye .....	13,160	22,018	5,322	9,937
Buckwheat .....	10,470	10,908	6,649	8,281
Mixed grains .....	35,754	44,276	39,431	39,878
Potatoes .....	39,930 <sup>b</sup>	48,241 <sup>b</sup>	52,305 <sup>b</sup>	
Hay and clover	15,833 <sup>c</sup>	16,397 <sup>c</sup>	13,960 <sup>c</sup>	

\* Estimates. <sup>b</sup> 1,000 cwt. <sup>c</sup> 1,000 tons.

Crop production in 1932 was greater than in 1931, the index of production based on nine of the principal field crops being 100.1, compared with 82.5 in 1931. The production of wheat was greater than in any other year since 1928. The preliminary estimate of the total value of field crops was \$416,586,000. With few exceptions the unit prices for 1932 crops were lower than those of 1931, but increased wheat production offset most of the decrease in value due to price declines. Allowing 130,000,000 bushels for domestic consumption, the total wheat supplies available for export and carry-over in the crop year 1932-33 amounted to 432,148,900 bushels.

The estimated acreage under pasture in 1931 was 9,428,102, compared with 9,889,513 in 1930. Livestock at the census of 1931 included 7,990,947 cattle, 4,716,761 swine, 3,608,340 sheep, and 3,129,058 horses. The number of poultry was estimated at 65,468,000.

**FISHERIES.** Besides excellent salt-water fishing areas, Canada has 220,000 square miles of fresh water containing many varieties of food fish. In 1930, \$64,026,297 was invested in the fishing industry and the number of employees was 79,558. The total value of fishery products in 1930 was \$47,804,216 (\$53,518,521 in 1929). Normally 60 per cent of the total catch is exported. Sea fish landed in 1931 aggregated 888,901,000 pounds, valued at \$14,569,000, or 113,000,000 pounds less than in 1930.

**FORESTS.** With a total forested area of 1,151,454 square miles, Canada in 1930 produced lumber valued at \$121,142,985 (\$140,989,564 in 1929, the highest figure since 1920). The total value of woods operations, including pulpwood valued at \$76,120,063, was \$219,570,129 in 1929, compared with \$212,950,799 in 1928 (pulpwood, \$74,848,077). Exports of wood, wood products, and paper, mostly to the United States, totaled \$230,604,474 in 1931 (\$289,566,675 in 1930).

**MINERAL PRODUCTION.** The Canadian mining industry was severely hit by reduced demand and price declines, the total estimated value of mineral production decreasing from \$310,850,246 in 1929 to \$279,873,578 in 1930 and \$227,456,365 in 1931, or by 28 per cent in two years. The reduction in quantity of mineral output, however, was estimated at only about 9 per cent. While the output of silver, nickel, asbestos, coal, and gypsum declined sharply, there was a large increase in gold production and the output of copper, zinc, petroleum, and some minor products

was greater in 1931 than in 1929. The values of the leading mineral products for 1931 and 1930 follow: Gold, 1931, \$55,715,120 (1930, \$43,557,003); copper, \$24,185,118 (\$37,990,226); nickel, \$15,267,453 (\$24,455,133); lead, \$7,260,060 (\$13,109,451); silver, \$6,140,739 (\$10,086,367); zinc, \$6,059,249 (\$9,635,957); platinum group (including platinum, palladium, rhodium, iridium, etc.), \$2,813,547 (\$2,437,801). Ontario led the Provinces in the value of 1931 mineral output with \$96,126,990; Quebec reported \$35,673,395; British Columbia, \$34,302,146; and Alberta, \$23,970,783.

The value of mineral production in 1932 was placed at 182,701,000 Canadian dollars, as against 228,029,000 Canadian dollars in 1931. Metals as a group were valued at (Canadian) \$103,133,000; non-metals, (Canadian) \$56,779,000. Gold production amounted to 3,055,000 fine ounces worth (Canadian) \$63,156,000, or 13.4 per cent more than in 1931; coal, 11,656,810 tons.

MANUFACTURES. Canada normally ranks second in the world production of automobiles and hydro-electric energy, third in paper and aluminum, and fifth in rubber manufacture. The gross value of manufacturing production declined to \$3,428,970,628 in 1930 from \$4,063,987,279 in the preceding year, a loss of 14.9 per cent. Lower prices accounted for part of the recession, the number of persons employed in factories dropping only 7.2 per cent from the 1929 figure. Ontario and Quebec, with gross production values of \$1,713,025,322 and \$1,022,280,687, respectively, far outranked the other Provinces in 1930. The leading industrial groups, in order of the value of their products in 1930, were: Vegetable products, wood and paper, iron and its products, animal products, textiles, non-ferrous metals, non-metallic minerals, central electric stations, chemicals and allied products, and miscellaneous industries.

The food, clothing, and certain other industries maintained a fairly high level of production during the depression years, but nearly all branches of the iron and steel industry were severely affected. Production of pig iron, which reached a record level of 1,080,000 long tons in 1929, dropped to 144,132 tons in 1932 and to 420,038 tons in 1931. The production of steel, which reached 1,378,000 long tons in 1929, was 342,788 tons in 1932 and 672,104 tons in 1931. Motor vehicles turned out of Canadian factories declined from the high record of 262,625 in 1929 to 153,372 in 1930 and 82,614 in 1931, the lowest number since 1921. Including new installations aggregating 541,325 horse power during 1931, the total hydro-electric power installation in Canada was 6,066,337 horse power. Kilowatt hours generated in 1929 amounted to 17,961,840,000 and in 1930 to 18,093,802,000. In 1931 the estimated output was 16,610,000,000 kilowatt hours, of which 1,235,325,000 kilowatt hours (7.4 per cent) were exported to the United States. The percentage of trade unionists unemployed at the end of June, 1932, was 21.9, compared with 16.3 per cent at the end of June, 1931, and 9.2 per cent on July 31, 1930.

The monthly index of the physical volume of manufacturing production, based on a monthly average for 1926 equaling 100, ranged from a low point of 66.5 for April, 1932 to a high point of 82.1 in June. Construction contracts in 1932 totaled \$132,872,400, or 57.8 per cent less than

in 1931. In 1932, the output of automobiles was 60,816 units; newsprint, 1,907,566 tons.

FOREIGN INVESTMENTS, ETC. Foreign investments in Canada, as of Jan. 1, 1930, were estimated by the Dominion Bureau of Statistics at \$6,125,959,000. Total business capital employed in Canada was \$17,500,000,000, exclusive of private capital in domestic enterprises such as farms, homes, etc. About 65 per cent was owned in Canada. The national wealth was rated at about \$30,840,000,000. Of the foreign investments in the Dominion, \$1,084,670,000 was in Dominion, provincial and municipal securities; \$1,674,865,000 in railways; \$628,230,000 in other public utilities; \$520,248,000 in the pulp, paper and lumber industry; \$546,915,000 in metal industries; \$281,000,000 in mining; \$250,000,000 in merchandise establishments; \$209,022,000 in finance and insurance; \$338,033,000 in land and mortgages; and \$492,370,000 in all other industries. Of the total foreign investments in Canada the largest share, \$3,726,745,000, was held in the United States, \$2,228,024,000 in England and \$171,188,000 in other countries. The interest on American investments amounted to about \$150,000,000 annually. Canadian investments abroad amounted to \$1,781,345,000, or nearly 30 per cent of the amount of outside investments in Canada. Of this, \$1,021,855,000 was placed in the United States, \$80,874,000 in Great Britain, and \$678,616,000 in other countries.

COMMERCE. Canadian foreign trade for the fiscal year ended Mar. 31, 1932, continued the marked decline in evidence since the high record established in 1928-29. The total for the fiscal year was \$1,166,083,261, compared with \$1,723,640,743 in 1930-31, a decrease of \$567,557,482. Imports and exports for the period 1924-25 to 1931-32 are shown in the accompanying table.

CANADIAN IMPORTS AND EXPORTS, 1924-25 TO 1931-32

Year ended March 31	Total exports	Imports for home consumption
1924-25 .....	\$1,081,861,643	\$ 796,932,537
1925-26 .....	1,328,700,137	927,328,732
1926-27 .....	1,267,573,142	1,030,892,505
1927-28 .....	1,250,598,034	1,108,956,466
1928-29 .....	1,388,896,075	1,265,679,091
1929-30 .....	1,144,938,070	1,248,273,582
1930-31 .....	817,028,048	906,612,695
1931-32 * .....	587,565,517	578,517,744

\* Preliminary.

The summary of Canadian trade for the 1931-32 fiscal year shows that Canada's imports from foreign countries dropped by \$269,398,640 (nearly 40 per cent) to \$414,127,273, while imports from the British Empire decreased only \$59,892,708 (less than 30 per cent) to \$142,981,551. Shipments to British countries comprised 38.5 per cent of Canada's total exports, against 37.1 per cent during the previous fiscal year. Exports to foreign countries decreased by \$143,855,862 (approximately 29 per cent) to \$350,103,979 and those to the British Empire dropped by \$70,692,758 (24.8 per cent) to \$219,281,004.

The United States in 1931-32 supplied imports for consumption in Canada to the value of \$327,631,000, or 60.8 per cent of the total, as compared with \$584,407,000 (64.5 per cent) in 1930-31. The United Kingdom followed with \$99,109,000 in 1931-32 (18.4 per cent of the total), as compared with \$149,497,000 (16.5 per cent) in 1930-31. Of the total Canadian exports

in 1931-32, the United States took \$219,100,000 worth (40.8 per cent of the total), as against \$349,661,000 (43.7 per cent) in 1930-31. The United Kingdom took exports to the value of \$162,139,000 (30.2 per cent), as against \$219,246,000 (27.4 per cent in 1930-31. Germany, France, and Japan were Canada's other leading customers and sources of imports. In the calendar year 1932 Canada ranked fifth among the exporting nations of the world. Exports were valued at \$628,098,000 (Canadian) of which wheat exports accounted for \$128,385,733, and imports at \$452,614,000 (preliminary figures). Comparative figures for the calendar year 1931 were: Imports, \$906,612,695; exports, \$799,653,000.

The value of imports for consumption and exports, by industrial groups, in 1930-31 and 1931-32, are shown in the accompanying table compiled from the *Canada Year Book, 1932*.

#### CANADIAN FOREIGN TRADE BY INDUSTRIAL GROUPS

IMPORTS <sup>a</sup>	1930-31 <sup>b</sup>	1931-32 <sup>b</sup> (preliminary)
Agricultural products . . .	\$177,628,778	\$128,621,260
Animal products . . . . .	45,995,705	24,563,246
Fibres, textile products . . .	130,717,022	83,879,362
Wood products, paper . . .	46,042,029	32,008,168
Iron and its products . . .	194,888,443	98,811,706
Non-ferrous metals . . . .	59,623,263	34,301,105
Non-metallic minerals . . .	153,578,658	102,147,347
Chemicals . . . . .	35,650,772	30,731,345
Miscellaneous . . . . .	62,488,025	43,454,205
<b>Total imports . . . . .</b>	<b>906,612,695</b>	<b>578,517,744</b>
<b>Total dutiable imports</b>	<b>574,090,230</b>	<b>388,511,888</b>
<b>Total free imports . . .</b>	<b>332,522,465</b>	<b>190,005,856</b>
<b>Duty collected . . . . .</b>	<b>149,250,992</b>	<b>113,756,491</b>
<b>EXPORTS</b>		
Agricultural products . . .	292,280,037	204,398,365
Animal products . . . . .	83,714,772	68,798,683
Fibres, textile products . . .	6,504,182	5,512,130
Wood products, paper . . .	230,514,474	175,740,269
Iron and its products . . .	38,937,661	15,462,977
Non-ferrous metals . . . .	95,652,068	69,072,888
Non-metallic minerals . . .	21,107,780	13,456,701
Chemicals . . . . .	12,825,852	10,535,038
Miscellaneous . . . . .	18,115,846	13,367,251
<b>Total domestic exports</b>	<b>799,742,667</b>	<b>576,844,302</b>
<b>Total foreign exports</b>	<b>17,285,381</b>	<b>11,221,215</b>
<b>Total exports . . . . .</b>	<b>817,028,048</b>	<b>587,565,517</b>
<b>Grand total external trade . . . . .</b>	<b>\$1,723,640,743</b>	<b>\$1,166,083,261</b>

<sup>a</sup> For home consumption.

<sup>b</sup> Fiscal years ending March 31.

**TOURIST EXPENDITURES.** The Dominion Bureau of Statistics estimated that for 1931 the expenditures of foreign tourists in Canada aggregated \$250,776,000 (\$279,238,000 in 1930) and that the expenditure of Canadian tourists in other countries amounted to \$76,452,000 (\$100,389,000 in 1930). The balance in Canada's favor was \$174,324,000 (\$178,849,000 in 1930). The U. S. Bureau of Foreign and Domestic Commerce estimated American tourist expenditures in Canada in 1931 at \$238,758,000 (\$266,283,000 in 1930) and Canadian tourist expenditures in the United States at \$56,902,000 (\$72,852,000).

**FINANCE.** For the fiscal year ended Mar. 31, 1932, Dominion revenues totaled \$336,737,000 (\$356,209,000 in the 1930-31 fiscal year) and total expenditures amounted to \$450,971,000 (\$440,057,000), of which \$375,403,000 repre-

sented ordinary expenditures (\$393,990,000 in 1930-31). The deficit was \$114,234,000, as against \$83,848,000 in the preceding year. The chief revenue items in 1931-32, with 1930-31 figures in parentheses, were: Customs, \$104,133,000 (\$131,209,000); excise, \$48,655,000 (\$57,747,000); Post Office, \$32,235,000 (\$30,212,000); excise taxes, \$59,606,000 (\$34,735,000); income tax, \$61,254,000 (\$71,048,000). Leading expenditure items, both ordinary and extraordinary, in 1931-32 were: Interest on public debt, \$121,151,106; pensions, \$48,686,388; Post Office, \$34,448,986; unemployment and farm relief in 1931, \$25,105,671; unemployment relief in 1930, \$13,189,843; public works, \$16,099,738; subsidies to Provinces, \$13,694,970; National Revenue office, \$13,144,210; pensions and national health, \$12,022,749; national defense, \$12,746,909; wheat bonus, \$10,907,428.

In his budget speech of Apr. 6, 1932, Finance Minister E. N. Rhodes estimated revenues for 1932-33 on the existing basis of taxation and conditions at \$319,100,000, while current expenses of the government during 1932-33 were placed at \$369,900,000, exclusive of \$9,600,000 voted for capital expenditures. To offset this anticipated deficit, the Finance Minister introduced legislation calculated to increase revenues by \$55,000,000, thus balancing current expenditures and leaving an expected surplus of \$4,300,000 (see *History*).

The gross public debt as of Mar. 31, 1932, totaled \$2,896,778,244 (\$2,672,778,954 on Mar. 31, 1931), of which \$2,565,256,579 represented the funded debt (\$2,379,599,328 in 1931). The net debt on Mar. 31, 1932, was \$2,375,846,172 and on Mar. 31, 1931, it was \$2,261,611,936.

**SHIPPING.** In the fiscal year ended Mar. 31, 1931, a total of 138,907 vessels of 92,969,104 registered tons entered Canadian ports in the sea-going, coastwise, and inland international trade, and 139,040 vessels of 92,617,979 tons cleared. Sea-going vessels entering numbered 20,737 of 28,004,762 tons and those clearing 20,800, of 26,535,387 tons. The total entrances and clearances represented an increase of 8,413,000 net tons over the preceding year, of which 1,473,000 tons increase was in sea-going and 6,940,000 tons in coastwise shipping. British vessels held first place in entrances and clearances during 1930-31, totaling 23,691 vessels of 31,715,000 net tons; the United States was second, with 13,493 vessels of 9,974,000 net tons; and Norway, Japan, Germany, Denmark, Sweden, and France followed in the order named. On July 1, 1931, the coastal and ocean-going power-driven commercial fleet of Canada, exclusive of the Great Lakes fleet, comprised 645 vessels of 959,671 gross tons. About 68 per cent of this fleet was owned or controlled by the Canadian Pacific and Canadian National railway systems. Shipments of grain to Europe from the port of Churchill on Hudson Bay, which was opened in 1931, were resumed in 1932. However, the chartering of only eight vessels for grain shipments was a disappointment. The new Welland Ship Canal, connecting Lake Erie at Port Colborne with Lake Ontario at Port Weller, was officially opened Aug. 6, 1932.

**RAILWAYS, ETC.** The single-track mileage of steam railways on Jan. 1, 1931, aggregated 42,075 miles (41,409 on Jan. 1, 1930). During 1931, according to provisional figures, the steam rail-

ways carried 26,400,000 passengers (34,698,767 in 1930) and 88,440,000 tons of freight (115,229,511 in 1930). The gross earnings were \$361,323,000 (\$454,231,650 in 1930) and the expenditures \$321,020,000 (\$380,723,411 in 1930). Net earnings of the Canadian Pacific railway lines totaled \$27,763,889, against \$38,687,673 in 1930, and working expenses were \$116,654,776, compared with \$143,874,125 in 1930. The Canadian National (Government owned) Railways reported an operating profit of about \$1,000,000 in 1931, but were \$56,000,000 short of meeting all their obligations, including interest on loans. Parliament appropriated \$112,000,000 for use of the system during the year (see *History*).

The total highway mileage at the beginning of 1930 aggregated 394,372 miles, of which 9132 were hard-surfaced, 226,583 gravel or improved earth, and 158,639 miles unimproved earth. A total of \$60,000,000 was spent on highways for construction purposes in 1931. The Canadian Air Mail Service during 1931 carried 19,000,000 letters weighing 470,461 pounds over routes totaling 6436 miles, the distance flown being 1,412,444 miles. A regular air-passenger and express service between Montreal and Quebec City was inaugurated May 19, 1932. An all-Canada telephone system was inaugurated Jan. 25, 1932, making possible conversation between Halifax, N. S., and Victoria, B. C., without the relaying of calls through the United States. In July, 1932, a direct telephone service between London and Canada was opened.

**GOVERNMENT.** Executive power is exercised in the King's name by the Governor-General of Canada, acting through a responsible ministry or cabinet. Legislative power is in a Parliament of two Houses: a Senate and a House of Commons, the former consisting of 96 members appointed for life and the latter of 245 members, in accordance with the distribution act of 1924, elected for five years (unless sooner dissolved) by popular vote, including woman suffrage. Women are eligible for election to Parliament. By the Statute of Westminster, which was approved by the British House of Commons July 10, 1931, and received the Royal Assent Dec. 11, 1931, all legal limitations upon Canada's legislative autonomy were removed. The nine Provinces have local autonomy, there being a separate parliament and administration for each. A lieutenant-governor appointed by the Governor-General-in-Council heads each provincial executive.

Governor-General in 1932, the Earl of Bessborough, who assumed office Apr. 4, 1931. The composition of Parliament following the election of July 28, 1930, was: Conservatives, 138; Liberals, 87; United Farmers of Alberta, 10; Progressives, 2; Liberal-Progressives, 3; Labor, 3; Independents, 2. The Conservative Ministry sworn in Aug. 7, 1930, in order of precedence, was as follows: Prime Minister, President of the Privy Council, Secretary of State for External Affairs, Minister of Finance, Richard B. Bennett; Minister without Portfolio, Sir George H. Perley; Labor, Gideon D. Robertson; Justice and Attorney-General, Hugh Guthrie; Fisheries, E. N. Rhodes; Trade and Commerce, H. H. Stevens; Railways and Canals, Dr. R. J. Manion; National Revenue, E. B. Ryckman; Minister without Portfolio, J. A. Macdonald; Postmaster-General, Arthur Sauve; Pensions and National Health, Murray McLaren; Public Works, H. A. Stewart; Secretary of State, C. H. Cahan; National De-

fense, Lieut.-Col. D. M. Sutherland; Marine, Alfred Duranleau; Interior and Superintendent-General of Indian Affairs, Thomas G. Murphy; Solicitor-General, Maurice Dupré; Immigration and Colonization, and Mines, W. A. Gordon; Agriculture, Major Robert Weir. On Feb. 3, 1932, Minister of Immigration and Colonization and Mines Gordon assumed the portfolio of Labor also and Minister of Marine Duranleau took over the Fisheries portfolio from E. N. Rhodes, who became Minister of Finance. At the same time Arthur Meighen was made a Minister without Portfolio.

### HISTORY

**THE OTTAWA CONFERENCE.** The outstanding event in the history of Canada and of the British Commonwealth of Nations during 1932 was the imperial economic conference, held at Ottawa from July 21 to August 21. The results of the conference disappointed the more extreme advocates of inter-imperial economic coöperation. In many quarters the conference was deprecated as tending to loosen rather than strengthen the ties binding the self-governing units of the Commonwealth. Nevertheless, it resulted in substantial agreements, important more as indications of possible economic and political trends than for their immediate effect upon the Commonwealth's internal and external commerce.

Of chief importance among the agreements reached were the seven bilateral treaties negotiated by Great Britain with Canada, Australia, New Zealand, South Africa, Newfoundland, India, and Southern Rhodesia. The treaties gave the natural or raw-material products of the Dominions a preference of about 10 per cent in the British market. The United Kingdom imposed new duties on wheat and other imports, in order to give the Dominions the 10 per cent preference, and also retained existing duties for the same reason. A duty of 3 pence (6 cents) a bushel was imposed on wheat, but since the Empire as a whole produced more wheat than it consumed, the duty promised to have little or no effect on the price. British preferential tariffs were also imposed upon foreign meat, butter, cheese, fruit, eggs, condensed milk, and honey. For Canada's benefit, restrictions were removed on the entrance of Canadian live cattle, a tariff of 2 pence (4 cents) was put on copper, and Great Britain promised that the 10 per cent ad valorem tariff on foreign timber, fish, asbestos, zinc, and lead would not be reduced unless Canada agreed. By the abrogation of the British-Soviet trade agreement, Canada also received protection against competition in the British market from foreign state-controlled dumping and price fixing. In return for these concessions, the United Kingdom received from the Dominions preferences on British manufactured goods competing with local manufactures and free entry for some non-competitive goods.

The seven treaties were to run for five years. Thereafter, they could be terminated upon six months' notice from either signatory. However, the United Kingdom was authorized to either impose a preferential duty or establish a quota system on Dominion foodstuffs if an investigation at the end of three years showed the existing arrangement inimical to the interests of British producers. Further, if Dominion producers were unable to provide wheat, copper, zinc, and lead "at prices not exceeding world

prices" the mother country might cancel the preferential duties on these products at any time. The Dominions were also promised an equal status with the mother country in the trade with the non-self-governing British colonial empire.

Besides the seven British-Dominion treaties, various inter-Dominion commercial agreements were concluded. Canada signed new treaties with South Africa, Rhodesia, and the Irish Free State and commenced the revision of existing treaties with Australia and New Zealand. A South Africa-Irish Free State trade agreement was also reported to have been concluded. The tariff war between the United Kingdom and the Irish Free State prevented any agreement between them (see IRISH FREE STATE). The Free State, however, secured from Canada the same rates as did the British and in return gave Canada her lowest preferential rate.

Analyzing the Ottawa treaties, in the *New York Times* of Oct. 2, 1932, Sir Arthur Salter, British economist, said that "such diversion of trade as is caused by the agreements will be in the realm of external trade and (with small exceptions) not at the expense of the home producer. . . . The immediate consequences, whether for good or ill, will be on a very modest scale. The increased exports of English manufactured articles directly resulting from the new preferences will at most, amount to a few millions of pounds. Nor, on the other hand, will the new food duties, as they stand, cause any substantial increase of prices to either the Dominion producer or the English consumer."

As to the trend of British policy, Sir Arthur described the Ottawa treaties as "tentative but hesitating steps" toward the goal of an integrated imperial economic unit and likewise toward a closed colonial empire on the French model. Separate estimates made by the U. S. Commerce Department and the Chamber of Commerce of the United States indicated that more than \$150,000,000 of United States exports to Canada and the United Kingdom would be affected by the preferences they accorded each other under the Ottawa pacts.

The Ottawa Conference demonstrated: (1) The impracticability of a comprehensive commercial agreement embracing the whole empire; (2) the full equality of status of the Dominions in fact as well as in theory; (3) the impossibility of agreement upon the proposed empire bank and currency; (4) the unwillingness of the Dominions to modify their domestic industrial development on behalf of British manufacturers, and (5) the reluctance of the United Kingdom to abandon her economic relations with Argentina and Scandinavia or to extend substantial subsidies to the food products of the Dominions. Manufacturing interests, powerfully aided by Canada, strove to secure a ruling raising the percentage of empire content in goods entitled to receive preferences to 75 per cent. After American branch factories in Canada had threatened to close if this proposal were adopted, it was dropped. The Conference also discussed shipping conditions in the Pacific resulting from heavy subsidization of the American mercantile marine and the closing to foreigners of the shipping trade between American continental ports and Hawaii. Describing this situation as "dumping of services," the Conference appointed an imperial committee to study means of combating it.

In accordance with the Ottawa agreements,

changes in 202 out of the 807 items in the Canadian tariff, designed to increase the margin of preference to British Empire products in the Canadian market, became provisionally effective October 13. With the ratification of the agreements by the House of Commons November 3, by a vote of 128 to 80, the schedule was confirmed. In opposing ratification, the Liberals gave notice that they would not be bound by the five-year term of the treaty, if they returned to power before its expiration.

**ST. LAWRENCE WATERWAY PACT.** On July 18, 1932, a treaty was signed at Washington for the joint construction by the United States and Canada of a deep waterway opening the Great Lakes to ocean-going vessels by way of the St. Lawrence River. For details of the agreement, see UNITED STATES under *Administration*. The project was opposed by the Provinces on the lower St. Lawrence, particularly by Quebec, whose great port, Montreal, is the head of navigation on the river. On Jan. 14, 1932, the Quebec Legislature, by a vote of 54 to 7, passed a resolution opposing the project. The speech from the throne at the opening of Parliament for the winter session October 6 called upon Parliament to ratify the treaty after ratification by the United States Senate. See CANALS.

**TRADE AGREEMENT WITH NEW ZEALAND.** The open break in the commercial relations between Canada and New Zealand which took place in 1931 was healed early in 1932. Representatives of the two governments met at Honolulu, Hawaii, and on January 9 signed a new trade convention which became effective May 24, following ratification by both Parliaments. The trade agreement between France and Canada was terminated on June 16 and in consequence the French tariff on Canadian wheat and other products was substantially increased.

**COURSE OF THE DEPRESSION.** The abrupt decline in commercial and industrial activity which marked the year 1931 was checked early in 1932. Numerous factors contributed to the improvement. Grain prices maintained the relative firmness exhibited the previous fall. Exports of grain were heavy throughout the summer, Canada supplying about 78 per cent of the world demand for wheat during the 1931-32 shipping season. The trade balance became favorable in February, after 27 months during which imports exceeded exports. Credit was notably easier and there was a rise in the price of high-grade bonds. The Dominion budget deficit was held to a respectably low figure (see *Finance*). A heavy increase in gold production, together with the government's restriction of exchange operations, aided in the recovery of the exchange value of the Canadian dollar from \$0.8513 U. S. in January, 1932, to about \$0.90 U. S. in September. Industry and employment also improved early in the year, but there were numerous wage cuts and on April 1 all Federal salaries were reduced by 10 per cent. The summer months, however, brought a marked industrial decline. The paper industry was particularly hard hit, operating at 50 per cent of capacity and with newsprint bringing only \$53 a ton, as compared with \$102 in 1921. Three leading paper producers defaulted on their bonds on August 1.

The government of the Dominion played an active part in the struggle to check the depression. Over \$10,000,000 was added to the sum received by wheat growers for their 1931 crop

through the bonus of five cents a bushel paid by the government up to July 31, 1932. Effective May 10, the government increased the subvention on coal mined in the Maritime Provinces for distribution at Canadian points west of Montreal. Industry also received financial aid in the form of loans to the Beauharnois Light, Heat & Power Company (\$16,000,000) to permit the completion of its great power project by 1937, and to the Ontario Power Service Corporation (\$50,000,000). In addition to steps taken at the Ottawa Conference, the special excise tax on imports inaugurated in June, 1931, was increased to 3 per cent effective April 7. A number of loans were extended to the Provinces for unemployment relief projects and the return of unemployed persons to the land was actively encouraged.

Unemployment relief measures, however, failed to meet the demands of the situation. The summer months brought deputations of farmers and industrial workers to Ottawa petitioning for more effective steps and a Communist-led demonstration of the unemployed in Ottawa led to a clash with the police and numerous arrests. Prime Minister Bennett declined to relax the stringent penalty providing imprisonment for membership in the Communist party. The deportation of persons accused of radical tendencies, which reached 7000 during 1931, was continued despite protests from British and American liberals. Dissatisfaction on the prairies found expression in the formation in Alberta of the Coöperative Commonwealth Federation, a new Federal political party, with a collectivistic and fairly radical programme.

**THE LEGISLATIVE SESSIONS.** The spring session of the Dominion Parliament, which convened February 4 and adjourned May 26, was relatively uneventful and colorless. Legislation was passed increasing taxation in order to balance the budget (see *Finance*), extending the tenure of Federal unemployment relief to the Provinces, controlling radio broadcasting, amending the insurance act, and ratifying a trade agreement with New Zealand.

The budget measures enacted included an increase to 3 per cent, effective April 7, of the special excise tax on imports inaugurated in June, 1931, and an increase in the basic rate of the sales tax from 4 per cent to 6 per cent, effective the same date. The basic rate of income tax for corporations was increased from 10 per cent to 11 per cent, and for individuals the rates were increased by 25 per cent, with exemptions lowered and a 5 per cent surcharge on net incomes of more than \$5000. All income-tax changes applied to the 1931 income. Increases were voted also on stamp taxes, checks, money orders, travelers' checks, bills of exchange, promissory notes, sleeping-car and parlor-car tickets, cablegrams, telegrams, radiograms, long-distance telephone calls, and the net premiums of insurance companies. The budget proposals were enacted with little change and were generally approved by Canadian business.

In the Senate, a vote of censure was passed on the conduct of the three Liberal Senators—W. L. McDougald, Andrew Haydon, and Donat Raymond—in connection with the Beauharnois Light, Heat & Power Company scandal (see 1931 YEAR BOOK). Senator McDougald resigned in consequence. The closing days of the session were marked by a debate on Prime Minister Ben-

nett's request for emergency powers to deal with any situation that might arise during the recess. As in the previous year, the request was finally granted, chiefly because of the fear that the financial situation in the United States might become critical and involve Canada.

Legislation was also introduced for the establishment of a national radio-broadcasting system under government control. The right of the Dominion government to control radio broadcasting and reception had previously been confirmed when the Judicial Committee of the Privy Council on February 9 rejected appeals in behalf of provincial control from the Provinces of Quebec and Ontario. Prime Minister Bennett announced that the United States had agreed to redistribute its radio channels in order to facilitate the establishment of a Canadian national system. His programme called for the gradual establishment of a self-supporting government system, with a chain of high-powered stations across the Dominion, supplemented by smaller stations. Control was to be vested in a government board of three members.

The regular session of Parliament, which opened Oct. 6, 1932, was confronted with two outstanding tasks—ratification of the Ottawa imperial agreements and the enactment of tariff legislation necessary to put them into effect. A bill introduced in the Senate October 27 embodied the recommendations in the report of the Royal Commission on Canadian Railways, made public September 21, which received the formal endorsement of the Bennett government. The report recommended the elimination of competition between the Canadian National and Canadian Pacific systems and the joint operation of their terminals and lines. It urged the replacement of the 17 members of the Canadian National directorate by three trustees appointed for seven years. The trustees were to control the annual budget subject to ratification by Parliament and all deficits were to be met by Parliamentary appropriations rather than by issuing new securities. The government-owned Canadian National and privately-owned Canadian Pacific systems were to be maintained as separate identities and disputes regarding their joint operation were to be decided by an arbitral tribunal. The Canadian National system, partly through recurring deficits, had piled up a debt of about \$1,200,000,000 to the Dominion government and about \$1,000,000,000 to the investing public. Sir Henry Thornton, president of the Canadian National for many years, resigned on Aug. 1, 1932, after submitting recommendations parallel to those submitted by the Royal Commission.

Parliament on November 4 rejected 66 to 18 a Progressive motion to abandon the gold standard and inflate the currency. The government, however, took steps to ease money and credit by selling to the banks \$35,000,000 in two-year notes, which the banks were authorized to use as security in borrowing under the finance act. This move was accompanied by a slump in the exchange value of the Canadian dollar to \$0.8783 U. S. for the week Nov. 7–12, 1932. In view of the large blocks of Canadian securities and investments held in the United States, the 10 per cent or more premium which Canadians were forced to pay to acquire American dollars with which to pay interest and amortization charges due in the United States imposed a severe bur-

den on the government and on Canadian business men.

The new \$500,000 American legation building at Ottawa was officially opened Nov. 18, 1932. On the day previous Col. Hanford MacNider, U. S. Minister to Canada, who had asked to be relieved of his post, presented his letter of recall to the Governor-General.

For political developments in the Provinces, consult article on each Province.

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**CANADA.** THE UNITED CHURCH OF. The designation applied to the single body formed by the union of the Congregational, Methodist, and Presbyterian churches in Canada; the Methodist churches of Newfoundland and Bermuda are also included. Since the formal consummation of the union on June 10, 1925, a total of 600 congregations, mostly in smaller towns and rural districts, have been amalgamated into approximately one-half that number of self-supporting charges. The board of home missions has also established 412 new fields of home-missions status, while 688 fields, which formerly received aid, have become self-supporting and have passed off the home-missions list. Foreign mission work has been carried on in Japan, Korea, China, India, Trinidad, and Angola (West Central Africa).

In 1931 there were in Canada, Newfoundland, and Bermuda 7622 preaching places (including home missions) in 2978 pastoral charges, 671,443 communicant members, and 1,600,083 persons under pastoral care. The fifth general council of the United Church of Canada was held in Hamilton, Ont., the latter part of September, 1932. The Rev. T. Albert Moore, D.D., secretary, was chosen moderator for 1932-34. Headquarters are at 421 Wesley Building, Toronto, Ont., Canada.

**CANADIAN PACIFIC RAILROAD.** See TUNNELS: CANADA under *History and Railways*.

**CANALS.** Canals are used not only for navigation but also to convey water for various supply purposes, such as irrigation, power development or public use, and for drainage. Indeed, with the demand for rapid, all-the-year round transport and door-to-door delivery, navigation canals have been eclipsed by railroad and motor truck developments. On the other hand, the use of canals for water supply and drainage has increased.

**INLAND WATERWAYS.** In the transportation field attention is thus centred on those works which have gone forward due to their special location and the more or less unusual conditions which have justified their construction. One of the notable events of the year 1932 in this field was the formal opening on August 6, of the Welland Canal, the great Canadian work which joins Lakes Erie and Ontario. This canal had been in service for some months before it was

dedicated and has been noted in previous YEAR BOOKS.

The proposed St. Lawrence Waterway project, a combined navigation and power development, will continue the navigable channel from Ontario to the sea. Inasmuch as this undertaking is on the international boundary between Canada and the United States, it has been the subject of a special St. Lawrence Waterway Treaty. The treaty alone, however, does not solve this problem. Before construction can begin a market for the power to be developed must be found, domestic differences in both countries must be settled, and the large funds necessary for construction must be provided. The situation is further complicated by differences between the Federal Government and the State of New York and between the advocates of this waterway and those who insist that the New York State Barge Canal should be developed for this purpose. *The Engineering News-Record* remarks editorially that, while the treaty, "a piece of political strategy," has been signed, "the canal is less likely to be constructed as a comprehensive undertaking than as the accompaniment of power developments," undertaken piecemeal as the demand for power justifies their construction. A step in this direction is seen in the transfer of the canal being constructed by the Beauharnois Corporation between lakes St. Francis and St. Louis to the Canadian Dominion Government. Power rights will be retained by the company but it is expected that the canal will be equipped as a branch navigation feeder for the St. Lawrence project.

Work on the 9-ft. channel between St. Paul and St. Louis on the upper Mississippi will involve 25 dams with locks and appurtenances. Construction has been going forward on Dam 15, located between Davenport, Iowa, and Rock Island, Ill., one of the most important lock and dam projects on this Inland Waterway.

Meanwhile the Illinois Waterway, a 60-mile link to connect the Chicago Drainage Canal, and thus Lake Michigan, with the Mississippi, has been rapidly nearing completion. These works, together with the recently completed Ohio River canalization (see YEAR BOOK, 1931), greatly extend navigation in the upper Mississippi and its tributaries. It would appear that the future of inland waterway transportation in the United States will depend in large measure on the successful use of these Federal facilities.

In New York State, however, the Barge Canal enthusiasts have received another blow in that the tonnage on the Lake Champlain Canal has declined almost 50 per cent since 1928. State Superintendent of Public Works Greene has advised that the Glen Falls and Ft. Edward feeder canal be abandoned.

Coastal waterway construction has been continued during the year by the U. S. Corps of Engineers, particularly in Florida and in the line to join the mouth of the Mississippi with that of the Rio Grande. Although of doubtful economic value, comparatively small appropriations have, from time to time, been made which permit these constructions to be carried forward.

Abroad there is to be noted the interesting navigation and power canal under construction on the upper Rhine. Ultimately this will form a link of a system which will connect Basle, Switzerland, with Strassburg in Alsace, and will be known as the Grand Canal d'Alsace.



**PANAMA CANAL.** Construction of the Madden Dam and reservoir, to furnish additional water for lock operation and for flood control on the Chagres River, has been going forward. (See DAMS; PANAMA CANAL.)

**ALL-AMERICAN CANAL.** On Feb. 11, 1932, voters of the Imperial Irrigation District of Southern California, approved, by a vote of 5 to 1, a repayment contract with the U. S. Bureau of Reclamation covering the construction costs of this canal, to bring water from the Colorado River to the Imperial Valley. The Boulder Canyon Dam project included this construction as one of the units to be built, provided a suitable guarantee for the return of construction costs could be secured. While no appropriation has as yet been made by Congress the project will undoubtedly go forward as soon as funds are provided.

From a diversion dam and desilting works on the Colorado about 15 miles northeast of Yuma, Ariz., the canal turns southwest and parallels the United States-Mexican boundary westward through Calexico to the West Main Imperial Valley Canal. The canal section starts with a capacity of 15,000 cu. ft. of water per second (sec. ft.), 5000 ft. are diverted for the Yuma Irrigation project and for power development at Pilot Knob, while the Coachella Branch canal, 130 miles long, to be built on the east side of the Imperial Valley, will divert 2000 sec. ft. The main canal section is 200 ft. wide at the waterline, 134 ft. at bottom, and 22 ft. deep. Over 60 million cubic yards of excavation are required and the cost is estimated at \$34,000,000. The size and scope of this project, a truly remarkable canal undertaking, is indicated by this figure. Details were published in the *Western Construction News* (San Francisco) Mar. 10, 1932, pp. 127-134.

**CANARY ISLANDS.** A group of small islands off the northwest coast of Africa, belonging to Spain. Area, 2810 square miles; population, estimated at 566,735 on Jan. 1, 1931. Santa Cruz de Tenerife, with an estimated population of 60,099 (Jan. 1, 1931), and Las Palmas, population 76,178, are capitals of the two provinces into which the islands were divided in 1927. Fruits and vegetables are grown for export. There is regular steamship, cable, and wireless communication with continental Spain, of which the islands are administratively a part. See SPAIN.

**CANCER.** See CHEMISTRY, INDUSTRIAL; MEDICINE AND SURGERY.

**CANINE DISTEMPER.** See VETERINARY MEDICINE.

**CAPE COLONY.** See CAPE OF GOOD HOPE PROVINCE.

**CAPE OF GOOD HOPE PROVINCE.** The southernmost of the four original Provinces of the Union of South Africa; formerly known as Cape Colony or the Colony of the Cape of Good Hope. Area, 276,536 square miles; total estimated mean population on June 30, 1932 was 3,163,700 including 758,000 Europeans. The number of Europeans at the census of 1931 was 749,231. The chief towns, with their white populations in 1931, were: Cape Town (the capital), 150,914; Port Elizabeth, 43,924; East London, 27,801; Kimberley, 18,618. In 1930, births were 19,468 (European), 40,609 (non-European); deaths 7416 (European), 26,142 (non-Europeans); marriages 6529 (European), 9752 (non-European).

Education is compulsory for white children. In

1930, there were 2345 public and 34 aided private schools for white children, with 143,997 pupils, and 2325 public and aided private schools for colored children, with 211,197 pupils. The total ordinary provincial expenditure in 1930-31 was £4,678,300, and the total revenue was £4,468,685, including £2,147,722 received as a subsidy from the Union government. Administrator in 1932, J. H. Conradie, appointed 1929. See SOUTH AFRICA, UNION OF.

**CAPE VERDE (vũrd) ISLANDS.** A group of 14 islands about 320 miles off the western coast of Africa belonging to Portugal. Area, 1517 square miles; population in 1929, 153,738, including 54,559 Negroes, 94,977 mulattoes, and 4202 whites. Sisal, castor oil, coffee, mustard, brandy, oranges, and hides are the chief products. Imports in 1930 were valued at 67,215,760 escudos and exports at 4,495,543 escudos (1 escudo exchanged at about \$0.424 in 1931). The budget for 1931-32 estimated revenue at 20,106,086 escudos and expenditure at 20,099,808 escudos. A total of 1593 ships of 4,197,000 tons entered the ports in 1929. St. Vincent, the chief port, is a transatlantic coaling station. A Governor administers the islands from Praya (Praya), the capital. Governor in 1932, Col. Antonio A. Guedes Vaz. See PORTUGAL.

**CARBAJAL,** FRANCISCO C. M. Mexican president, died in Mexico City, Sept. 30, 1932. He was born in Mexico in 1860, and studied law. He practiced law, and in 1914 when President Victoriano Huerta faced the revolutionary forces he took the presidential chair for the Provisional Government and served for only a few months. He then signed the Treaty of Teoloyucan, giving unconditional federal and military power to General Obregon. He returned to the practice of law and later was appointed Justice of the Supreme Court where he served several years and then again returned to private practice.

**CARDINALS.** See ROMAN CATHOLIC CHURCH. **CARINTHIA,** ka-rin'thi-a. A Province of the Republic of Austria; formerly a crownland of the Austro-Hungarian Empire. Area, 3680 square miles; population at the census of 1923, 370,817. Capital, Klagenfurt (pop. 27,423 in 1923). See AUSTRIA.

**CARLETON COLLEGE.** A coeducational institution of higher learning in Northfield, Minn., founded in 1866 and maintaining relations of cooperation with the Congregational, Baptist, and Protestant Episcopal churches. The enrollment of the autumn of 1932 was 845. There were 63 faculty members. The endowment amounted to \$2,839,552.75, and the total income of the year was \$529,983.84. There were 102,000 volumes and 31,000 pamphlets in the library. President, Donald John Cowling, Ph.D., D.D., LL.D.

**CARLSEN,** EMIL. An American landscape and marine painter, died in New York City, Jan. 2, 1932. He was born in Copenhagen, Denmark, Oct. 19, 1853, where he studied architecture at the Royal Academy. Coming to the United States in 1872, he was first known as a still-life painter, somewhat in the manner of Chattran, whose cool tints strongly appealed to him. As a landscape and marine painter, he excelled in line and arrangement and in sincerity of presentation. His marines were particularly good in the movement of the water, although their luminous Delft-blue color was not always convincing. He received a gold medal at the Louisiana Purchase Exposition in St. Louis in 1904, a bronze medal



at the International Exposition in Buenos Aires in 1910, a medal of honor at the Panama-Pacific Exposition in San Francisco in 1915, and a gold medal at the Sesqui-Centennial Exposition in Philadelphia in 1926. Other honors include the Webb prize (1905) of the Society of American Artists; the Inness medal (1907), Saltus gold medal (1916), and Carnegie prize (1919) of the National Academy of Design; and the Temple gold medal (1912), Lippincott prize (1913), and Jennie Sesnan gold medal (1916) of the Pennsylvania Academy of Fine Arts.

Among Carlsen's best known works are: "Still Life" and "Open Sea" in the Metropolitan Museum of Art, New York City; "Moonlight on the Kattegat," Albright Art Gallery, Buffalo; "The South Strand," National Gallery, Washington; "Moonlight on a Calm Sea," Corcoran Gallery of Art, Washington; "The Lazy Sea," Brooklyn Institute Museum; "Still Life" and "The Miraculous Draught," Art Institute of Chicago; "Open Sea" and "Woods Interior," Minneapolis Institute; "Coast of Maine," "Entrance to St. Thomas's Harbour," and two still life pictures, City Art Museum, St. Louis; "Summer Clouds," Pennsylvania Academy of the Fine Arts, Philadelphia; and "Morning," Rhode Island School of Design, Providence. He was an influential member of the Society of American Artists until its consolidation in 1906 with the National Academy of Design. He was elected an associate of the latter in 1904 and an academician in 1906. Also he was a member of the National Institute of Arts and Letters.

**CARNEGIE CORPORATION OF NEW YORK.** Established by Andrew Carnegie in 1911, this corporation was formed for the advancement and diffusion of knowledge and understanding among the people of the United States, Canada, and the British colonies. Its total endowment is approximately \$135,000,000, of which \$10,000,000 is applicable elsewhere than in the United States. The corporation has conceived its function to be not that of an operating agency in itself, but rather that of an agency charged with the duty of studying and estimating those forces and institutions that make for the advancement and diffusion of knowledge and understanding in the areas specified, and of aiding these institutions in such measure as may be possible, having care always to the fact that the income of this endowment is to be a liquid asset for each generation.

In 1932, as in the previous year, approximately two-thirds of the annual income of the corporation was devoted to a reduction of unpaid obligations, which on September 30 amounted to \$18,501,864. The annual report of the president, Frederick P. Keppel, showed that during the fiscal year 1931-32 the sum of \$5,256,107 was appropriated. Of this amount \$873,100 was applied toward library service; \$368,500 toward the encouragement of adult education activities; \$604,750 toward the support of national organizations in the field of fine arts and of departments of art in colleges and universities and of projects for developing appreciation of the arts; \$770,675 toward the support of educational and scientific studies and research publications; and \$2,579,082 toward general interests, including the Carnegie Endowment for International Peace.

The corporation made scholarship grants for graduate study by qualified students of library science. It continued to support various impor-

tant projects, such as research in the study of cosmic rays, leukemia, solar radiation, velocity of light and vitamins, and study of susceptibility to infectious diseases. Various studies conducted by the American Historical Association and the American Law Institute were continued during the year. From the income of its \$10,000,000 fund, the corporation continued its five-year programme in British Africa, involving a total of \$500,000. This included scientific research, aid to Jeanes Schools, exchange of educational visits, and library service, carried on largely through responsible local bodies. Various educational enterprises in Canada, Australia, and New Zealand were also aided.

The trustees of the corporation in 1932 were: Newton D. Baker, James Bertram, Nicholas Murray Butler, John J. Carty, Samuel Harden Church, Robert A. Franks, William J. Holland, David F. Houston, Henry James, Frederick P. Keppel, Russell Leffingwell, John C. Merriam, John A. Poynton, and Elihu Root. Officers of administration were: Elihu Root, chairman of the board; Robert A. Franks, vice chairman and treasurer; Frederick P. Keppel, president; James Bertram, secretary; and Robert M. Lester, assistant to the president. Headquarters are at 522 Fifth Avenue, New York City.

**CARNEGIE FOUNDATION FOR THE ADVANCEMENT OF TEACHING,** THE. A foundation established on Apr. 16, 1905, by Andrew Carnegie who placed an endowment of \$10,000,000 in trust with 25 trustees, mostly presidents of universities and colleges, for the purpose of encouraging higher education in the United States, Canada, and Newfoundland. The foundation provides retiring allowances for teachers in universities and colleges and pensions for their widows, and studies various phases of the educational process. It was incorporated by Act of Congress in 1906. Its resources were increased by a further gift of \$5,000,000 from Mr. Carnegie in 1908, and by appropriations of \$1,250,000 in 1913 and \$12,000,000 in 1918 from the Carnegie Corporation of New York, which Mr. Carnegie established in 1911. On June 20, 1932, the foundation had endowments and accumulated reserves amounting to \$31,529,589, and had distributed \$23,652,795 in retiring allowances and pensions to 1313 teachers and 641 widows, chiefly through 95 associated institutions, selected for their educational standing.

The foundation publishes extensive annual reports, which deal with many educational problems. Its division of educational inquiry, established in 1913, has issued 26 comprehensive bulletins, dealing with medical, legal, engineering, dental, and vocational education, the training of teachers, intercollegiate athletics, and kindred subjects. In 1932, the foundation having completed a study of State higher education in California, upon legislative and executive invitation, was engaged upon studies concerning State higher education in the United States, and the relations between secondary and higher education in Pennsylvania. Dr. Henry Suzzallo is president, Dr. Henry Smith Pritchett, president emeritus; Howard J. Savage is secretary. The headquarters are at 522 Fifth Avenue, New York City.

**CARNEGIE INSTITUTE OF PITTSBURGH.** See ART EXHIBITIONS; ART MUSEUMS. **CARNEGIE INSTITUTE OF TECHNOLOGY.** A nonsectarian institution for technical education at Schenley Park, Pittsburgh,

Pa., founded in 1900. The enrollment for the autumn of 1932 was 4084, including 2355 registered in the regular day courses and 1729 in the evening courses. For the summer session 792 students were enrolled. The faculty numbered 415, of whom 295 were on full time and 120 on part time. The endowment of the institution was \$16,383,000 and the annual income \$840,000 (not including student fees). The institute is adjacent to the Carnegie Library of Pittsburgh, which has 450,600 volumes. President, Thomas Stockham Baker, Ph.D., LL.D., Sc.D.

**CARNEGIE INSTITUTION OF WASHINGTON.** An organization founded in 1902 by Andrew Carnegie "to encourage in the broadest and most liberal manner investigation, research, and discovery and the application of knowledge to the improvement of mankind." The institution attempts to advance fundamental research in fields not normally covered by the activities of other agencies, and to concentrate its attention upon specific problems with the idea of shifting attack from time to time to meet the more pressing needs of research. Its major activities in 1932 were carried on through the following departments and divisions: Department of embryology (located in the Hunterian building of the Johns Hopkins University medical school); department of genetics (laboratory at Cold Spring Harbor, Long Island, N. Y.); geophysical laboratory; division of historical research, including the sections of aboriginal American history, United States history, and history of science; department of meridian astrometry (headquarters at the Dudley Observatory, Albany, N. Y.); Mount Wilson Observatory, in Pasadena, Calif.; nutrition laboratory, in Boston; division of plant biology (central laboratory at Stanford University); department of terrestrial magnetism; Tortugas (Fla.) Laboratory of Marine Biology.

During 1932 closer relations have been established between various research groups of the institution. Problems relating to human growth and development occupied the attention of biological groups. Studies have progressed concerning embryonic forms of life, as well as later types which have taken on individuality. Such studies pertain to growth of individual cells and body tissue, behavior of chromosomes, nutrition and metabolism, and influences of hormones formed by glands of internal secretion. In one case a new substance has been discovered which is required in the process of milk secretion.

In studies of the physics of matter other groups of the institution are using the universe as a laboratory. Such investigations concern the physics and chemistry of the sun and stars, conditions of interstellar space, condition of the earth's interior, physical phenomena at various localities on the earth's surface and in the atmosphere, penetrating radiation or influence of the cosmic ray, and fundamental questions of atomic physics.

Public lectures and exhibits relating to the work of the institution proceeded as usual, with increasing emphasis upon determination of the most effective means for interpretation and dissemination of information concerning results of such work. Special study was also being given to the problem of applying these results to educational and humane use, making them known initially through technical and scientific journals, the institution's *Year Book*, and a series of scientific monographs. During 1932 the executive

committee authorized publication of 20 new volumes; a total of 16 volumes was issued.

Total receipts of the institution, representing interest on investments and bank balances, and sales of publications, amounted to \$1,712,450 for the year. The president in 1932 was John C. Merriam. The officers of the board of trustees were: Elihu Root, chairman; Henry S. Pritchett, vice chairman; Frederic A. Delano, secretary. The executive committee included: Henry S. Pritchett, chairman; Frederic A. Delano, Cass Gilbert, John C. Merriam, William Church Osborn, Stewart Paton, and Elihu Root. Headquarters are at Sixteenth and P Streets, N. W., Washington, D. C.

**CAROLINE ISLANDS.** A group of about 549 coral islets in the western Pacific, having an area of about 830 square miles, transferred from Germany to Japan under mandate of the League of Nations by the Versailles Peace Treaty. The chief islands, with 1931 populations, are: Ponapé, with 8586 inhabitants; Yap, an important wireless and cable station, with 6818; and Parao, with 8010. Sugar, copra, and phosphates are the chief exports.

**CARRUTHERS, SIR JOSEPH HECTOR MCNEIL.** An Australian statesman, died in Sydney, N.S.W., Dec. 10, 1932. He was born Dec. 21, 1857, and received his education at Sydney University and St. Andrews University, Scotland. In 1878 he was appointed a solicitor. Elected to the Legislative Assembly of New South Wales in 1887, he served continuously as a member of that body until 1908. He was also a member of the Federal Convention that, meeting at Sydney in March, 1891, declared itself in favor of an Australian union and laid down the principles upon which the new commonwealth should be based. During 1888-91 he was Minister for Public Instruction; during 1894-99, Minister for Lands; and in 1899, Colonial Treasurer. In 1902 he became leader of the Liberal Opposition in the Assembly and two years later was appointed Premier and State Treasurer, serving until 1907. He founded the Liberal and Reform Association. In 1909 he was appointed a life member of the Legislative Council of New South Wales, and during 1922-25 was vice-president of the Executive Council of the New South Wales government. At the time of his death he was president of the New South Wales Chamber of Agriculture. In 1908 he was created a Knight Commander of St. Michael and St. George. He was the author of *Captain Cook, 150 Years After* (1930).

**CARS, MOTOR.** See AUTOMOBILES.

**CARTELS.** See CHILE; CUBA.

**CARTY, JOHN JOSEPH.** An American electrical engineer, died in Baltimore, Md., Dec. 27, 1932. He was born in Cambridge, Mass., Apr. 14, 1861, and attended the Cambridge Latin School. In 1879, three years after the invention of the telephone by Alexander Graham Bell, he began his work in telephony with the Bell Telephone Co. in Boston. There he designed and installed the first metallic circuit multiple switchboard, whose special feature was a common battery at the central office to supply current for signaling. The use of such a centralized battery proved later an important step forward in the development of the telephone exchange, as it not only did away with the magneto call at the subscriber's instrument or the necessity for local batteries at the individual substations but assured through its automatic action reliability of signaling. Akin

to this principle was the operation of two or more telephone transmitters from the same circuit by using secondary or storage batteries of very low internal resistance.

In 1887 Carty assumed charge of the cable department of the Western Electric Co. in New York City, a subsidiary of the Bell system, supervising all the important cable-laying projects in the eastern cities and directing the switchboard organization. Two years later he became chief engineer of the Metropolitan Telephone & Telegraph Co. (later the New York Telephone Co.). He invented at this time a method of neutralizing the influence of electrostatic induction, which produced "cross-talking" or overhearing, by the use of condensers and twisting the wires together according to a certain plan. He developed the "phantom line" or "bridging" method of connecting telephone instruments so that two complete metallic circuits might be made to serve three subscribers instead of two, a principle which made possible a larger number of toll or party line stations on a single circuit and the development of the rural telephone service.

In 1907 Carty was appointed chief engineer of the American Telephone & Telegraph Co., the parent organization of telephone companies throughout the United States. The staff under his direction in the Bell Telephone Laboratories was responsible for the solution of many of the problems connected with long distance telephony. In 1913 there was laid under his direction an underground cable between Boston and Washington, equipped with loading coils. Experiments with trans-continental telephony continued until by 1911 Denver was successfully connected with the eastern seaboard and by 1913 Salt Lake City. On Jan. 25, 1915, the New York-San Francisco telephone line was opened. Trans-oceanic communication continued apace, the first successful contact having been established in October, 1915, by means of radio-telephone equipment designed and operated under his direction from the U. S. naval station at Arlington, Va., to the Eiffel Tower in Paris. Other experiments were carried out between Washington and Hawaii and the Canal Zone.

On the entry of the United States into the World War Carty organized among the telephone personnel 12 battalions of picked signal corps troops. Later, having been made a colonel, he was sent to France to organize a research and inspection division for the chief signal officer and was responsible for the maintenance of communications between General Pershing at the A.E.F. headquarters and the War Department in Washington. After the Armistice he had charge of communications for the American Commission to Negotiate Peace. In 1921 he was promoted to the rank of brigadier general in the Reserve Officers' Corps. In recognition of his war service he was made an officer of the French Legion of Honor and received the Distinguished Service Medal of the United States.

In 1919 Carty was made vice-president of the American Telephone & Telegraph Co., which office he held until his retirement in 1930. In 1923 he was elected chairman of the board of directors of the Bell Telephone Laboratories. He was a trustee of the Carnegie Institution of Washington and the Carnegie Corporation of New York and was a Fellow of the American Academy of Arts and Sciences. During 1915-16 he was president of the American Institute of Electrical En-

gineers. He received the Longstreth Medal (1903) and the Franklin Medal (1916) from the Franklin Institute, the Edison Medal (1918) from the American Institute of Electrical Engineers, and the John Fritz Medal (1928), awarded jointly by the four national engineering societies. The Japanese government, in recognition of the services which he rendered toward the development of the telephone system in Japan, conferred on him the orders of the Rising Sun and the Sacred Treasure. He wrote extensively for the National Research Council, the Smithsonian Institution, and other scientific bodies.

#### CASE SCHOOL OF APPLIED SCIENCE.

An engineering college in Cleveland, Ohio, founded in 1881. In the autumn of 1932 the enrollment was 687 students. The summer session registration was 154. The faculty numbered 79. The endowment amounted to \$4,500,000. The library contained 25,000 volumes. President, William Elgin Wickenden, D.Eng., D.Sc.

#### CASUALTY INSURANCE. See INSURANCE.

**CATALONIA (CATALUÑA).** A formerly independent principality occupying the north-east corner of Spain, which was deprived of its liberties and parliament in 1714 by Philip V of Spain and divided in 1833 into the four Provinces of Barcelona, Gerona, Lérida, and Tarragona. The area is 12,427 square miles; the population was estimated at 2,490,889 on Jan. 1, 1931. Barcelona, the principal city had 782,842 inhabitants on the same date. It is the centre of a thriving industrial, commercial, and agricultural region. For political developments in 1932, see SPAIN under *History*.

**CATHOLIC CHURCH.** See ROMAN CATHOLIC CHURCH.

**CATHOLIC UNIVERSITY OF AMERICA, THE.** A national institution of higher education in Washington, D. C., founded in 1887 by the Roman Catholic hierarchy with the approval of the Holy See, from which it derives its constitution, and chartered by an Act of Congress. The enrollment for the autumn term of 1932 was 1387, distributed in the following schools: graduate school of sacred sciences, 10; seminary, 145; canon law, 24; law (coeducational), 50; engineering, 149; arts and sciences, 436; and graduate school of arts and sciences (coeducational), 615. The enrollment for the summer session of 1932 was 1031. Affiliated with the university is the Catholic Sisters' College (200 students); Trinity College for Women (365 students); National Catholic School of Social Service (60 students); and 33 religious houses of study in the immediate vicinity with an enrollment of about 800 students. In addition, there are affiliated throughout the United States 5 seminaries, 32 colleges, 225 high schools and academies, and 57 novitiates.

The university is governed by a board of trustees (prelates, priests, and laymen) through the rector, who is advised by an academic senate composed of representatives (lay and clerical) of the various faculties. The faculty of the university proper numbered 145, of whom 34 were full professors. The endowment amounted to approximately \$3,000,000, plus an annual collection of about \$410,000. The library contained 350,000 volumes. Administrative officers: the Rt. Rev. James H. Ryan, Ph.D., S.T.D., LL.D., Litt.D., rector; the Rt. Rev. Edward A. Pace, Ph.D., S.T.D., LL.D., vice rector; the Rt. Rev. David T. O'Dwy-

er, procurator; and Prof. Richard J. Purcell, Ph.D., general secretary.

**CATTLE.** See DAIRYING; LIVESTOCK.

**CATTLE DISEASES, CATTLE PLAGUE, CATTLE TICK, ERADICATION OF.** See VETERINARY MEDICINE.

**CAUCASUS, kŏ'kə-sŭs.** A term applied to the isthmus which separates the Black Sea from the Caspian Sea; formerly an administrative division of the Russian Empire. See ARMENIA, AZERBAIJAN, GEORGIA, TRANSCAUCASIAN SOCIALIST FEDERATED SOVIET REPUBLIC, and UNION OF SOVIET SOCIALIST REPUBLICS.

**CAVALRY.** See MILITARY PROGRESS.

**CELEBES.** See NETHERLAND INDIA.

**CELEBRATIONS.** Staid and conservative Americans and Englishmen are beginning to overcome their hesitations in appearing publicly in costumes of bygone years, and the celebration of historical events is each year becoming more colorful, especially those that by their nature can be fittingly observed in the open. The year 1932 saw many open-air celebrations. Perhaps because of the general unemployment, there was more time available for preparation; or possibly there was, in general, a greater sympathy, a deeper feeling for the hardships in earlier days that, experienced vicariously, helped to stiffen the morale of the celebrants. Through either cause, such celebrations more nearly resembled well-rehearsed pageants than the self-conscious motley-garbed groups of former years assembled for speech-making and orations.

All of the celebrations of the year could not be listed here; but the more important ones of Europe and America in chronological sequence follow:

*January 27.* The centenary of the birth of Lewis Carroll (the Rev. C. L. Dodgson) was commemorated at Liverpool by special services. At Guildford, wreaths were placed on his grave. On May 1, Mrs. R. L. Hargreaves, the original "Alice" of the Lewis Carroll books, became the guest of Columbia University, New York, to add her presence to the closing days of an extensive Lewis Carroll exhibition. A special composition by Edgar Stillman Kelley, the "Alice in Wonderland" suite, was interpreted by a large chorus from the Barnard College and the Hunter College Glee Clubs. In early July further ceremonies were observed in London by a display of memorabilia—drawings, letters, portraits, etc. The occasion was made notable through the presence of Mrs. Hargreaves, and of Mr. Peter Davies, the original Peter Pan.

*February 8.* The 100th anniversary of the death of the poet, George Crabbe, was commemorated at Trowbridge, Eng., where the poet had spent the last 18 years of his life as rector of the parish. The Dean of St. Paul's, Dr. W. R. Inge, and the Poet Laureate, John Masefield, joined in their tributes.

*February 22.* The bicentennial of the birth of George Washington was the occasion for extensive celebrations in all parts of the United States and for commemorations throughout the world. In France, Germany, England, Italy, and other European countries; in Japan, in Chile, Argentina, and other South American countries, special commemorative services were held. Poland issued bicentennial stamps and renamed the widest avenue in Warsaw; in Italy, an avenue in Rome was named; in France, a bronze medal was struck.

At Mt. Vernon, Md., President Hoover made a speech and opened the official commemoration of the bicentennial which was observed throughout the nation until Thanksgiving Day.

In Bryant Park, New York, a reproduction of Federal Hall was erected where, on April 30, the scene of Washington's inauguration as first president of the United States was reenacted. In Prospect Park, Brooklyn, a reproduction of Mt. Vernon was constructed and furnished, many of the furnishings being actual possessions of Washington; a duplicate structure had previously been erected at Paris, France. Although the day itself was fittingly observed by special, and, sometimes elaborate ceremonies by cities and various local organizations, the general idea prevailed that it was a bicentennial year, rather than a day, and many ceremonies were postponed to more clement weather (see WASHINGTON BICENTENNIAL).

*March 22.* The centenary of the death of Johann Wolfgang von Goethe was observed in all countries in which the works of the German poet were appreciated. At Weimar, his home city, honors were heaped on his memory in ceremonies in which the German chancellor, Dr. Brüning, participated. In the United States, the poet's memory was honored by scores of literary and musical organizations. (See also FRENCH LITERATURE, GERMAN LITERATURE, ITALIAN LITERATURE.)

*March 31.* The bicentenary of the birth of Franz Josef Haydn was officially celebrated in Vienna, by services in which Herr Miklas, president of the Austrian Republic, participated. Other commemorative concerts, featuring the work of the composer, were held in London and New York.

*April 21.* The anniversary of the traditional date of the founding of Rome, 2685 years previously, was celebrated throughout Italy. Notable among the improvements officially opened was the forum of Cæsar, recently brought to light. According to custom, young Fascisti were officially admitted into the Fascist party; more than 100,000 receiving such memberships this year.

*April 22.* The centenary of the birth of Julius Sterling Morton, originator of "Arbor Day," was celebrated at Arbor Lodge, his former home, at Nebraska City, Neb. Special commemorative stamps were issued by the Post Office Department.

*April 23.* On the anniversary of the birthday of William Shakespeare, the Prince of Wales officially opened the new Shakespeare Memorial Theatre at Stratford-on-Avon. Before the opening performance of "Henry IV," which was attended by the American Ambassador, Mr. Mellon, and by the ministers and representatives of many lands, John Masefield, poet laureate, delivered an ode. The town had previously staged a pageant, costumed in the garb of Shakespeare's day.

*April 30.* As a feature of the Washington Bicentennial, the inauguration of the first president was reenacted at New York City. The impersonator of Washington, Kenneth W. Murchison, on an oared barge from the New Jersey shore, landed at the foot of Wall Street, and in a replica of the coach used in 1789 was driven to Fraunces Tavern where the historic farwell of Washington to his officers in 1783 was reenacted. Descendants of the officers participated in the ceremony. At the replica of Federal Hall in Bryant Park, the inauguration procession of 143

years ago was reproduced in costume by the 107th Infantry, and was followed by the reenactment of the inaugural ceremony in which Chancellor Livingston, who first administered the inaugural oath, was impersonated by a descendant, James Duane Livingston. In the evening, from the George Washington Memorial Bridge, opened in 1931, impressive fireworks were displayed.

*June 2.* The fiftieth anniversary of the death of Giuseppe Garibaldi, the Italian liberator, was celebrated throughout Italy. In Rome the chief ceremony was the reburial of his wife, Anita, on the top of Janiculum Hill.

*June 9.* The 1500th anniversary of the landing of St. Patrick in Ireland was celebrated on the traditional date for the first time by Protestant churches in Belfast. In addition to a historic pageant at Strangford and at Belfast Castle, services were held in the Armagh Cathedral. The principal feature in the Roman Catholic celebration was the erection of a statue at Saul to mark the spot where St. Patrick landed.

*July 16-22.* In connection with the Washington Bicentennial, the trip taken by George Washington and Gov. George Clinton in 1783 through the Mohawk Valley was reenacted in a week of celebration which started at Schenectady and ended at Utica. The original trip ultimately resulted in the construction of the Erie Canal.

*July 17.* As a part of the ceremonies attending the celebration of the 1000th anniversary of the Icelandic Parliament, a statue of Leif Ericson, "the first white man to come to America," and the gift of the American people to Iceland, was unveiled at Reykjavik. The statue is the work of the American sculptor, A. Stirling Calder, and presents the early Icelandic adventurer standing on the foredeck of his Viking ship. (For illustration, see article SCULPTURE in 1931 YEAR BOOK.)

*July 25.* To celebrate the 157th anniversary of the U. S. Postal Service, Major James Doolittle (see also AERONAUTICS, *Speed Records*), with Miss Anne Madison Washington, a great-great-grandniece of George Washington, and an official observer, made a flight of 2610 miles in one day, starting from Boston at 4.25 a.m. and ending at Newark at 9.05 p.m., covering all points reached by George Washington in his travels, and dropping thirty packages of mail at points of historic interest. It was estimated that at the founding of the postal service, the same trip would have required four years by coach.

*July 30-August 14.* The tenth Olympiad was held at Los Angeles, Calif., celebrating the ancient Olympic Games. Two thousand athletes,

representing 39 countries, participated. See OLYMPIC GAMES.

*August 21.* At the highest point of Cape York, Greenland, 600 miles north of the Arctic Circle, a memorial shaft, 60 ft. in height, after a month of rigorous weather during its erection, was dedicated to Rear-Admiral Robert E. Peary, the first Arctic explorer to reach the North Pole, Apr. 6, 1909. The cornerstone was laid by Capt. Robert A. Bartlett, Peary's close friend and Arctic companion, and the monument was dedicated by the explorer's daughter, Marie Ahnighito Peary Stafford.

*September 21.* The centenary of the death of Sir Walter Scott was commemorated throughout Scotland, and especially by services in Edinburgh. At Galashiels, the home town of the poet, a memorial was unveiled.

*October 16-30.* The tenth anniversary of Fascism opened at Turin, Italy, by celebrations at which Premier Mussolini was the chief speaker. Successive celebrations were held at other cities through which the "march on Rome" had passed, and final celebrations were held in Rome by parades and the Fascist Decennial Exposition.

*October 20.* The tercentenary of the birth of Sir Christopher Wren was commemorated in St. Paul's Cathedral, London, the product of his architectural genius. At William and Mary College, Williamsburg, Va., the Wren Building, previously destroyed by fire, was rededicated.

*November 12.* The 600th anniversary of the construction of the parish church at Twickenham, Eng., was celebrated.

Throughout the year various buildings and structures which will be features of the "Century of Progress" Exposition, were completed at Chicago. This World's Fair, it is planned, will open on June 1, 1933, and is intended to present the story of man's achievements in the past hundred years. Exhibits by all leading nations of the world have been arranged. The sixteen buildings completed during the year include the buildings devoted to Administration, Travel and Transport, Science, Radio, Communication, Electricity, Agriculture; the Lincoln group, a replica of the Golden Temple of Jehol, a replica of Fort Dearborn, the Federal Building, and the Hall of States. See CHICAGO. A CENTURY OF PROGRESS.

**CELESTIAL MECHANICS.** See ASTRONOMY.  
**CELTIC LANGUAGE AND LITERATURE.** See PHILOLOGY, MODERN.

**CEMENT.** The preliminary estimates of production for the Portland cement industry in the

ESTIMATES OF PRODUCTION AND SHIPMENT OF FINISHED PORTLAND CEMENT BY DISTRICTS  
[Quantities in thousands of barrels]

(U. S. Bureau of Mines, Revised, Jan. 18, 1933)

Districts	Production			Shipments	
	1932	1931	1932	Estimated value, 1932	1931
Eastern Pennsylvania, New Jersey, and Maryland . . . . .	16,095	28,640	17,169	\$16,650,000	28,853
New York and Maine . . . . .	6,602	10,309	6,522	6,814,000	10,741
Ohio, Western Pennsylvania, and West Virginia . . . . .	6,599	11,564	7,144	6,502,000	11,549
Michigan . . . . .	4,329	6,133	4,888	4,446,000	7,169
Wisconsin, Illinois, Indiana, and Kentucky . . . . .	10,573	15,174	11,252	7,968,000	16,938
Virginia, Tennessee, Alabama, Georgia, Florida, and Louisiana . . . . .	5,591	12,307	5,816	6,644,000	12,311
Eastern Missouri, Iowa, Minnesota, and South Dakota . . . . .	8,972	12,968	9,848	8,586,000	12,272
Western Missouri, Nebraska, Kansas, Oklahoma, and Arkansas . . . . .	5,651	9,182	5,522	5,061,000	9,633
Texas . . . . .	3,750	6,189	3,798	4,668,000	6,265
Colorado, Montana, Utah, Wyoming, and Idaho . . . . .	1,271	2,216	1,221	1,862,000	2,060
California . . . . .	5,508	7,740	5,731	8,266,000	7,496
Oregon and Washington . . . . .	1,568	3,007	1,666	3,368,000	2,864
Total . . . . .	76,509	125,429	80,579	80,885,000	127,151

United States, compiled by the U. S. Bureau of Mines, showed decreases of 39 per cent in production and 36.6 per cent in shipments from the totals for 1931. The production in 1932 was estimated at 76,509,000 barrels as against 125,429,000 barrels in 1931, and the shipments from mills in 1932 amounted to 80,579,000 barrels with an estimated value of \$80,835,000 as compared with 127,151,000 barrels shipped in 1931. During the calendar year 1932 the production related to capacity was 28.3 per cent as against 46.5 per cent in 1931. In addition to Portland cement, the production of clinker (unground Portland cement) in 1932 was 75,004,000 barrels as against 121,814,000 barrels in 1931.

The exports of hydraulic cement from the United States in 1931 aggregated 429,653 barrels valued at \$1,220,000, while the imports in the same year were 457,238 barrels valued at \$507,918. In 1932 the exports amounted to 374,581 barrels valued at \$802,205, and the imports amounted to 462,496 barrels valued at \$351,033.

**CENSUS.** The Bureau of the Census during the year completed the work of compiling the various reports of the Fifteenth Census of the United States. All of the final reports, consisting of 30 or more volumes, will be ready for distribution early in the year 1933, and some were printed in 1931 and 1932. The fifteenth is the most extensive census ever made of the United States. It was therefore necessary not only to employ a larger number of people but also to utilize a larger number of machines and to effect great improvements in the punching and tabulating equipment. The tabulation of the figures started with the punching of the cards on May 27, 1930. Since then and up to July 1, 1932, 330,322,208 cards were punched. These cards were passed through sorting, tabulating, and counting machines. The passage of the cards through these machines for the Fifteenth Census alone was equivalent to the handling of one card 4,430,658.896 times. The maximum number of punching and verifying machines used was 2225, and the sorting, tabulating, and duplicating machines used numbered 189.

According to the Report of the Director of the Bureau of Census for the fiscal year ending June 30, 1932, the contents of the various volumes comprising the five major divisions—population, agriculture, manufactures, distribution, construction—are reviewed in the following brief descriptions.

**POPULATION.** Volume I of the Fifteenth Census Reports on Population, giving the 1930 population of the United States by States, counties, and townships or other minor civil divisions, with separate figures for all cities and other incorporated places, was published on May 14, 1931.

Volume III of the Population Reports, parts 1 and 2, was published in April and May, 1932. In this volume the population is classified by color, nativity, sex, age, marital condition, illiteracy, and school attendance; the foreign-born white by citizenship; the foreign-white stock by country of origin; and gainful workers by sex and industry groups. Figures are presented for States, counties, and the larger cities in considerable detail, with data for urban, rural-farm, and rural-nonfarm areas; and in condensed form for townships and the smaller incorporated places down to 1000 inhabitants.

At the end of June, 1932, copy for Volume II, the General Report on Population, had been com-

pleted. This volume presents the population statistics arranged by subjects rather than by States (as in Vol. III) and covers a number of classifications not presented at all in Volume III or in the State bulletins out of which that volume was made up. These include State of birth of the native population, mother tongue of the foreign-born white, year of immigration, and ability to speak English. Other classifications, such as marital condition, school attendance, and country of origin are presented in greater detail and in significant combinations with other subjects.

**Occupations.** A preliminary tabulation was made for the counties and for the larger cities of each State, showing the number of gainful workers, by sex, in about 50 industries and industry groups, with the workers in agriculture further distributed by occupation. The results are included in Volume III of the Reports on Population.

Volumes IV and V are devoted entirely to occupation statistics. The statistics in Volume IV, for the most part, were published in a series of State occupation bulletins, presenting, for the State and for each city of 25,000 or more, statistics relating to the number, sex, color, nativity, age, and occupation of all gainful workers, and to the marital condition of gainfully employed women. These State bulletins, with a summary for the United States, make up the volume.

Volume V contains consolidated tables for the United States covering the classifications given by States in Volume IV, with additional detail in many cases, particularly in age. Volume V also includes statistics for the entire United States, showing for each of the more important industries and for each service group—public service, professional service, and domestic and personal service—the total number of workers, classified by occupation, sex, color, nativity, and age.

**Families.** The results of the tabulation of the special family card are published in a series of State bulletins which make up Volume VI of the Reports on Population. In these bulletins families are classified according to color and nativity of head; tenure of home; value or monthly rental of home; size (number of related persons in family); number of children; number of gainful workers; number of lodgers; age of head; and employment status of home maker, and presented for the State, urban, rural-farm, and rural nonfarm areas, and for cities of 100,000 or more. Data on all except the last four classifications named are also presented for counties and for smaller cities and other urban places.

**Unemployment.** Volume I, on unemployment, which presents the data by classes, for States, counties, urban and rural areas, and cities, was published in January, 1932. This volume gives the data in simple tabulations by sex and by age, by period of idleness, by reason for idleness, by family relationship, and by industry group.

**AGRICULTURE.** Volume I gives statistics of farms by townships or other minor civil divisions, with totals for counties, States, and the United States. Figures are shown for the number of farms, acreage classified according to use of the land, and the value of farm land and buildings, farmers' dwellings, and implements and machinery. The volume was published on Jan. 6, 1932, being a binding together of a series of State bulletins, with a United States summary. This is

the first time any farm statistics have been shown for minor civil divisions since 1870, having been tabulated in response to the general demand of agricultural colleges and other agricultural interests.

Volume II presents for States, by counties, the statistics of farms, farm acreage, farm values, mortgage debt, taxes, cooperative marketing, farm expenditures, machinery and facilities, movement of farm population, livestock and livestock products, and crops. The farms are classified by color and tenure of farm operator and by size of farm. This volume is issued in three parts, for the Northern, Southern, and Western States, each part also containing a summary for the United States, by States, with condensed tables for the North, the South, and the West. Part 3 was published on June 30, 1932.

Volume III presents by type of farm, statistics on farms; farm acreage and value; value of farm products, sold, traded, or used by operator's family; livestock and livestock products; size of farm; tenure of farm operator; and farm expenditures for feed, fertilizer, and labor. Figures are given for States by counties, with summary tables for the United States by States. The farms are classified in 12 major types and 5 subtypes, based primarily on the source of income; that is, the value of products from a particular source in relation to the value of products from all sources. This is a new departure in census statistics, except for a somewhat similar classification in 1900. The figures are of particular interest and value, as they disclose for the first time the relative importance of different agricultural groups in the United States.

Volume IV is the general report by subjects for the United States by States. A separate chapter is devoted to each subject or group of subjects. In addition to the items carried in Volumes II and III, this volume classified farm operators by race, age, number of years on farm, and days of other occupation, and gives figures on purebred livestock, animals slaughtered, and hides and skins sold. For the first time statistics of chickens and eggs, cows and milk, swine, and sheep are classified by size of flock or herd. Analytical tables, with averages and percentages and comparative data for earlier censuses, are also given.

**Horticulture** As the general farm schedule carried only two inquiries relating to nursery and greenhouse products, the horticultural organizations urgently requested that this information be supplemented by a census of horticulture to be taken as a part of the Fifteenth Decennial Census. The canvass was made by mail after the regular census enumeration had been made. The results for the United States, by States, are presented in one volume. Figures relating to area, value, equipment, expenditures, employees, receipts from sales of products, and type of organization are given for greenhouses, nurseries, bulb farms, seed farms, mushroom establishments, and blueberry farms. The figures for flowers and vegetables grown under glass, flowers grown in the open, bulbs, and flower and vegetable seeds are classified by kinds.

**Irrigation of Agricultural Lands.** The census of irrigation was confined to the 19 States in the arid, semiarid, and rice-growing sections of the United States in which irrigation is a recognized feature of agricultural practice. The results are published in one volume, composed of four sec-

tions. The first section contains a general discussion of the results. The second section classified land under irrigation and investment in irrigation enterprises by date of beginning of enterprise, source of water supply, character of enterprise, and drainage basin, and gives figures for irrigation works, cost of maintenance and operation, etc. The third section classified by tenure the acreage and value of all farms and of irrigated farms, and shows the number of all farms and of irrigated farms by type of farm, size, and value of products sold or traded for the United States, and for the 19 irrigation States, by counties. The fourth section presents a summary of irrigated crops, by States and counties.

**Drainage of Agricultural Lands.** The census of drainage was confined to the 35 States having organized drainage enterprises. The volume consists of three sections, the first section giving a general discussion of the results and special factors affecting drainage. The second section presents for the States, by counties, and a summary for the United States, figures on land, capital, drainage works, etc. The third section consists of a synopsis of State laws for establishing, organizing, financing, and maintaining drainage districts.

**MANUFACTURES.** This biennial census covering the operations of manufacturing establishments during the year 1929 was taken as a part of the decennial census of 1930, and its reports, in three volumes, are included in the Fifteenth Census series.

Volume I is general in character and gives statistics for the United States as a whole, by industries and by States. The subjects covered are: General summary; personnel; size of establishments; type of organization; power equipment; fuel and purchased electric energy consumed; industry groups; areas, counties, and cities; detailed general statistics.

Volume II is an assembly of the detailed industry reports, preceded by a general summary covering all industries. All these reports were published separately in pamphlet form. Most of them give detailed statistics in regard to production, and many show also the quantities and the costs of important materials consumed. All include statistics on number of establishments, number and compensation of employees, cost of materials, cost of fuel and electric energy, value of products, and number and rated capacity of prime movers, generators, and electric motors in use.

Volume III consists of an assembly of the reports for individual States, preceded by a general summary for the United States. These State reports, which were issued separately in pamphlet form, include statistics by industries for "industrial areas" (each comprising one or more counties in which there is great concentration of manufacturing industry) and for important counties and cities, and give summary figures for cities having 10,000 inhabitants or more, and for counties. Among the statistical items appearing in this volume are: Number of establishments; number and compensation of employees; cost of materials; value of products; number and rated capacity of prime movers, generators, and electric motors; quantity and cost of fuel and electric energy consumed.

**DISTRIBUTION. Retail Trade.** The volume concerning retail trade is composed of three parts. It contains data for retailers for the United



States and for States, counties, and cities down to 1000 population. The statistics cover the number of stores; the number of employees, distinguishing full-time and part-time; total payroll, distinguishing payments to full-time employees and to part-time; the total net sales; value of stock on hand at the end of the year; number of proprietors and firm members not on payroll; expenses, showing separately total payroll, wage value of proprietors' services, and rent paid for leased premises, but not including the cost of merchandise sold. The number of stores and annual net sales are classified by kind of store, distinguishing grocery stores, furniture stores, dry-goods stores, etc.; also by type of operation, distinguishing single-store independents, two and three store independents, local chains, sectional chains, and national chains. The stores are also classified by size of business. There is also included an analysis or breakdown by sales of commodities in so far as such data could be obtained from the retail merchants.

**Wholesale Trade.** The volume on this subject presents statistics for wholesale establishments for the United States, each State and large city, and for each county and for many small cities. It shows the number of establishments; number of employees; total salaries and wages; total expenses; value of stocks on hand; net sales, amount and per cent of net sales; sales at retail to ultimate consumers; sales to industrial consumers. These statistics are given by kind of business and by type of establishment. The number of establishments, number of employees, salaries and wages, total expenses, and net sales are also given by character of organization, distinguishing individual proprietorships, partnerships, corporations, and cooperative associations. The number of marketing units are likewise shown, with the number of establishments, their net sales, and total expenses given by unit groups. Employees engaged are distinguished as salesmen, executives, and all other employees. Wholesale merchants proper, as distinguished from brokers, commission merchants, etc., are classified, according to annual volume of net sales and by kinds of business. Commodity sales and commodity coverage are shown in considerable detail.

**Trade Reports.** The trade reports bring together statistics for single trades and contain a material amount of analytical text relative to the data. The economic and other special reports contain still more analytical material and cover such phases of distribution as employment, operating expenses, and practical utilization of distribution for business uses.

**Hotels.** The report for hotels is an octavo volume of 107 pages. It contains statistics for the United States, States, and cities of 250,000 or more inhabitants, showing number of hotels having 25 or more guest rooms, number of guest rooms, type of ownership, seating capacity of dining rooms, receipts, number of employees, salaries and wages paid, proprietors and firm members, by plan of operation and type of occupancy.

**CONSTRUCTION.** The report of the construction industry contains statistics for the United States, for each State and each city of 100,000 population or more, and for each county wherever practicable. It shows the number of establishments; value of construction business, distinguishing that done under general contract from that done under subcontract, as well as

business in the home city, in the home State, and outside the home State; principal expenditures, including amounts paid for subcontract work, for wages, and for cost of materials, also amounts paid for salaries, for rent, interest, contract bond premiums, and compensation and liability insurance premiums; cost of equipment purchased during the year and inventory value at end of year; number of proprietors; number of salaried employees; and number of wage earners. The number of wage earners employed is shown for each month of the year. The cost of materials furnished and used is given by kind of materials. Statistics are shown separately for general contractors and for subcontractors, and are further broken down with respect to type of work, distinguishing various classes of contractors, such as building, highway, bridge and culvert, grading, etc. There is also a classification of contractors on the basis of the amount of business done presented separately for six value groups (\$25,000 to \$100,000, \$100,000 to \$200,000, etc.).

**ABSTRACT OF THE FIFTEENTH CENSUS.** The most significant statistics in the reports of the Fifteenth Census have been selected for publication in a convenient summary volume for use as a home and office reference book. This abstract is an octavo volume of 1100 pages. It contains statistics of population, occupations, unemployment, agriculture, irrigation, drainage, manufactures, mines and quarries, wholesale and retail distribution, construction, and hotels. For the United States as a whole, the abstract will present information on these subjects in considerable detail, but the presentation by counties, cities, and other civil divisions is necessarily limited.

**CENTRAL AMERICA.** The term generally applied to the southern portion of the North American Continent lying to the north of the Panama Canal and south of the Isthmus of Tehuantepec in Southern Mexico, and consisting of the five states, Costa Rica, Guatemala, Honduras, Nicaragua, and Salvador, and the British crown colony of British Honduras. See the articles on these respective countries; also **ANTHROPOLOGY**; **ARCHAEOLOGY**.

**CENTRAL ASIA.** See **SOVIET CENTRAL ASIA**.

**CENTRAL AUSTRALIA.** See **NORTHERN TERRITORY**.

**CENTRAL STATIONS.** See **BOILERS**; **DYNAMO ELECTRIC MACHINERY**; **POWER PLANTS**; **STEAM TURBINES**.

**CENTURY OF PROGRESS INTERNATIONAL EXPOSITION.** Beginning June 1, 1933, and remaining open until November, the citizens of Chicago have announced an international exposition to be devoted to (and named) *A Century of Progress*, and at which it is intended shall be shown the accomplishments in science, art, and industry that have been achieved in the hundred years since the incorporation of the town of Chicago in 1833.

The site selected for the mammoth display is in part the lake front of the city lying between Twelfth place and Thirty-ninth street and the man-made Northerly Island, connected with the mainland by causeways and esplanades. The area in all comprises 424 acres. The financing of the exposition was given in the 1931 *YEAR BOOK (EXPOSITIONS, Chicago Exposition)*, together with a brief statement of the buildings to be erected and opened to the public.

The progenitors of the exposition have shown



great ingenuity in dramatizing every artifice of appeal to popular support, and have announced—in keeping with the high development of science—that the official opening will be accomplished through utilization and amplification of the light rays of the star *Arcturus*, rays that left the star forty years earlier, during the Columbian Exposition at Chicago in 1893.

The intent of the exposition is not to be merely for display, nor for amusement, nor for historic interest, though none of those features is to be sacrificed; but rather the educational and instructive note is given prominence. New wonders of science and industry, new homes, and household equipment, new comforts and necessities, new architectural design, new uses of color and light, and even new types of recreation are to be presented. The sponsors realize that changing conditions throughout the world have introduced new factors into the social structure, and are endeavoring to make the exposition expressive of the needs of the present generation and a forecast of the future.

Of all the unique features of the exposition, that of its architecture is one of the most interesting (see accompanying illustrations). Most of the exhibition buildings are windowless—a feature which permits economy of construction and allows constant control over the interior illumination. The architecture depends for its character and effectiveness on planes and surfaces rather than on intricate detail. This calls for the use of color as decorative motifs rather than cut-up surfaces with superimposed embellishments, such as have been used by many expositions of the past. The type of materials employed has influenced to a certain extent the architecture of the buildings.

The exposition is using prefabricated building materials to a large extent, applied to the steel frames. It is making use of some new building materials and new uses of old materials. The outside walls of the Administration Building, for instance, are of asbestos cement board, hitherto used chiefly for insulation purposes; the walls of the Travel and Transport Building are made of sections of sheet metal, clipped or welded to the steel frame; the Agricultural Group; the Federal Building; the Hall of the States; the Electrical Group; and the General Exhibits Group utilize standard gypsum board for their exterior walls with a coat of metallic paint. The walls of the Hall of Science are of plywood—a veneer of five thicknesses.

The Administration Building, of lofty ceilings, high windows, warm colors, and advanced forms of illumination, was the first exposition building to be designed and completed. In the form of a huge letter "E" with the three wings of the open side facing a lagoon and the closed side paralleling Leif Eriksen drive, one of Chicago's waterfront boulevards, this building combines the practical with the decorative in architecture. The building is 350 ft. by 150 ft., of modernistic design and located on sloping, filled-in land. Two of its most remarkable features are a great entrance lobby or exhibit hall in which models are displayed as they develop, and a Trustees' Room in the central wing in which distinguished guests are received and entertained.

One of the most remarkable of the new architectural concepts is found in the Travel and Transport Building, also opened in 1932. A unique departure in construction practice is evident in

the structure of the dome. With a clear interior diameter of 206 ft. and approximately the height of a twelve-story building, the roof of the dome itself is entirely clear of pillars or other interior supports. Instead of being supported from below, the roof is suspended by cables attached to twelve huge steel towers ranged in a circle. The absence of interior supports provides some obvious advantages for an exhibit hall. The main Travel and Transport Building is 1000 ft. long, windowless and two stories in height. The absence of windows permits continuous control over interior illumination, an advantage to exhibitors and visitors alike. In the dome and in the main Travel and Transport Building will be exhibits telling the story of transportation's progress via railway, automobile, airways, and waterways in the past century.

The Hall of Science promises to be one of the most talked-of buildings of the Fair. This is a great U-shaped building planted over Leif Eriksen drive, with two long arms reaching down to the lagoon. The Hall of Science is a two-story structure, 700 by 400 ft. with a mezzanine and a great ramp leading up to its northern side. Within the U space, which is like a quadrangle with an open end, a beautifully designed rostrum is provided which will be covered with bas relief ornaments. A tower approximately 176 ft. high rises in the southwest corner of the court, fitted with a carillon which records the time of day with its chimes and plays a wide variety of tunes on its tubular bells. In the Hall of Science the story of the epochal discoveries of science which have helped transform the world in the past century will be unfolded.

Opposite the Hall of Science on Northerly Island rises the Electrical Group. This group, 1200 ft. long and 300 ft. wide, is composed of three units—the Radio Building, the Communications Building, and the Electrical Building. The Radio Building is a rectangular structure 250 by 100 ft., at the northern end of the group; the Communications Building is a square-shaped structure connecting the Radio and Electrical Buildings; the Electrical Building is a three-quarter circular building surrounding a court and rising from a series of terraces. Back of this court is a hall 60 ft. high and 500 ft. long. Sculpturing, hanging gardens, gay colors, spectacular illumination, fountains, steel trees and unique landscaping effects provide features of high interest in this strikingly modern group.

The Agricultural Building on the northern end of Northerly Island near the Adler Planetarium is 625 ft. long. Its width varies from 112 to 195 ft., and its height is 45 ft. It is of modern architectural design. A central corridor or nave which runs the entire length of the building and is expressed above by a horizontal crowning member is the controlling feature of the design. From the west side, or entrance side of this nave, three main halls or chapels step down for major exhibits. On the east side there are three pavilions leading off the nave which are of less accented height.

The first three pavilions of the General Exhibits Group lie south of the Hall of Science on the mainland and are connected to it by means of a bridge on the upper level. The group is a sort of comb-shaped structure, running north and south, 686 ft. long and 97 ft. wide, with three pavilions 160 ft. wide extending east from the main structure. The pavilions are separated by courts 120

ft. wide. In these courts, pools fringed by trees and shrubbery will mirror the reflection of the pavilions.

On Northerly Island, north of the Electrical Group, the construction of the Federal and States Buildings has been undertaken. These buildings are to be erected in juxtaposition, to symbolize the essential unity of the Federal and States governments. The Hall of States, not completed in 1932, will be a horseshoe shaped structure, its form modified by the use of bays and recesses. It will be two stories high, 500 ft. across at the base and with its two arms 500 ft. long and 140 ft. wide at the widest point. The open part of the horseshoe will face west and enclose a court, landscaped and containing a sunken garden with a triangular pool. Opening on this court will be entrances to the various State and territorial exhibits. Across the base of the horseshoe will extend the Federal Building, 620 ft. long by 300 ft. wide, with a rotunda, 70 ft. in diameter and surrounded by a 75-foot dome, rising from its centre. Arranged around this dome will be three 150-foot towers, triangular in section, fluted and their inner faces curved to leave room for the dome. These towers will represent the three branches of government—administrative, legislative, and executive. The towers of the Federal Building will be silhouetted at night by means of unusual lighting effects. A feature of the Federal and State exhibit will be a geograph, or relief map, of the United States, which, on the scale of one inch to the mile, will give all physical features of the country at a glance.

The replica of old Fort Dearborn, reconstructed at Twenty-sixth street and the Lake Front from the original specifications of the war department of more than a century ago, provides graphic visualization of human progress in the past century. Its log battlements stand in vivid contrast to the skyscrapers of Michigan Boulevard, a short distance away. The Fort is furnished in true pioneer fashion. Priceless curios obtained through the assistance of the Smithsonian Institution, the Daughters of the American Revolution, the Chicago Historical Society, the Army and Navy, bring back the atmosphere of the days when Fort Dearborn and a half dozen buildings outside its stockades were all that there was to Chicago.

The Lincoln group, located just south of old Fort Dearborn, provides an interesting contrast. Here within the stockade is a reproduction of the log cabin birthplace of the Great Emancipator in Hodgenville, Ky. Nearby are reproductions of Lincoln's boyhood home in Indiana; the Lincoln-Berry Store in New Salem, Ill., where the young rail-splitter sold calico and molasses, learned of Robert Burns and Shakespeare and studied law; the Rutledge Tavern where Abe met and had his tragic courtship with Ann Rutledge; the Wigwam, or rambling frame convention hall where Lincoln was nominated for the presidency in 1860, and reproductions of rooms in his Springfield home.

On the mainland, just west of the Hall of Science, is the Golden Pavilion of Jehol—a reproduction of a famous Chinese Lama temple, shipped thousands of miles across the sea. It is a scintillating creation in red lacquer and gold with a double-decked roof covered with copper shingles finished with pure leaf gold. Inside, a priceless collection of Chinese and Buddhist treasures will be shown, including bronze and gilded

images of Buddha, altar pieces, incense burners, drums, temple bells, masks used in sacred dances, priestly robes, rare tapestries, parchments, hangings, etc.

One of the most fascinating aspects of the 1933 World's Fair will be the illumination of the grounds at night. A Century of Progress Exposition promises to write new history in the science of lighting. The foremost illumination experts of the United States are collaborating to make this exposition a great illumination spectacle. The resources of electric companies, their most recent discoveries and equipment are being made available. During the Fair the lake front will be transformed into a multi-colored panorama of light, bathing the buildings in mellow tints and projecting an ever-changing series of spectacular illumination effects. These effects can be made visible for miles out on Lake Michigan and up and down the shore line.

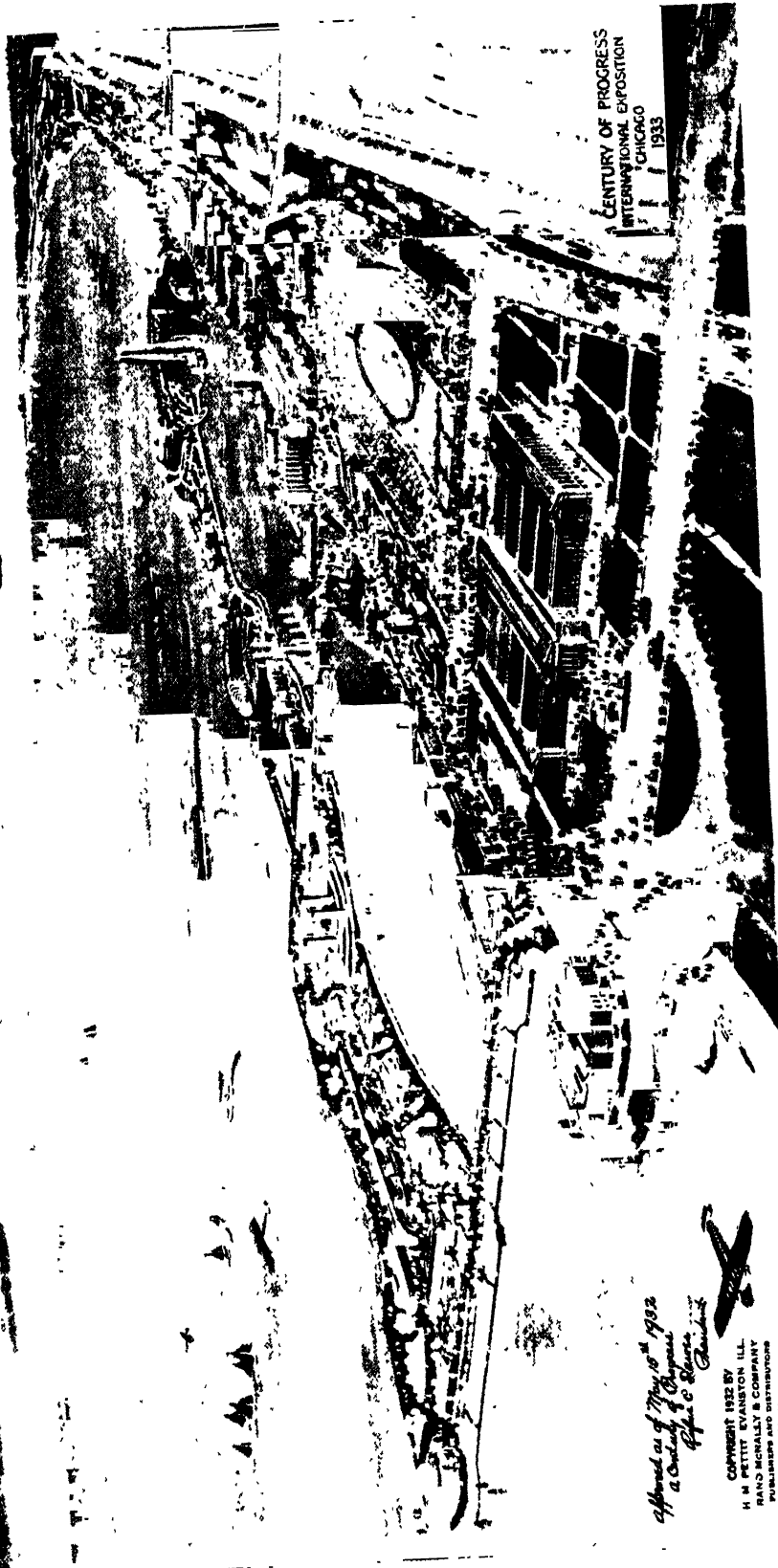
In the shadow of the replica of old Fort Dearborn, a modern housing exhibit will demonstrate the latest and most practical methods of providing living quarters. A group of eight exhibit houses utilizing new materials, new uses for old materials and novel construction methods, designed by America's foremost architects will be a feature of this exhibit. These houses are expected to set new trends in architecture, in furnishings, and equipment. Allied with the houses will be exhibits of building materials and methods of construction.

A Century of Progress Exposition will not simply be an instructive and educational celebration. There will be lighter features to delight people of all ages. The world has been searched for new and unusual features that will satisfy the thrill seekers. The 1933 Midway extends from Twenty-third street south to about Thirty-first street on the grounds of A Century of Progress Exposition. A number of these attractions were operating there in 1932 and thousands of visitors every week visited the Fair grounds in the summer and fall to view the Midway in the making.

On the lagoon gayly colored launches carried visitors on a tour of inspection from the water. "Dodgem" boats operated by the passengers themselves were in service during the summer and fall. In the air, the Goodyear blimp *Puritan*, made sightseeing trips over the grounds. In the lagoon, off Twenty-third street, Admiral Byrd's Antarctic ship, *The City of New York*, rode at anchor. The ship has a highly romantic history. She was built in 1882 and was christened *The Samson* when she slid from the ways at Arendal, Norway, because of her strength and massive construction. Her sides are of 3 foot-thick greenheart timbers from Norwegian forests. Her bow is 12 ft. thick.

Blue and white motor busses were operated on the exposition grounds. These busses have a seating capacity of 90 persons each and the seats face outward so that passengers may easily view the sights as they travel. During the Fair these busses will be operated over high-speed express and slow-moving sightseeing routes. Electrically propelled chairs and push chairs will provide other transportation. There will be speed boats, gondolas and other craft on the lagoons and Lake Michigan. Moreover, dirigibles and planes in the air will provide additional transportation.

The supreme in amusement thrills will be the "Sky Ride," construction of which was under way in 1932. Two steel towers 600 ft. high will



CENTURY OF PROGRESS  
INTERNATIONAL EXPOSITION  
CHICAGO  
1933

*Approved as of May 10<sup>th</sup> 1932  
a Century of Progress  
Exposition*

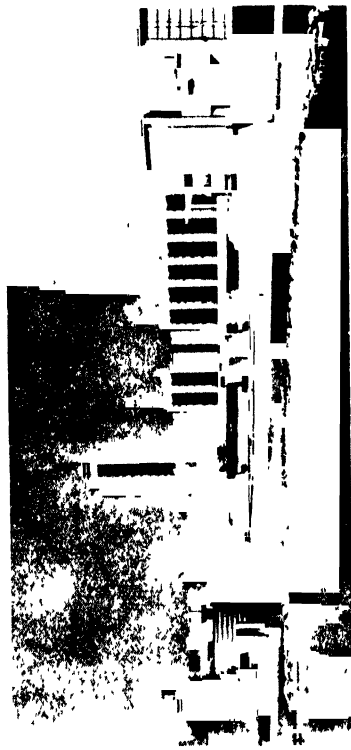


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PROPOSED LAY-OUT OF A CENTURY OF PROGRESS INTERNATIONAL EXPOSITION, CHICAGO



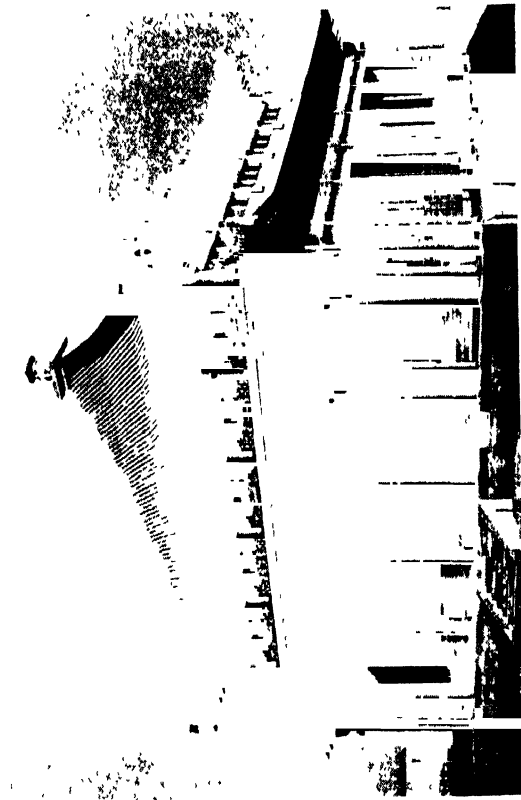
ELECTRICAL BUILDING



THE HALL OF SCIENCE



GENERAL EXHIBITS GROUP



REPLICA OF GOLDEN TEMPLE OF JEHOI

CENTURY OF PROGRESS INTERNATIONAL EXPOSITION, CHICAGO

be connected by cables carrying rocket cars at the 200-foot level. One of the towers will be located near Sixteenth street on the mainland. The other will be 2000 ft. distant across the lagoon on Northerly Island. High-speed elevators will carry passengers sixty stories aloft to observation platforms at the tops of the towers, whence they will be able to view Chicago and the surrounding area. At the 200-foot level, two tracks comprising four cables each will connect the towers. Eight rocket cars will operate on these tracks. The cars will be 33 ft. long, of glass and aluminum and double-decked with seats arranged lengthwise. Colored steam will be discharged in the wake of the cars, giving them the appearance of vivid rockets. At night the towers and rocket cars will be illuminated in spectacular lighting effects.

A reproduction of a Mayan temple—the famous Nunnery at Uxmal in Yucatan—as it looked in the time of its glory 1000 years ago, is planned. This temple, naturally, is not designed as an amusement feature, but should prove just as spectacular an attraction as any of the amusement thrillers. It represents the greatest achievements of early man in America—the finest example of pre-European culture on the continent. Built by American Indians more than 500 years before Columbus set sail, the architecture of this temple equals any structure built in the classic age of Greece or in modern times.

A place where children may play while parents are sightseeing is being constructed on Northerly Island, between the Electrical Group and Hollywood-at-the-Fair. It will occupy approximately five acres. The name of this land of play is "The Enchanted Island."

Plans have been laid for a series of musical programmes under the sponsorship of the National Conference of Music Supervisors. And, in addition to these programmes, bands and community singing will be fostered. At Soldiers' Field Stadium and in the Lagoon various international sports will be staged.

All the preparations essential to a great international exposition were well in hand by the end of 1932, including provisions for the comfort, safety, and relaxation of the visitors. Twenty-six miles of piping for a sanitary sewerage system and storm sewers and water pumping facilities for 1,000,000 persons a day were installed. A water pumping and piping system with a capacity of 28,000,000 gallons per day was provided for the grounds from Twelfth place to Thirty-ninth street on the mainland and on Northerly Island, fringing the mainland site.

**CEREALS.** See BARLEY; OATS; RYE; WHEAT and article on each country under *Production*.

**CEYLON**, sē-lōn'. An island crown colony of Great Britain off the southern tip of India, occupied in turn by the Portuguese and Dutch previous to its annexation by the British in 1796.

**AREA AND POPULATION.** With an area of 25,332 square miles, Ceylon had a population (exclusive of military and shipping), of 5,306,863 at the partial census held Feb. 26, 1931. Registered births in 1930 numbered 205,106; deaths, 133,708; marriages, 25,505 (exclusive of Moslem marriages). The population of the chief cities (exclusive of the military; shipping, and estates) in 1931 was: Colombo, the capital, 284,155; Jaffna, 45,708; Galle, 38,424; Kandy, 36,541. Education is free in the vernacular schools; attendance in primary schools in 1930 was 572,237.

**PRODUCTION.** Ceylon is primarily agricultural, with about 3,200,000 acres devoted to the cultivation of rubber, tea, rice, cacao, tobacco, coconuts, spices, areca nuts, and sugar cane. About half of the population's rice needs is imported. Live-stock in 1930 included 1,660,000 cattle, 181,000 goats, 57,000 sheep, 45,000 swine, 1000 tamed elephants, and 2000 horses. A total of 52 plum-bago mines were in operation in 1930 and some monazite and small-gem deposits are exploited. Manufacturing is confined to the production of such agricultural commodities as coconut oil, cacao, rubber, etc.

**COMMERCE.** Foreign trade experienced a marked decline in 1931. General imports were valued at 218,300,000 rupees (1 rupee averaged \$0.3369 in 1931). Domestic exports totaled 322,972,000 rupees. The United Kingdom in 1931 took £11,994,998 (£1=15 rupees) of the exports and furnished £2,703,248 of the imports. A tariff system giving preference to British imports was authorized by the State Council on May 25, 1932; the decision had the effect of curtailing large imports of Japanese cotton goods.

**FINANCE.** After showing a steady increase from 1920-21 to 1927-28, government revenue and expenditure declined sharply in 1928-29. Exclusive of railway earnings and expenses, revenue in 1929-30 totaled £7,395,124 and expenditure £7,358,568. Railway revenue was £1,976,712 and railway expenditure £1,524,088. The net public debt on Sept. 30, 1930, was £15,639,693, and 3,000,000 rupees, or a total of about \$62,532,000. The unit of currency is the silver rupee of British India, with a par value of \$0.365.

**COMMUNICATIONS.** Ceylon had 951 miles of railway in 1929 and (in 1930) a total of 15,911 miles of highways, of which 4909 miles were macadam. Shipping entered and cleared in 1930 totaled 24,992,939 tons.

**GOVERNMENT.** The administration of the island is in the hands of a governor, assisted by an executive council of 10 ministers (7 elected, and 3 officers of state—chief secretary, legal secretary, and financial secretary), and a legislative council of 61 members, of whom 50 are elected. The colony is divided into nine Provinces, each administered by a Government Agent. A new Constitution, increasing the powers of the legislative council, was adopted in 1930, and in June, 1931, was held the first general election in which universal adult suffrage was substituted for the former property and educational suffrage tests. Governor in 1932, Sir Graeme Thomson.

**MALDIVÉ ARCHIPELAGO.** The Maldivé Archipelago consists of 13 coral islets, 400 miles southwest of Ceylon. Inhabited by 70,000 Moslems (1921 census), they are ruled by a native sultan and pay an annual tribute to the Ceylon government. Millet, fruits, and edible nuts are the chief products.

**CHACO DISPUTE.** See BOLIVIA under *History*; MILITARY PROGRESS.

**CHAD.** See FRENCH EQUATORIAL AFRICA.

**CHAMBER MUSIC.** See MUSIC.

**CHAMBER OF COMMERCE OF THE UNITED STATES.** A national federation of nearly 1400 business organizations, established in 1912 primarily as a vehicle for the expression of national business opinion on important economic questions. The members of the chamber are trade associations and local or regional commercial organizations, these groups being represented on a board of directors, composed of 34

members chosen from geographical districts or specific fields of business and elected for a term of two years. The membership in 1932 consisted of 1378 business organizations, 4836 individual members, and 3501 associate members.

The policies of the organization are formulated only by resolutions adopted at its meetings or by direct referendum, in order that they may reflect as accurately as possible the opinion of all classes of business represented in the constituent membership. Among the questions to which the chamber is currently directing its attention are: agriculture and agricultural credit, amendment of anti-trust laws, banking, bankruptcy laws, commercial policies in foreign relations, depreciated currencies, distribution efficiency, government competition, government expenditures and taxation—Federal, State, and local, natural resource industries, sharing work for emergency purposes, stabilization of business and employment, trade and commercial organization, trade relations, transportation, immigration, railroads, Federal Reserve System, special insurance taxes, fire prevention, public and private employment exchanges, veterans' benefits, war debts, and water power policies.

For the convenience of its members the chamber maintains at its national headquarters 12 service departments, covering the main divisions of business activity. The agricultural department aids local chambers of commerce in the solution of agricultural problems and the enhancement of trade-area prosperity. The civic development department aids business men to approve not only local municipal and civic development but also matters of general national importance. The commercial organization department assists member chambers in strengthening their organization and extending their usefulness to the communities which they serve. The department of manufacture assists local chambers with their problems of industrial extension. The domestic distribution department promotes better methods of distribution. The finance department studies methods of Federal, State, and local taxation and problems of corporation and international finance. The foreign commerce department deals with tariff policies and import and export problems. The insurance department works to secure a more enlightened public attitude toward the insurance institution. The natural resources production department deals with the problems of water power, oil, coal, forest, and other natural resources. The trade association department serves as a clearing house as to the activities which a trade association can carry out most effectively. The transportation and communication department studies problems of rail, highway, waterway, and air transportation and of postal service and electrical communications. The research department covers the general field of economic research.

The chamber publishes a monthly magazine, *The Nation's Business*, and issues from time to time reports on economic subjects. Its twentieth annual meeting was held in San Francisco, Calif., May 17–20, 1932. The officers elected for the year 1932–33 were: president, Henry I. Harriman, Boston, Mass.; honorary life vice-president, John Joy Edson, Washington, D. C.; vice-presidents, Matthew S. Sloan, Brooklyn, N. Y., Junius P. Fishburn, Roanoke, Va., Felix M. McWhirter, Indianapolis, Ind., F. Peavey Heffelfinger, Minneapolis, Minn., Nathan Adams, Dallas, Tex.,

Paul Shoup, New York City; members of the senior council, Richard F. Grant, New York City, John W. O'Leary, Chicago, Ill., Lewis E. Pierson, New York City, William Butterworth, Moline, Ill., Silas H. Strawn, Chicago, Ill.; treasurer, Oscar Wells, Birmingham, Ala.; chairman of the executive committee, Henry I. Harriman, Boston, Mass.; and secretary D. A. Skinner, Washington, D. C. National headquarters are in Washington, with divisional headquarters in New York City, Atlanta, Chicago, Minneapolis, Dallas, and San Francisco.

**CHAMBERS, REAR ADMIRAL FRANK TAYLOR**, U.S.N. An American naval officer and civil engineer, died in Washington, D. C., Nov. 10, 1932. He was born in Louisville, Ky., July 1, 1870. Upon his graduation from the Rensselaer Polytechnic Institute in 1892 he joined the structural steel department of Sneed & Co., Louisville iron workers, and three years later became associated with the Pittsburgh Bridge Co. He served also for a short time in the structural steel department of the office of the Supervising Architect in Washington. Commissioned a junior lieutenant in the Civil Engineers Corps of the U. S. Navy in 1897, he was promoted through the grades to rear admiral in 1927.

Chambers was a member of the Chesapeake and Delaware Canal Commission during 1905–06, of the National Advisory Board on Fuels and Structural Materials during 1906–07, and of the Army and Navy Board appointed in 1908 to study the possibilities of a deep draft ship canal between the Chesapeake and Delaware bays and also of a deep draft ship channel extending from the Golden Gate, San Francisco, to the Mare Island Navy Yard. After 1917 he was a member of the Navy Yard Commission, and the same year was put in charge of construction at the naval operating base at Hampton Roads, Va. In 1918 he became chief engineer and a member of the port facilities committee of the U. S. Shipping Board, visiting England and France in the latter capacity to inspect port and harbor facilities. He was consulting engineer on port facilities to the Board of Engineers for Rivers and Harbors of the War Department, and represented the Navy Department on the Association of Port Authorities. At the time of his death he was director of the Naval Petroleum Reserves and of the Naval Oil Shale Reserves.

**CHAMPIONSHIPS.** See **ATHLETICS**, **BOXING**, **OLYMPIC GAMES**, ETC.

**CHANDERNAGOR.** See **FRENCH INDIA**.

**CHANNEL ISLANDS.** See **GREAT BRITAIN**.

**CHARACTER EDUCATION.** See **EDUCATION** IN THE UNITED STATES.

**CHARTERS, CITY.** See **MUNICIPAL GOVERNMENT**.

**CHAUTAUQUA INSTITUTION.** An educational movement established in Chautauqua, N. Y., in 1874 by Lewis Miller and Bishop John H. Vincent, both prominent in the Methodist Episcopal Church. Its original idea was that of an assembly for Sunday school teachers, but it was gradually developed into an institution affording during the months of June, July, and August a series of correlated lectures and entertainments. The three general fields of activity are the general assembly, consisting of an educational and popular series of lectures and addresses, concerts, operas, dramatic entertainments, and so forth; the summer schools, offering credit courses under the direction of New

York University; and a home-reading circle in which four or more outstanding books are designated for reading during the year, in addition to a news narrative appearing in a monthly review.

The attendance at the annual session approximates 40,000. Among the speakers at the general programme in 1932 were Mrs. Franklin D. Roosevelt; Gen. Frank T. Hines, Administrator of Veterans' Affairs; Miss Zona Gale, author; Dr. Mazo Nitobe, former Under-Secretary of the League of Nations; Mrs. Grace Morrison Poole, President General Federation of Women's Clubs; Mr. Louis J. Taber, Master of the National Grange; Dr. George E. Vincent, Dr. James G. McDonald, Dr. Edward Howard Griggs, Dr. Herbert Adams Gibbons and many others. Twenty-seven symphony orchestra concerts were given in the amphitheatre and many other programmes of music. Eleven performances of five operas were given in English under the direction of Georges Barrère, prominent in the Juilliard Graduate School of Music. There were also ten performances of five plays given by the Repertory Theatre, made up of members of the Cleveland Play House company. The summer school included 18 departments, with 100 instructors and approximately 1500 students. The National Broadcasting Company broadcast 21 Chautauqua programmes over a nation-wide hookup during 1932. The officers in 1932 were: George E. Vincent, honorary president; Arthur E. Bestor, president; William L. Ranson, chairman of trustees; Shailer Mathews, chairman of the executive board; Charles E. Peirce, secretary; and Jessie M. Leslie, treasurer.

**CHEESE.** See DAIRYING.

**CHEMICAL INDUSTRY, SOCIETY OF.** See CHEMISTRY, INDUSTRIAL.

**CHEMICAL SOCIETY, AMERICAN.** See CHEMISTRY, INDUSTRIAL.

**CHEMISTRY.** It is said that during 1931, "about 60,000 additions to chemical knowledge were made, varying in importance from a report of increased precision in measuring the boiling point of some liquids to the discovery of two new elements." It would be difficult at this time to make so precise a statement in regard to the advances made during 1932, but from the items that follow sufficient will be shown to indicate that distinct advances have also been made during the period covered by this account.

**ORIGIN OF MATTER.** Studies concerning this interesting topic continue and the enigma as to the origin of life still attracts the attention of scientific observers. Sir Alfred Ewing, president of the British Association for the Advancement of Science, in his retiring address delivered at the York meeting in September said: "What we have to realize is that all matter consists of two kinds of electricity, protons and electrons, held apart we do not know how. If you ask, what is electricity? there is no answer save that it is a thing which exists in units of two sorts, positive and negative, with a strong attraction for each other, and that in any atom you will find them somehow held apart against that attraction, with a consequent storing of potential energy."

Some of the details of the progress made during the year are given herewith. A special cable from Cambridge, Eng., dated February 28, announced the discovery by Dr. James Chadwick of a new type of ultimate particle, consisting of a proton and an electron bound together without an electric charge and hence called a

"neutron." The discovery of the neutron was made in the process of investigating the atomic nucleus with the help of earlier researches by Miss Irene Curie, daughter of the discoverer of radium, and Prof. Robert A. Millikan, the investigator of the so-called cosmic rays. With the technic which has made the Cavendish laboratory world famous, Doctor Chadwick proceeded to bombard atoms of metal beryllium with radioactive rays known as "alpha" particles. "Myriads of alpha particles bounded off the atom, but one or two penetrated to the inside of the nucleus with curious effect. Normally the entry of an alpha particle causes the protons to escape from the atom, but in this case no protons escaped. There was simply radiation which was neither waves of light nor protons nor electrons. It arose neither from vibrations nor from positive or negative electric charges. The only explanation was that it was caused by neutrally charged particles which must be neutrons."

Many of the neutron's effects in passing through matter resembled those of the quantum of high energy. "But all the evidence so far has been in favor of the neutron. The quantum hypothesis can only be maintained if conservation of energy and momentum is relinquished at some point. Because neutrons are small and have no electric charge their range in the air is more than one mile and they can pass through many feet of lead. Carrying no electric charge, they are not repelled by charged atoms which they approach. They can find a way between atoms much more easily than protons and electrons." The "neutron" is one of the ultimate particles in nature, so small that it would take 200,000,000,000,000,000,000,000,000 to make a mass weighing an ounce. Neutrons are not waves but particles, but they have, as particles, hitherto unknown powers of penetration.

At a meeting before the Elisha Mitchell Scientific Society held in Chapel Hill, N. C., Dr. E. K. Plyler, of the University of North Carolina, announced a new theory of matter, describing his discovery of a tiny particle of light, that is, of energy, probably electrical, which he named "atomerg." Its presumable size is represented by a decimal point, followed by forty-seven ciphers and the figure seven. It is probable that most or all of the material things in nature are made of atomergs as building blocks. It is likely that matter, energy, electricity, magnetism, electrons, protons, and photons are simply different manifestations of bundles of atomergs. The atomerg would be much smaller than the neutron announced previously from Cambridge University. The neutron is made of one or more protons and electrons bound closely together, while the atomerg is only one of the particles composing either an electron or a proton.

In July it was reported from Princeton, N. J., that a project for the development along new lines of a generator capable of producing millions of volts of static electricity, to obtain high potentials with which to penetrate the nuclei of atoms, is to be built by Princeton University as part of its new research programme in fundamental physics. A month later came from Berlin, Germany, the announcement of success in another great atom-smashing goal of science—the disintegration of masses of atoms—made by the German General Electric Company. The new accomplishment takes a large amount of power, described as the entire output of the German

plant, and converts it into atom-smashing particles. The tube was built by Fritz Lange and Arno Brach. It is a 5,000,000-volt X-ray tube, made by "cascading," that is, by hooking together, end to end, several X-ray tubes. Each unit of this cascade, according to the brief announcement, is 2.40 meters long, about eight feet. But how many are hooked together is not mentioned. The cascading idea is credited to the American physicist, William D. Coolidge, of the General Electric Company, who has used it in spectacular tubes. The cascading is employed to spread the tremendous electrical energy so that it does not destroy the tube containing it. Smashing, splitting, or disintegrating the atom into its component parts of negative electrons and positive protons, both of which are regarded as the ultimate units of matter, is the most stupendous problem engaging the attention of experimental physicists at present. It is the modern equivalent of the alchemists' search for "the philosopher's stone," with which it was hoped to achieve the transmutation of base metals into gold. To smash the atom would mean two achievements, which, should they ever be put into practical use, would result in revolutionizing life upon earth. For it would mean not only the realization of the age-old dream of the alchemists to transform one element into another but making available for the use of man the practically limitless energy known to be securely locked up inside the atom.

According to a cable dispatch from London, England, dated in May, Dr. J. D. Cockroft and Dr. E. T. S. Walton, working in the Cavendish laboratory at Cambridge University, succeeded in forming helium atoms electrically: "We found that at 120,000 volts some atoms we were bombarding by protons began to break up into helium. These helium atoms came out with energies of the order of 100 to 160 times that of the particles we were firing into them. We got the results in the last fortnight after nearly three years of work." The experiments were made in the high-voltage laboratory which Lord Rutherford developed. The experimenters employed voltages of between 120,000 and 600,000 to send millions of protons a second through a vacuum tube at a speed of nearly 4000 miles a second.

Later in the year came further efforts to penetrate the mystery of the origin of matter through the study of the cosmic rays and Arthur H. Compton and Robert A. Millikan had adventures in the unknowable. Compton's experiments were made in Arctic regions and Millikan's in upper air near home. And the culmination came when Compton asserted that the cosmic ray is not a wave, as Millikan thinks, but a particle.

**NEW ELEMENTS.** Further proof of his discovery of "element 87," which he has provisionally named "virginium," was presented by Prof. Fred Allison (see *YEAR BOOK* for 1931, p. 172) at a meeting of the American Institute of Mining and Metallurgical Engineers held in New York City on February 16. According to Professor Allison, "A question which has been of some interest for years was whether the power of a liquid to rotate polarized light is acquired instantly with the application of the magnetic field, or whether there is a very small interval of time which intervenes between the application of the magnetic field and the consequent rotation of the light by the liquid. In other words, whether there is a 'time lag' in the Faraday effect."

The velocity of light, 186,000 miles a second, was used as the timing device by Professor Allison. It was discovered that the presence of each metal, compound of metals, as well as the isotopes of metals, has its individual "time-lag" and that the presence of quantities as minute as one part in 100,000,000,000 will still show distinct time reactions on the magnetized beam of polarized light. In this manner not only the two missing elements were detected in sea water and a number of other minerals, but also what is known as hydrogen 2 and isotopes of gold, lead, and platinum. The magneto-optic method was begun in 1927 as the result of studies of what is known as the Faraday effect. Faraday discovered in 1845 that a beam of plane polarized light, when passed through a transparent, isotropic medium, when traversed by a magnetic field of force parallel to the direction of the light, suffers a rotation. Professor Allison's method was severely attacked at a meeting of the American Physical Society held in April, and a decided skepticism prevails over the authenticity of his results. Later, in May, Dr. William F. Meggers of the Bureau of Standards announced using a method which would reveal one part in ten million of the elusive element, which may be closely akin to and even more remarkable than radium, but he had been unable to find any trace of the material in the sample sent him for analysis. Although twice as heavy as ordinary hydrogen the isotope is not a new element, because the electric charge of its atom is exactly the same as that of the lighter substance. One electron and one proton are neutralized by being packed together in the nucleus so the charge depends on the other proton and the electron revolving in an orbit—which is precisely the same condition as obtains in an atom of ordinary hydrogen. The isotope exists in all hydrogen. It is colorless, odorless, and tasteless. It is exactly like ordinary hydrogen except for the differences revealed by the spectroscope. It exists in ordinary hydrogen in a ratio of about one part in 4000. The chief importance of the new hydrogen will be the study of the structure of the atom, and it will be especially valuable since the isotope is so far down on the atomic scale. It may give a clue to transmutation, and what is more important, to a way of utilizing atomic energy.

**HYDROGEN ISOTOPE.** The existence of an isotope of hydrogen had been announced but it was not until early in 1932 that the results of an investigation by Dr. F. G. Brickwedde of the United States Bureau of Standards were given. He obtained the new substance by "boiling" hydrogen at a point very close to absolute zero. First ordinary hydrogen gas was reduced to a liquid under intense pressure. Then the pressure was reduced to the point where the liquid changed into gas again—that is, "boiled." The ordinary hydrogen atoms, being the lightest, were released first in this process so that in the end all that remained was the hydrogen in this hitherto unknown form. Then the atomic structure of the new substance was determined by spectroscopic investigations made at Columbia University by Prof. H. W. Urey and Dr. G. M. Murphy. The atom of the substance concentrated by Doctor Brickwedde, shown by spectroscopic investigations, consists of two protons and two electrons. The protons and one of the electrons are packed together in the nucleus, while the other electron revolves in an orbit around it. Each one of these atoms is



exactly half of a helium atom. A single physical combination, by whatever means brought about, would account for the step from one element to another and the first step in the progress of the universe from an undifferentiated conglomeration of hydrogen to all the multiple forms of matter.

Subsequently at a meeting of the American Physical Society held in New Haven, Conn., in June, Dr. K. T. Bainbridge, of the Bartol Research Foundation at Swarthmore, Pa., reported that he had succeeded in measuring to an extraordinary degree of accuracy the weight of the recently discovered hydrogen 2, or the heavy hydrogen atom. A sample had been sent to Dr. Bainbridge, who immediately undertook to ascertain its weight. Using the mass spectrograph, he found that the mass of this new heavy hydrogen atom was less than that of the two ordinary hydrogen atoms of which it was made up. The loss in this mass might be placed at 2,000,000 electron volts. Dr. Bainbridge believes that his measurements display an error of only one two-thousandths of 1 per cent.

**NEW METHOD OF TREATING FLUORINE.** A new method of handling fluorine was reported at the New Orleans meeting of the American Chemical Society in April. Fluorine, ordinarily a pale green gas, is so active that even fluorine frozen solid and hydrogen liquefied at 422° below zero explode violently if brought together. Organic compounds exposed to the action of fluorine gas usually explode. Great re-activity, if it could be effected, would be a valuable asset, because it would cause fluorine to combine readily with many substances. The carbon tetrachloride is distilled off and the product remains stable and does not explode. One fairly definite product that was obtained is a combination of fluorine and naphthalene. The new product is gray and decomposes at a temperature of 352° F.

**SEX HORMONE ISOLATED.** At a meeting of the Royal Society of Canada, held on May 27, Dr. J. B. Collip announced his isolation of a sex hormone in pure form. He described the work conducted for years by a group of young scientists at McGill University, headed by himself, during his presidential address to the biological sciences section of the Society. Hormones are the secretions of the ductless glands. They are health regulators and include control over sexual developments. During a discussion regarding the hormone in relation to the pituitary and other ductless glands, Dr. Collip said it was indicated that these glands were intimately interrelated chemically. The pituitary gland was the master gland of the human system. It is reported that the next problem will be to accumulate this hormone in its pure form in sufficient quantities to make it accessible to physicians for use in child-birth.

**NEW HORMONE FROM PITUITARY GLANDS.** The discovery of a new hormone by Dr. Oscar Riddle, Dr. Robert A. Bates and Simon W. Dykshorn of the department of genetics of the institution, at Cold Spring Harbor, L. I., was announced on August 7 by the Carnegie Institution of Washington. This hormone is found to have been produced by the anterior pituitary gland in addition to the growth and the gonad stimulating hormones, already recognized by most investigators. The new hormone, for which the name "prolactin" is proposed, has been shown to be the particular substance produced by the pituitary gland which

is necessary for the secretion of milk in mammals and also for the production of the "crop milk" of pigeons. The substance regarded as a new hormone has been obtained from the pituitary glands of cattle and sheep, and by appropriate chemical methods has been separated with fair completeness from the growth and the gonad stimulating substances with which it is mixed in the normal gland. Prolactin is somewhat less soluble than are the other two hormones and the separation is accomplished, in part, by its isoelectric precipitation. It is soluble, however, in one or another degree in acid, alkaline, and other media.

**DEVELOPMENTS WITH REGARD TO VITAMINS.** The great interest in these products, due to their value in nutrition, has resulted in their intensive study in various directions, the results of some of which are here given.

**Vitamin A.** Prof. F. E. Chidester of the University of West Virginia reported the discovery at the meeting of the American Association for the Advancement of Science of a synthetic substitute for Vitamin A, the growth factor. It is a combination of iodine, fats, and iron. Thus far it has been tried only on rats and the results were obtained simply by feeding them with their meals ferrous oxide, which contained the iodine and iron, and linoleic acid, which has the fats. Without forcibly feeding the animal, he demonstrated that for those that consume the linoleic acid and ferrous oxide combination there is apparent ability to synthesize Vitamin A.

In May came the announcement by Dr. F. B. Bowden and Dr. G. P. Snow of Cambridge, England, of the completion of a series of experiments which had produced Vitamin A from carotene, which is described as a reddish substance found in carrots, by treating it with ultra-violet rays. This evidence led them to believe they had succeeded also in identifying that part of the molecule of Vitamin B which causes its biological effects. A method of distinguishing between opposing theories regarding the nature of Vitamin C was another result of their work. It may determine whether the vitamin is made up of hexuronic acid or whether it is derived from narcotine by the action of light.

Later, J. B. Phillipson and J. W. Woodrow of the Iowa State College reported their ability to determine the approximate Vitamin A content of certain foods within a few minutes. Their experiments reveal that every substance known to contain the growth-producing vitamin absorbs the same rays of ultra-violet light when examined by a spectrometer. In the spectrometer, light is broken into its component rays of different wave lengths by a prism. By using a quartz prism the ultra-violet rays were allowed to pass through. When substances containing the vitamin are subjected to a test, a shadow appears in the spectrum where ultra-violet rays ordinarily would appear. The shadow is due to the Vitamin A absorbing these ultra-violet rays. Their experiments were performed with animal or vegetable oils placed in a small vessel with quartz sides, through which the light shone before entering the spectrometer.

In September a press dispatch from Cleveland, O., reported the discovery by Dr. A. F. O. Germann and his assistant, Dr. Harold M. Barnett, of a new process able to furnish a primary concentrate of Vitamin A at prices low enough for ordinary medical practice. In the Germann-

Barnett process the equivalent of a carload of vegetables, such as carrots, is required to produce an appreciable amount of the vitamin. Dr. Germann declined to reveal the exact details of the process, but said that it would be of important value both to medical practice and medical research.

**Vitamin B.** In January a dispatch from Göttingen, Germany, announced that Prof. Adolf Windaus, a Nobel Prize winner, in collaboration with Fritz Lager of the Dye Trust, has produced Vitamin B<sub>1</sub>, a constituent ingredient of Vitamin B, in pure crystallized form. Professor Windaus found a way of combining the vitamin with hydrochloric acid to form the hydrochloride. He also investigated its absorption spectrum to check up on its chemical composition, and he performed tests with the vitamin on pigeons. He found his preparation nearly four times as powerful as crystalline material isolated by earlier investigators who thought they had obtained the vitamin in pure form. Professor Windaus isolated the crystallized Vitamin B<sub>1</sub> in yeast, which is rich in B vitamins. He also succeeded after four years of experimentation in producing Vitamin D, the anti-rachitic vitamin, in pure crystallized form. Vitamin B stimulates the appetite and promotes good digestion and assimilation of food. An excellent source of the vitamin is wheat.

In May, Dr. Siegfried Maurer, associate professor of pathology at the University of Chicago, reported that results of his researches on Vitamin B indicate the food component has a pronounced influence on the ability to learn. Results of his experiments with white mice prove that a baby who does not get its share of Vitamin B will not learn as rapidly as one who does. The vitamin is found in wheat, spinach, yeast, and asparagus, and to a lesser degree in milk, oranges, and leafy vegetables. He found that the offspring of mice deprived of Vitamin B attained the normal level of learning ability when they were brought up on a diet rich in the food component. However, he found the infant mortality of the depleted animals was much higher than that of normal animals.

**Vitamin C.** Dr. C. C. King, professor of chemistry in the University of Pittsburgh, announced in April that he had isolated and identified Vitamin C, obtaining it from lemon juice, and had established its identity with hexuronic acid. It appears likely that Vitamin C must be present in the tissue in practically all higher animals and plants, in order for normal metabolism to proceed. It is particularly important to growth and tooth structure. It has some significance in relation to current malnutrition in children, but further work will be necessary to determine just how important it is. This discovery was confirmed by dispatches in *Nature*, which say that experiments by Drs. J. L. Svirbely and A. Szent-Györgyi of the University of Szeged, Hungary, show that anti-scurvy Vitamin C is the newly discovered hexuronic acid and further investigations are now being made to determine this finding definitely.

**Vitamin D.** In July it was announced that a process for the extraction of pure Vitamin D directly from cod liver oil has been perfected at Columbia University by Prof. Theodore F. Zucker after ten years of research and experimentation. The new product differs materially from the commercial equivalents of Vitamin D on the

present market. The latter products are artificial, being produced by exposing the substance ergosterol, found in ergot and yeast, to ultra-violet light. This irradiated ergosterol is a substance closely resembling Vitamin D, and has the same ricket-preventing properties as the vitamin, but is not the vitamin itself. Doctor Zucker's process is the first to extract the natural vitamin from the cod liver oil. The extract is in liquid form.

**Vitamin G.** According to a paper presented by Henry C. Sherman of Columbia University at the Denver meeting of the American Chemical Society on "Some Further Experiments with Vitamin G and a Discussion of its Probable Multiple Nature" he contended that a longer youth for the human race would be brought about by the food factor in Vitamin G, fresh conquests of disease and a general advance in the health of the world's population would ensue. He claimed: "That Vitamin G is needed to prevent the development of deficiency diseases like pellagra" is only the beginning of the story of the importance of Vitamin G in our food.

**INFLUENCE OF CHEMICAL COMPOUNDS ON DISEASE.** At a meeting of the Federation of American Societies for Experimental Biology held in Philadelphia, Pa., on April 29, Dr. Frederick S. Hammett announced that he had demonstrated unquestionably that the sulphhydryls were the fundamental chemical element in the growth of the malignant cell. Experimenting with white mice, he used one strain bred for tumor potentiality and another bred away from it. He found that when a sulphhydryl compound was applied to a member of the first strain, fatal tumors could be produced in members of the second strain, the chemical developed an overgrowth analogous to a cancerous tumor, but when the sulphhydryl stimulus was taken away the tumor disappeared. This work, extending over two years, "has definitely demonstrated that the sulphhydryl is the naturally occurring chemical group which is responsible for the cell division in tumors as in normal things, and that sulphoxide, which retards cell division in normal things, also retards cell division in tumors and tumorlike growth."

Another announcement that came from Berlin, Germany, to *Science Service* in September disclosed another influence that is helpful to a better understanding of the elusive factors that produce cancer. A second respiration ferment, one that is not the hürmin which controls the conveyance of oxygen from the lungs to the muscles and other tissues of the body, has been found by Prof. Otto Warburg, Nobel Prize winner, and his associate, Dr. Walter Christian of the Kaiser Wilhelm Institute for Biology. When certain cells, called "anaerobic" because they normally cannot live in the presence of oxygen, were shaken up with oxygen, a respiration of burning of carbohydrate took place. This respiration or breathing could not be stopped by carbon monoxide or by hydrocyanic acid, poisons which stop ordinary respiration in animals by acting upon the hürmin that controls that conveyance of oxygen in the body. Juices squeezed out of many other cells behave like anaerobes. In such juices the investigators also found respiration which could not be stopped, either by carbon monoxide or hydrocyanic acid. From these observations it was concluded that an oxygen-carrying ferment other than hürmin was to be found in nature. This second respiration ferment appeared to be

present in high concentrations in aerobic cells.

**BIBLIOGRAPHY.** The following are the more important books on chemistry published during the year: Archibald, *Preparation of Pure Inorganic Substances*; Clayton, *Colloid Aspects of Food Chemistry and Technology*; Curtis, *Fixed Nitrogen* (Monograph No. 59, American Chemical Society); Jamieson, *Vegetable Fats and Oils; their Chemistry, Production and Utilization* (Monograph No. 58, American Chemical Society); Kassel, *Kinetics of Homogeneous Gas Reactions* (Monograph No. 57, American Chemical Society); Luck, *Annual Review of Biochemistry* (vol. 1); Pringsheim, *Chemistry of the Monosaccharides and of the Polysaccharides*; Rossman, *Law of Patents for Chemists*; Sherman, *Chemistry of Food and Nutrition* (4th ed.); Winton, *Structure and Composition of Foods*, (vol. 1). See VITAMINS.

**NECROLOGY.** John Brown Francis Herreshoff, born in Bristol, R. I., on Feb. 7, 1850; died in Atlanta, Ga., on January 30; inventor of a process for manufacturing sulphuric acid long active in industrial plants, notably the Nichols Copper Company; first recipient in the United States of the Perkin Medal. Andrew Alexander Blair, born in Woodford County, Ky., on Sept. 20, 1848; died in Philadelphia, Pa., on January 25, chief chemist to the U. S. Geological Survey in 1879-81, but best known by his skill as an analytical chemist; author of *The Chemical Analysis of Iron* (1888). Charles Ford Langworthy, born in Middlebury, Vt., on Aug. 9, 1864; died in Washington, D. C., on March 3; a foremost worker on munition problems and long chief of the office of Home Economics in the U. S. Department of Agriculture in Washington. Wilhelm Ostwald, born in Riga, Latvia, on Sept. 2, 1852; died in Leipzig, Germany, on April 4; dean of the faculty of chemistry at the University of Leipzig and winner of the Nobel prize in chemistry in 1919; also author of important text books on his specialties. Sir Richard Threlfall, born near Preston, England, on Aug. 14, 1861; died in Edgbarton, England, on July 10; an industrial chemist known specially on account of his association with the development of the smoke screen and the so-called tracer bullet used during the World War.

**CHEMISTRY, INDUSTRIAL.** It is encouraging to note that "the chemical industries have successfully met the test of two full years of depression, and have showed that the immense expansion of the preceding decade was soundly based." Also, so far as trade conditions are concerned, not only has foreign trade been most gratifying but, in comparison with other industries, it has met the depression with good results. The official journal of the American Chemical Society reports that all and more than the present supply of chemists are needed to fill demands.

**AMERICAN CHEMICAL SOCIETY.** Owing to the economic depression, a depletion of the fund of scientific knowledge by the cessation of research in industrial laboratories, decline in supported scholarships, and the inability of qualified workers to continue post graduate study, a Federal subsidiary of research in universities and colleges by unemployed chemists was urged editorially by the *Journal of the American Chemical Society*. Idle research workers would be engaged in fundamental research in universities and scientific institutions, jointly subsidized by the Federal government and the universities. The

institutions would pay the full cost of laboratory materials and operating expenses. It is claimed that fundamental research has been neglected by universities and scientific institutions in recent years in favor of utilitarian research, since donations for research frequently were from industrial corporations, which required investigations in their special fields.

The 83d meeting of the American Chemical Society was held in New Orleans, La., during March 28 to April 1, at which 775 persons were registered and 203 papers were read before 15 divisions. It was announced that the award of the \$1000 prize of the society for 1932 for "the most promising young chemist, man or woman under 30, in North America, in recognition of the accomplishment in a university of outstanding research in pure chemistry" was made to Dr. Oscar K. Rice of Harvard University. The quest of the society for a "prodigy" each year is sponsored by a foundation established for that purpose by Dr. A. C. Langmuir, of Hastings-on-Hudson, N. Y. The award to Dr. Rice was made in recognition of work that involved the application of modern theories of physics to chemical problems, including the application of quantum mechanics to reactions between gases, and of modern theories of statistics to the studies of metals and electro-capillarity.

The many papers and addresses by research workers in the industries, universities, and technical schools at this meeting described the advances in the entire range of chemical science. The keynote of the meeting was "science in action for the industries," and problems arising as a result of the depression were discussed by representative men in science, industry, and education. The world's food supply, needs of the food industries, progress in public health and sanitation and science teaching in the schools and colleges were among the topics reported upon. Dr. R. T. Haslam, vice-president of the Standard Oil Development Company, presided over a symposium on "chemical engineering processes in the oil industry." Conservation of the nation's petroleum resources through advance in oil refining, the interdependence of the oil and motor industries and the achievements of research in petroleum were described in a series of papers, many of which foreshadowed the up-building of new enterprises.

Dr. Irving Langmuir of the General Electric research laboratories in Schenectady described "a new theory of adsorption and photoelectric properties" during a symposium on "adsorption," under the auspices of the Physical, Inorganic, and Colloid Divisions. Prof. H. S. Taylor of Princeton reported on "recent developments in the theory of adsorption at surfaces." A number of other papers on the subject were presented. "Chemistry and the Quest for Health" was the subject of an address by Dr. Oliver Kamm, director of research of Parke, Davis & Co., at a symposium on "the relation of chemistry to biology and medicine." Drs. E. A. Osterberg and G. J. Thompson of the Mayo Clinic, Rochester, Minn., reported on the use of a new cystographic medium to widen the use of X-rays. The results of chemical studies of epilepsy and feeble-mindedness were presented by Dr. Sidney S. Negus of the Medical College of Virginia. Prevention of abdominal adhesions after operations was discussed by Drs. Robert P. Walton, Alton Ochsner, and Earl Garside of Tulane University.

Prof. H. C. Sherman and Miss Elizabeth N. Todhunter reported on further studies at Columbia University on the measurement of Vitamin A values, while Drs. Frederick W. Heyl and E. C. Wise of Kalamazoo, Mich., reported on "colorimetric Vitamin A assay." The world's food problems were considered at a meeting of the Division of Agricultural and Food Chemistry. The Division of Chemical Education also held sessions, while painting problems in the South were discussed during a symposium by the Division of Paint and Varnish Chemistry.

The 84th meeting of the American Chemical Society was held in Denver, Colo., during August 22 to 26, at which 296 papers were read before 16 divisions. The registration showed 916 persons present. The President's address was on "Some Economic Aspects of Research." He held that research was America's greatest asset, and said that, unless it were made continuous through united governmental, educational, and corporate effort, national decay lay ahead. At this meeting the Priestley medal was presented to Dr. Charles L. Parsons and a silver tea service in recognition of his great work while secretary or manager of the Society, which has resulted in an increase of membership from less than 4000 to nearly 19,000.

In an address Dr. Oscar K. Rice of Harvard University explained the "theory of molecular gas reactions," and in doing so disclosed one of the odd, new facts about molecules of a gaslike ether. Ether and the other gases break up when heated to temperatures of several hundred degrees. Their molecules are made up of many atoms, and these little aggregations fly to pieces. They break up because the molecules "acquire excess energy." This energy comes from one molecule colliding with another, one of the two flying faster after the collision, and doing so because it has acquired some extra energy from the molecule it hit. But, some of the molecules do not break up as expected. It is as though some of the energy of the molecule were not available to cause decomposition, that it was cut off in some way from the weak spot in the molecules. Dr. Rice indicated the evidence for the existence of this strange behavior and some of its results.

Among the results presented by chemists are the following: The contributions of the chemist to Egyptology were outlined by Prof. Lyman C. Newell of Boston University. The famous blue of ancient Egypt is no longer a secret of the dead. Modern chemists have analyzed it and duplicated it. They have pried into many other of the Egyptian "lost arts," with the result that they are "lost" no longer. "In recovering and preserving antiquities, chemists have rendered indispensable service. Thus, by spraying frail or partially disintegrated objects with a solution of celluloid or similar material, the object was stiffened enough to permit handling. Similarly, by soaking wooden objects in hot paraffin, the wood was prevented from splitting or warping."

More inspiring is the fact now established by the work of Dr. H. L. Campbell, Dr. L. N. Ellis, and other investigators of the Columbia laboratories that even when we start with an average normal condition, an enrichment of our diet tends to the enhancement of "positive" or "buoyant" health, to the preservation of the characteristics of youth, and the prolongation of the prime of life. "Plainly, a substance which plays such a

part, in and through nutrition, is a very important factor in food values. Hence the problem of its quantitative measurement was carefully investigated by Dr. Anne Bourguin. Upon the basis of exact knowledge thus laid, Dr. H. K. Steibeling made experiments which indicate, as do certain results obtained in other laboratories, that this important nutritional factor now known as Vitamin G is in its chemical nature a multiple rather than a simple factor, a group of two or more chemical substances rather than a single chemical entity."

Charles Allen Thomas and William H. Carmody of Dayton, O., described a synthetic resin, the first of its kind to be made from petroleum, having a property of extreme rapid drying, which should make it useful in the varnish and paint industries. The new resin, still in the experimental stage in the plastic industry, can be combined with wood pulp to form a finished wall board. It is a good heat insulator in the board, very tough, and can be molded into card tables, steering wheels, doors, and other articles.

The housewife's trouble with lumpy sugar may soon be a thing of the past, for H. V. Moss, who is chief chemist of the Provident Chemical Works of St. Louis, reported that calcium phosphate, which had been used for many years to prevent the caking of table salt, was equally useful in sugar and also had valuable health properties. "Calcium phosphate seems especially suitable for use as a sugar conditioner because recent biochemical research has shown that it is a valuable addition to the diet. The diet of many Americans, especially those who eat large quantities of white flour and sugar, may be deficient in calcium and phosphorus, which are needed for building bones, keeping the teeth from decay, and preventing the premature appearance of old age."

Sealskin coats are not the only product obtainable from Alaskan seals, according to Dr. Gustav Egloff, chief chemist of the Universal Oil Products Company, Chicago, and his research associate, Edwin F. Nelson. "Although the quantity of seal oil available yearly is relatively small, technically the cracking process, which is providing yearly over 7,000,000,000 gallons of gasoline in the United States, can convert seal oil under high temperatures and pressures into 60 per cent of gasoline of high anti-knock value, 12 per cent of asphalt suitable for road-making, 7 per cent of oil which can operate Diesel engines, 16 per cent of gas to light or heat our homes, and 5 per cent water which may be purified for drinking."

Miss Helen L. Wikoff of Ohio State University reported that the salaries of women chemists had increased since 1922. "Only five women chemists reported salaries of \$3000 or over in a survey made by the Bureau of Vocational Information in 1922, while ninety-two in a group of 340 today have salaries in that range."

*Disease Killing Rays.* A "new force" for producing disease killing rays within the human body was announced by Dr. Ellice McDonald, director, and Dr. A. J. Allen, physicist, of the cancer research laboratories of the University of Pennsylvania. The rays are ultra-violet light. They are planted in the body like bombs, by injecting certain chemicals into the area to be rayed. The chemicals are perfectly "dark" by themselves, but transform into ultra-violet flares when X-rays are turned upon them. The chemicals are all organic—that is, made from plants or animals. When they "light

up" under X-rays their ultra-violet rays range from lengths of from 3000 down to 2000 angstrom units. This means that the rays are shorter and more powerful than any ultra-violet reaching the earth from the sun. All of them are lethal to individual body cells, said the report.

Killing power seems due to the fact that body cells are virtually armored against some of the wave lengths of the rays and unprotected against others. So killing a cell is largely a matter of selecting light rays. Over this selection the scientists have some control, because the chemical compounds forming bombs give off different lengths of ultra-violet. "This research gives great hope of finding the range of radiation destructive to the cancer cell and of increasing the powers of X-rays and radium in the treatment of cancer. The most effective range of ultra-violet light was found to be from 2900 to 2500 angstroms. Casual and inexperienced experimentation is dangerous, and may do harm. A new force has been shown, which requires a great deal of investigation as to its application in the treatment of disease. It is possible to produce such radiation in remote cavities of the body by directing the penetrating beam of X-rays upon the injected solution of organic substances." The outstanding new point of the discoveries is a method of placing these powerful rays inside the body, possibly exactly within the site of the disease. Another striking circumstance is that recently other scientists have found evidence that the body produces its own ultra-violet light, apparently all the time, a very faint type, but one seemingly associated rather intimately with health.

Dr. Lawrence V. Redman, of the Bakelite Corporation, became president on Jan. 1, 1932, for the term of one year, and was to be succeeded in 1933 by Arthur B. Lamb, professor of chemistry and director of the chemical laboratory of Harvard University. The total membership of the Society was 18,600.

**SOCIETY OF CHEMICAL INDUSTRY.** This organization held its 51st annual meeting in Nottingham, England, during July 13-15, under the presidency of Prof. Gilbert T. Morgan, who delivered a retiring address on "Ourselves and Kindred Organizations" in which he urged the importance of consolidating the "past achievements in chemical industry, in bringing together in close unity all chemists of the British Empire, and in promoting good fellowship and concord among English-speaking chemists the world over." The Messel medal was given to Sir William J. Pope, a past president, who delivered the memorial lecture on "Forty Years of Stereochemistry."

The secretary reported the membership as 4410 as against 4541 a year ago. As the number of new members elected during the year was greater than that of the year previous, this decrease was explained by the greater number of deaths and resignations among the older members. The new president, Dr. Robert H. Pickard, of Shirley Institute, Manchester, was elected at this meeting and the invitation received from Newcastle was accepted for the meeting to be held in July, 1933.

**MEDALS.** The Perkin medal of the American Chemical Society was on January 8 presented to Charles F. Burgess for his achievements in electrochemistry. The Charles Frederick Chandler medal of Columbia University was given on February 5 to James Bryant Conant for his work

in organic chemistry, following his delivery of a lecture on "Equilibria and Rates of Some Organic Reactions." The Hillebrand prize of the Washington section of the American Chemical Society was awarded on February 11 to Gustaf E. F. Lundell for the outstanding merits of his book on analytical chemistry. The William H. Nichols medal of the American Chemical Society was on March 11 awarded to James Bryant Conant for his chemical investigation that led to the establishment "of the essential nature of the chlorophyll molecule." The *Popular Science Monthly* gold medal and \$10,000 award was on March 18 presented to Irving Langmuir "for notable scientific achievement." Doctor Langmuir was the first to apply argon to tungsten electric lamps.

The Priestley medal of the American Chemical Society was on March 28 awarded to Charles L. Parsons for his important work as secretary of the American Chemical Society in building up that organization, now one of the largest chemical societies in the world, with a membership of over 19,000. The Theodore W. Richards medal of the Northeastern Section of the American Society was on May 6 awarded to Arthur A. Noyes for his "distinctive services to science." The medal of the American Institute of Chemists for noteworthy and outstanding service to the science and profession of chemistry in America was on May 7 presented to Charles H. Herty for his researches that "evolutionized the turpentine industry." The Willard Gibbs medal of the Chicago section of the American Chemical Society was presented on May 20 to Edward C. Franklin for a lifelong study of liquid ammonia solution "which opened up a new field" in organic chemistry. The Joseph F. Schoellkopf gold medal of the Western New York section of the American Chemical Society was awarded on May 17 to William H. Church for his solution of the problem of moisture-proofing cellophane and for his contributions to the chemistry of collodion.

**GALLIUMS.** The research laboratory of the Vereinigte Chemische Fabriken, the consolidated chemical works, owned by the state of Prussia, announced the discovery in May of a process of extracting gallium so revolutionary that it may reduce the selling price from 175 to 10 marks a gram. At this price, gallium, heretofore a scientific luxury, has a wide field opened to it for industrial employment, and, as the new process is protected by patent, it seems likely that Germany will have a monopoly of the commodity and an added source of export. The industrially outstanding characteristics of gallium are its low melting point, 30° C., and its very high boiling point of near 2000°. The latter singles it out to replace mercury in thermometers for measuring high temperatures, as in blast furnaces. Other uses for gallium: for optical mirrors, since it will reduce light-absorption loss; for dental fillings, in place of mercury, because it is non-poisonous; for manifold employment in electro-technics, by virtue of its combining low melting and high boiling points. The Leopoldshall works obtain the gallium as a by-product of the copper mined in Thuringia. It occurs in the molybdenoid "impurities" from which the copper must be freed. It occurs also in zincblende in the proportion of 0.001 per cent.

**POTASH.** According to an Associated Press dispatch dated April 15, exploration by the United States Geological Survey in the Great Permian

Basin in Texas and New Mexico has disclosed a supply of potash sufficient to fill the country's needs through any emergency which may arise in the future. The Permian Basin is 300 miles wide and possibly twice as long, lying principally in Texas and New Mexico, but extending north into Kansas and Colorado. One year's working by the United States Potash Company of New Mexico developed 45,000 tons of potash, or about 4 per cent of all the nation's requirements. At present American farmers require about 1,000,000 tons of potash material annually, worth \$25,000,000. Some 80 per cent of it has to be imported, mostly from Germany and Alsace in France. The expectation is that the Southwestern deposits will be sufficient to supply the United States for decades in time of need. The indications are that they are equal or superior in quality to the potash mined in Germany and Alsace.

**RUSSIAN STEELS.** The Dnepropetrovsk Institute of Metals has invented a method of smelting chromium-tungsten steel in an ordinary open-hearth furnace, according to the *Economic Review* of the Soviet Union. This steel, which is now imported, is of great importance in steel mills, especially in the manufacture of basic construction parts. It is made abroad only in electric furnaces, since the specific gravity of chromium-tungsten is considerably higher than that of iron, and requires a very high temperature. The Leningrad Institute of Metals has developed a method for the manufacture of high-grade malleable iron to replace the so-called European method. It is estimated that the adoption of the new method will save 89,000 rubles a year at the Lepshe factory alone. The Lenin Metal Works at Zlatoust, in the Urals, has begun the smelting of stainless steel for the first time in the Soviet Union. A plant is under construction for the production of high-grade steel. This will be one of the largest of its kind in the country, with an annual capacity of 50,000 tons.

**FELT-COATED STEEL.** A new laminated metal, developed by Dr. A. W. Coffman, was announced on March 20 by the Mellon Institute of Industrial Research in Pittsburgh, Pa. By the use of alloys the hitherto alien materials are made an integral part of the steel, on one or both sides. These alloys are heated to just beyond their "plastic" points, the temperature at which they become soft before turning into a true liquid. In that stage and above alloys of tin, lead, and zinc amalgamate with the linings. Exactly the right cooling is necessary for success. The coatings mostly experimented with thus far are asbestos and cellulose. Without rupture of these linings, the steel has been corrugated, cut with the ordinary tools of a tinsmith, rolled into pipe and even "drawn." A cellulose-coated piece of steel was elongated 8 per cent by cold rolling. This felt coating of metal opens new commercial possibilities. It means that for many practical uses steel can be covered with all sorts of protective or attractive finishes, even to the imitation of a silken surface.

**POWDERED METALS.** According to a report by Dr. Paul D. Merica of the International Nickel Company, presented in February before the 141st meeting of the American Institute of Mining and Metallurgical Engineers, it is now possible to harden virtually any metal or alloy, so that the soft and weak metals such as copper, lead, zinc, nickel, aluminum, and tin can be made as strong as steel. Many metals and alloys hitherto me-

chanically inferior to steel may be brought up to the standard of steel as far as mechanical properties are concerned, through the development, within the past decade, of a process known as age-hardening. Until recently steel has been practically the only metal which could be hardened and strengthened by heat treatment. Now all the common metals may be alloyed in such a manner by age-hardening. Copper-nickel alloys may be heat-treated to exhibit tensile strength in the neighborhood of 175,000 pounds to the square inch, comparable with the strength of heat-treated steel. After certain heat treatment, these alloys harden as they grow older. Sometimes they age-harden at room temperature, sometimes they must be aged at higher temperatures. A single day is often enough to bring about the desired changes in mechanical properties, although slight changes may continue for a month.

**ALLOYS.** The discovery of a new alloy consisting of wire and aluminum that will not rust when hot, was announced February 17. Experiments made with the X-ray in the Pennsylvania State College solved the secret of what happens when one metal dissolves in another, vanishing as completely as sugar in water. The disappearance of one in the other is due to a chemical combination between atoms of the disappearing metal and the surrounding atoms of the solvent metal. This knowledge, that the atoms follow the laws of chemical combinations regardless of the proportions of the mixture, indicates a starting point for new advances in alloy-making. "The new evidence correlates many facts which have hitherto lacked simple fundamental explanation. It shows why the electrical conductivity of copper wire is so greatly reduced by small amounts of impurity in the copper, it explains why it is possible to break up certain alloys by electrolysis, and it ties in directly with the already accepted picture of the nature of ordinary solutions, such as sugar in water."

Another improvement of alloys was similarly announced on February 10. It was found that by growing a metallic skin on some alloys and giving other gas baths, a fortune could be saved to American industry. The research was made upon brass, the industry in which non-ferrous metals are most extensively used in producing alloys. Most of the furnaces used gas and alloys shrink during the melting; this is due largely to metal which boils away into the air. The losses are high because the brasses are 5 to 10 times as costly as iron alloys, and also boil more readily. The skins which reduce losses are oxygen crusts, formed upon the liquid metallic surface. They blanket the volatile elements in the molten mass so as to retard escape. They are especially efficient in saving shrinkage of zinc alloys. But these skins are of little use for lead and tin. Here the gas bath is best. It is obtained by melting the alloys in an atmosphere in which some other gas is substituted for oxygen. Nitrogen is one of the most effective. But the kind of gas bath needed depends largely upon the kind of alloy in the furnace.

**RUBBER.** The new source of rubber (see *YEAR BOOK* for 1930, p. 155) described as being inaugurated by the Soviet government in Russia finds confirmation in a report from Moscow published early in January, which says: "Russia claims to have solved her rubber problem, and within ten years that country expects to be one of the great rubber producers of the world." It

was found that the rubber comes from the root of a plant called the "towsagyz," meaning "mountain chew." The plant grows on sunny slopes 4000 to 5000 feet above sea level, with a bristle of spiky green leaves eight to ten inches high and a tap root weighing from two to four pounds at maturity, which requires five years or more. Samples sent to Tashkent and Moscow showed that the root contained 40 per cent latex, which gave 95 per cent pure rubber, extractable by a simpler and cheaper process than that used for the latex from the Brazilian and Malaysian rubber trees. A process was worked out that mashes the root and washes away the cellulose, leaving the rubber behind, and a bacteriological process whereby the cellulose could be dissolved in nine to ten days was discovered. According to the *Industrial Gazette*, 250,000 acres were planted to "towsagyz" and the Tashkent factory, completed this year, has a daily output of 60 tons of pure rubber.

A report from Salinas, Calif., says that the American Rubber Producers' plant began operation on February 5. It is said that it was the first time rubber had been produced in commercial quantities in the United States. The plant utilized is a perennial herb known as guayule, from which pure rubber is extracted, and then turned out in 200-pound blocks. Six thousand acres of Salinas Valley are devoted to the culture of guayule. One hundred acres were harvested during 1932.

**NEW KINDS OF SUGAR.** The discovery of sugars that crystallize as one substance, although they undoubtedly are mixtures of two components, was reported on Dec. 28, 1931, to the American Chemical Society by Dr. Claude S. Hudson of the United States Public Health Service. Two of them were obtained by bringing about a combination between galactose, one of the two substances which make up milk sugar, and hydrocyanic acid. The other was produced in the same way from mannose, a sugar obtained from palms. The properties of "galaheptose" and "mannoheptose," as the two new sugars are called, are being studied to determine their physiological effects. Both galactose and mannose consist of molecules made up of six carbon atoms, differently arranged. The three new sugars have seven carbon atoms each, picking up one from the hydrocyanic acid. The essential difference between them is the arrangement of the atoms in the molecule. They are not combinations of known sugars, but entirely new substances which, so far as is known, do not occur in nature.

**NEW SOURCE OF RAYON.** It was announced in April that sugar-cane waste had been turned by the United States Department of Agriculture into a new source of rayon. The method, known as the nitric acid pulping process, consists of soaking the raw material in a weak nitric acid solution for several hours at a medium temperature, then heating it for an hour and finally washing and boiling in dilute sodium hydroxide to produce a soft, bleachable pulp. The process increases the potential value of bagasse and at the same time offers a new and steady source of raw material for the rayon industry. This discovery is regarded as important, as most rayon manufacturers depend upon wood pulp for cellulose and the American forests and wood supplies are gradually diminishing. The department regards the process as now developed to a point

where commercial interests can work out the practical problems of manufacture.

**BETTER PAPER PULP.** On September 6, Dr. Charles H. Herty announced his discovery of a possible means of eliminating sap stain, known as blue stain, from pine-paper pulp. He finds that by using pine log immediately after the tree is cut a pulp is obtained that is "remarkably white and practically as white as the finished product of the paper pulp mills." The method substantially diminishes the process of bleaching. The discovery was made by putting the green log through the pulping process before the sap stain, produced by a fungus, had time to become attached to the log. The cost of seasoning will be eliminated, if the timber owner delivers his logs to the paper pulp mill on the same day that the trees are cut. The elimination of the sap stain has been a costly problem, for it has been prevented only by the highly expensive process of kiln or other drying.

**CLOTH FROM GRASS.** Ramie, known also as china grass, has been used from time immemorial for the making of cloth, but the process of obtaining large quantities of the finished product by removing the gums and other impurities has been laborious and very costly. The method of chemically treating the nettle, with a sulphuric acid mixture, has cost many millions of dollars. A secret process, without the use of sulphuric acid, has now been perfected. It successfully removes the gum and other impurities, and results in fibre and yarn able to meet every test by chemical experts. A new product is obtained that is as high in alpha cellulose—used in making rayon, and nitro cellulose products—as is cotton. An admixture of ramie to rayon makes a product that does not rot or break, and it provides a strong and more durable garment. Experiments have shown that the newly processed ramie, substituted for cotton in the making of asbestos brake linings, will withstand more heat and will deteriorate much less rapidly than linings made of cotton and asbestos.

**NEW PROCESS FOR MAKING ARTIFICIAL DIAMONDS.** A process announced in April for making artificial diamonds was devised by L. H. Barnett, of the Columbia School of Mines. Iron containing carbon, silicon, and phosphorus was used. The carbon supplied the material for generating the pressure and producing the diamonds, the silicon to force precipitation of the dissolved and combined carbon and produce graphite, and the phosphorus to prolong the period of fluidity of the iron during cooling. The iron was melted in very high temperature and, when thoroughly molten, poured into large steel shells and then allowed to cool very slowly. During the cooling the forced precipitation of the graphite from the dissolved and combined carbon increases the original volume and, due to the resistance of the steel shell, produces internal pressure which, acting upon the graphite, converts part of it into diamonds. When the iron is thoroughly cooled it is serially dissolved in various acids for the complete removal of the iron, graphite, and all other impurities and free diamonds are the final residue. The diamonds were small, not even large enough for diamond drill, but, nevertheless, they are larger than ever before produced artificially.

**COLORING MATTER OF BACTERIA.** In April the announcement was made that a chemical constituent of the universal coloring matter of bac-



teria had been identified by Dr. Calvin B. Coulter in the College of Physicians and Surgeons of Columbia University. This substance was first seen by an English physician in 1886, but has been little studied until recent years, when the researches of Dr. Hans Fischer, who received the Nobel prize in chemistry for 1930, for his work on the porphyrins, have made it possible to pursue the subject. In animals, porphyrin is combined with iron to make hemoglobin, while in the chlorophyll of plants the porphyrin is combined with magnesium. The ingredient belongs to the group of porphyrins, which are the building elements of hemoglobin and of chlorophyll, the green coloring matter of plants. Dr. Coulter, who has been studying this subject for the last three years, explained that the universal pigment of bacteria is cytochrome, which has been found in all living cells, plant and animal alike, that consume oxygen. In the diphtheria bacillus, which he has used in his studies, Dr. Coulter finds that the porphyrin is combined apparently with copper and iron. A surprising discovery, it was said in a report to the Chemical Foundation, is that the amount of this copper-iron porphyrin compound, which is set free during the development of diphtheria bacillus culture, is proportional to the amount of poisonous substance of diphtheria toxin formed. What toxin is chemically is not known. These observations offer a new method of investigating the toxin, and may make it possible to estimate its amount without the use of animal inoculation. The spectroscope is used in the investigation of porphyrins, and the methods in general are those of the physicist rather than of the bacteriologist.

**DEATH FOG MENACE.** This unfortunate condition was sensationally made known to the world in December, 1930, when 60 persons choked to death in a strange yellow fog which spread over the countryside in the Meuse Valley in Belgium. This poison fog, it has been ascertained by S. W. Griffin and W. W. Skinner of the Bureau of Chemistry and Soils of the Department of Agriculture, was due to the sulphur dioxide from factory chimneys, and probably no industrial centre is entirely free from such a menace if meteorological conditions are right. These scientists have invented an apparatus by which sulphur dioxide in the atmosphere is absorbed in an iodine solution. From the amount of iodine used up the chemists are able to calculate the percentage of sulphur in the air. Thus a community can be warned as soon as this reaches dangerous proportions. In the United States a number of important smoke surveys are in progress. The city dweller has come to understand that smoke contains invisible, acid-forming constituents which may be of vast importance as property destroyers. Rural and suburban communities have suffered to moderate degrees from the drift from nearby cities of the dense coal smoke, and from the sulphur dioxide and sulphur trioxide released into the air in the combustion of sulphur-containing fuel. A second discovery reported by the American Chemical Society is by Dr. Robert D. Snow of the University of Illinois. His method involves taking sulphur out of coal at the mines. The coal first is ground and then treated with an acid solution. It is believed that part of the sulphur can be recovered for commercial use. Some coals contain from 2 to 5½ per cent. As much as 93 per cent of the

sulphur originally in the coal can be removed by this process. Even in very dilute quantities, according to the American Chemical Society report, sulphur dioxide in the air will corrode steel and other metal objects, and is destructive of marble, brick and mortar. Paint and other protective coatings are now the chief means of preserving structures attacked by the gas. It must be present in considerably more concentrated quantities before it becomes dangerous to plant and animal life.

**RECENTLY DISCOVERED ALKALOIDS.** The announcement was made in September of some new alkaloids found in crude kerosene by Dr. J. R. Bailey, of the University of Texas. These products, different from anything hitherto obtained from a natural source, are classified as hydro-aromatic bases, in which are included such well known plant-drugs as quinine, morphine, cocaine, and strychnine. An unusual feature is that these substances, derived from petroleum, represent new types of compounds, previously unknown to the chemist. Hitherto the plant kingdom alone has furnished alkaloids. Interesting also is the fact that these new alkaloids do not exist already formed in petroleum, but result from the breaking down of more complex molecules in the refining process of crude oil. All of them contain a single nitrogen atom united with numerous carbon and hydrogen atoms to form molecules of the general shape that chemists call "rings" or "cyclic molecules." They differ from the plant alkaloids in that they contain no atoms of oxygen. No one can foretell how far these slight differences may go toward producing important effects upon disease. But it would be a strange event in chemical history were there not encountered in this vast domain of organic nitrogen compounds one or more substances of exceptional medicinal value. These petroleum alkaloids will be studied in the Cancer Research Institute of the University of Pennsylvania. The head of the institute, Dr. Ellice McDonald, makes a statement that "these new substances are a great and promising field in medicine and biological research."

**NEO-NICOTINE OR ANABASINE.** Some years ago C. R. Smith, of the Insecticide Division of the Bureau of Chemistry and Soils of the Department of Agriculture undertook to produce in the laboratory something similar to the nicotine obtained from the tobacco leaf, to be used as a fruit tree spray or insecticide. He succeeded in making a synthetic product which he named neo-nicotine, but it was expensive. Within a year the Soviet government endeavored to find a use for a weed growing profusely over Southern Russia, known botanically as *Anabasis aphylla*, which was regarded as a nuisance. Two chemists turned their attention to this particular growth and found that it contained a new alkaloid. Alkaloids are poisonous, as they found this one particularly, and named it anabasin and described its chemical structure in a technical journal. The discovery revealed to the Soviet government that it had a potential source of wealth in what had been regarded as a useless weed. When the article reached the United States, Smith's attention was called to it and he found it was described as identical with the material he had made in the Washington laboratory. The Department of Agriculture promptly secured from abroad seeds of the plant and grew specimens at their experimental farm. Physiological tests thus far reported in-



dicates that neither the laboratory product nor the Russian plant product is quite as powerful a poison for warm-blooded animals as the nicotine from tobacco, but approach it closely. This experience constitutes one of the most curious chapters in the recent history of chemistry, as it is a reversal of the ordinary order. Usually a substance is first found in nature. Then chemists, after long study, are sometimes able to manufacture it synthetically. But neo-nicotine or anabasine was found first in the laboratory.

**CHERET**, shā'rā', JULES. A French lithographer and mural painter, died in Nice Sept. 23, 1932. Born in Paris in May, 1836, he served his apprenticeship as a lithographer with the *pension* *Leroy*. He was the first to convert poster designing into a real art, his work being original and charming, his drawing skillful, and his color pleasing and harmonious. Among his best posters are "Bal de Valentino," "Le Petit Faust," "Pan," "Searamouche," "Loie Fuller," "Vin Mariani," and "Jardin de Paris." As a mural painter he showed extraordinary talent in such decorations as the dance scenes, entitled "Les Joies de la Vie," in the Hotel de Ville, Paris, in which the grace of the rococo is combined with modern French elegance. Other murals which he painted are found in the Palace of the Prefecture in Nice and in numerous hotels and residences. He designed also cartons from which were developed some of the Gobelin tapestries. He received a gold medal and a medal of honor at the Paris International Exposition of 1900 and was made a grand officer of the Legion of Honor, a commander of the Order of the Crown of Italy, and a commander of the Order of Alfonso XII of Spain.

**CHESHIRE**, THE RT. REV. JOSEPH BLOUNT. An American Protestant Episcopal clergyman, died in Charlotte, N. C., Dec. 27, 1932. He was born in Tarboro, N. C., Mar. 27, 1850, and was graduated from Trinity College (Hartford, Conn.) in 1869. After teaching school for two years he studied law and was admitted to the bar in 1872. He practiced for several years in Baltimore and Tarboro and then turned to the church, being ordained a deacon in 1878 and a priest in 1880. The first three years of his ministry were spent at Chapel Hill, N. C. He then served as rector of St. Peter's Church, Charlotte, N. C., until 1893 when he was chosen Bishop Coadjutor of the Diocese of North Carolina. He succeeded to the Bishopric on the death of Bishop Lyman the same year. As historiographer of his diocese, he edited *Sketches of Church History in North Carolina* (1892) and wrote *The Early Conventions of the Episcopal Church in North Carolina* (1882) and *History of the Protestant Episcopal Church in the Confederate States* (1911).

**CHESS**. Although, because of financial difficulties, another year passed without a return match for the world's chess championship between Dr. Alexander Alekhine and Jose Capablanca, whom Alekhine dethroned at Buenos Aires in 1927, there was no lack of activity in chess ranks in 1932. Alekhine himself was among the busiest of players, competing in four major tournaments and giving innumerable exhibitions of his uncanny skill at the boards. The Russian, who now makes his home in Paris, won at London, Berne, and Pasadena, and shared honors with Isaac I. Kashdan, youthful New York expert, at the Mexico City tournament. Kashdan during the year was second to Salo Flohr, of

Prague, at Hastings, England, and ahead of Dr. Max Euwe, master from Amsterdam. Kashdan also finished second to Alekhine at Pasadena. He was excelled by Flohr at London and divided third and fourth prizes with Mir Sultan Khan of India.

Alekhine made an extensive exhibition tour, studded by a performance at New York City in early November when he played 200 players simultaneously in 50 games. He won 30, lost 6, and drew 14 games, bettering slightly the achievement of Capablanca at the same boards two years before. Earlier in the year Alekhine was pitted against 300 players at Paris, and Capablanca played 330. G. Koltanowski played 160 games simultaneously at Antwerp, and later showed his skill by placing ahead of Flohr to win the masters' tournament at Antwerp. In set matches in Europe, Rudolph Spielmann of Austria defeated E. D. Boguljubow, of Germany, 5½ to 4½, and Euwe and Flohr tied, 3-3, with 10 drawn games.

Reuben Fine, Marshall Chess Club champion, won the Western Chess Association tournament at Minneapolis, displacing Samuel Reshevsky, of Chicago, a close second. Nathan Grossman of Brooklyn took the New York State title. The Marshall Chess Club, winning 11 consecutive matches, won the Metropolitan Chess League title by a slim margin over the Manhattan Chess Club. The Bell Telephone Laboratories team defeated the Brooklyn Edison team in the Commercial Chess League competition. City College of New York easily outranked Columbia. Brown, New York University, Pittsburgh, Brooklyn, and Pennsylvania in the Intercollegiate Chess League tournament, and Princeton was an easy victor in the H.Y.P.D. College Chess League, with Harvard second, Dartmouth third, and Yale fourth.

**CHESTER**, REAR ADMIRAL COLBY MITCHELL, U. S. N., RET. An American naval officer, died in Rye, N. Y., May 4, 1932. He was born in New London, Conn., Feb. 29, 1844, and was graduated from the U. S. Naval Academy in 1863. Appointed ensign, he served during the Civil War with the West Gulf blockading squadron and participated in the operations against Mobile. After holding several important commands he was made commandant at Annapolis in 1891, commander of the New York navy yard in 1894, and commander-in-chief of the South Atlantic squadron in 1897. During the Spanish-American War he commanded the *Cincinnati*, the flagship of the North Atlantic squadron. In 1902 he became superintendent of the Naval Observatory, where he remained until his retirement in 1906. He was made a rear admiral in 1903. On the entry of the United States into the World War he became professor of naval science at Yale University, and was superintendent of the naval units of Yale and Brown Universities until April, 1919. He was engaged for 15 years, under appointment from President Roosevelt, in establishing the open door for American trade in western Asia. He was president of the Inter-Ocean Engineering Company and negotiated concessions for the construction of railroads and the development of mines and oil wells in the Ottoman empire. These concessions were later cancelled by the Turkish government.

**CHICAGO**. See ILLINOIS under *Political and other Events*; MUNICIPAL GOVERNMENT.

**CHICAGO**, THE UNIVERSITY OF. An institution of higher education and research in Chicago,

Ill., founded in 1890. The university is privately endowed, coeducational, and non-sectarian, although one-third of its 30 trustees must be Baptists. John D. Rockefeller founded the university, and his personal gifts amounted to a total of \$35,000,000 over a period of 20 years.

The educational reorganization of the university, which became effective in October, 1931 (see the *NEW INTERNATIONAL YEAR BOOKS* for 1930 and 1931, for details) met with a degree of success even greater than was expected. Although the plan was announced as an experiment, few revisions were deemed necessary for the second year of its operation. New syllabi, developed on the basis of week-to-week studies made by the faculty in 1931, have been published, as well as syllabi for 32 subject sequence courses from which the new plan students may choose their more specialized studies in the college. In the comprehensive examinations given in the four divisional fields in June, 1932, the proportion of failures ranged from 8 to 12 per cent. Only 5 per cent of the freshman class were denied the privilege of returning for further study. A significant number of students took advantage of the opportunities offered by the new plan to complete the work of a year in less time.

Appointments to the faculty included those of Dr. George F. Dick, as chairman of the department of medicine in the division of the biological sciences; Dr. Henry S. Houghton, as associate dean of the division of the biological sciences and director of the university clinics; Louis R. Wilson, as dean of the graduate library school and professor of library science. Dr. Otto Struve succeeded Dr. Edwin B. Frost, retired, as director of the Yerkes Observatory, Williams Bay, Wis., and Thomas N. Metcalf was appointed director of athletics, to succeed Amos Alonzo Stagg, who reached the retiring age.

Under an agreement made with the University of Texas, the latter institution is to build and equip a new astronomical laboratory in the Southwest, and the University of Chicago is to provide the staff. This cooperative agreement will save duplication of equipment, and permit a much better equipped observatory than would have been possible had the two institutions divided their funds for separate observatories and staffs. During the year the university undertook, in cooperation with Erpi Picture Consultants, Inc., the production of a series of 20 talking motion pictures for use in the college general courses and for general distribution. Several of the films were completed.

During the summer quarter of 1932, 4475 students were enrolled; during the autumn quarter of 1932, the enrollment was 7301. The total enrollment for 1931-32 was 12,395. These figures do not include the enrollment in the home study or correspondence department, which has an average of 7000 students at any one time. The members of the several faculties, exclusive of assistants, numbered 812 (including 101 in the university college) on Nov. 1, 1932. In all departments and in all grades of service, the university employed approximately 3000 persons.

The assets of the university as of June 30, 1932, were \$110,737,788, an increase of \$1,958,328 over the figure for the same date in 1931. These assets were divided as follows: endowment, \$61,503,775; plant, \$38,300,429; current assets, \$2,786,156; other assets, \$8,147,426. The total income under the university's combined budget for

the fiscal year 1931-32 was \$7,736,077, while expenditures amounted to \$7,719,733. Student fees provided 31 per cent of the university budget income, and endowment funds 39 per cent. The salary cost of instruction and research constituted 40 per cent of the budget expenditures, or \$2,085,278. The amount of gifts paid in was \$4,063,647.

The new International House at Chicago, representing an investment of more than \$3,000,000, and the gift of John D. Rockefeller, Jr., was completed and dedicated in October. Although located on the university campus, International House at Chicago is governed by an independent board of directors. It is the centre for the foreign students of the Chicago area.

A carillon of 72 bells was installed in the tower of the university chapel and dedicated on Thanksgiving Day. The carillon is also the gift of Mr. Rockefeller, and is a memorial to his mother, Laura Spelman Rockefeller.

The University of Chicago Press published 125 books during 1932, in addition to 16 scholarly journals and a large number of publications for such groups as the National Advisory Council on Radio in Education. The most important single publication was the three-volume study of the Edith Rockefeller McCormick New Testament manuscript, one volume of which was a facsimile reproduction. The Press undertook also distribution of the educational talking pictures. Accessions to the university libraries increased the number of bound volumes to 1,013,532, and the number of periodicals regularly received to 5322. President, Robert Maynard Hutchins, LL.D.

**CHICAGO ART INSTITUTE.** See **ART MUSEUMS.**

**CHICAGO CIVIC OPERA COMPANY.** See **MUSIC.**

**CHICAGO REGIONAL AND PLANNING COMMISSION.** See **CITY AND REGIONAL PLANNING.**

**CHICAGO SYMPHONY ORCHESTRA.** See **MUSIC.**

**CHICAGO WORLD FAIR.** See **CELEBRATIONS; ARCHITECTURE; CENTURY OF PROGRESS; INTERNATIONAL EXPOSITION.**

**CHICKENS AND CHICKEN DISEASES.** See **VETERINARY MEDICINE.**

**CHILD HEALTH.** See **FOOD AND NUTRITION.**

**CHILD LABOR.** The U. S. Bureau of the Census, in presenting statistics of children gainfully employed for the census year 1930, indicated that there were 667,118 child workers between the ages of 10 and 15 inclusive, or 1 in every 21 of the children of these ages in the country. The number of child workers between the ages of 10 and 13 years inclusive was 235,328, or 1 in every 42 children of these ages in the country. The number of child workers 14 and 15 years old was 431,790, or 1 in every 11 children of these two years in the country. Extending the range of children gainfully employed, it is ascertained that the number of children between the ages of 10 and 17 years inclusive was 2,142,973. This was a marked decrease for these age groups over the 1920 census. The decrease for boys was from 22.2 per cent to 14.9 per cent of all the males of these ages in the group and from 11.8 per cent to 7.7 per cent for the girls. Undoubtedly the decrease in the decade marked the continuance of the decline in the employment of children, a tendency already noted in 1920. In other words, public opinion is meeting with increasing success in its demand for

elimination of child labor. But it cannot be denied that the effects of the depression, through the elimination of jobs, also was an influence. Undoubtedly employers with positions available were increasingly favoring adults over children. The National Child Labor Committee, in commenting on conditions revealed by the 1930 census figures, pointed out that "... although the number of work permits issued has fallen off sharply in practically every part of the country, about as many children as ever—possibly more—are entering the occupations left unregulated by the Child Labor law, and, in fact, any occupation in which evasion or defiance of the law may be practiced by unscrupulous employers with a fair chance of impunity." The accompanying table indicates the distribution of children gainfully employed, by sex and age, for the country, comparing 1930 with 1920:

CHILDREN GAINFULLY OCCUPIED, BY SEX AND AGE, IN THE UNITED STATES: 1930 AND 1920

MALE				
Age	Total number	Gainfully occupied Number	Per cent	Per cent distribution of gainfully occupied
1930				
10 to 17 years	9,562,495	1,425,236	14.9	100.0
10 to 13 years ..	4,862,291	162,260	3.3	11.4
14 years ....	1,206,486	110,839	9.2	7.8
15 years ..	1,154,648	187,643	16.3	13.2
16 years .....	1,181,920	386,511	32.7	27.1
17 years ..	1,157,150	577,983	49.9	40.6
1920				
10 to 17 years	8,197,852	1,817,704	22.2	100.0
10 to 13 years ..	4,336,009	259,259	6.0	14.2
14 years ..	1,033,297	174,683	16.9	9.6
15 years .....	925,679	281,806	30.4	15.5
16 years .....	976,834	501,134	51.3	27.6
17 years .....	926,033	602,322	65.0	33.1
FEMALE				
Age	Total number	Gainfully occupied Number	Per cent	Per cent distribution of gainfully occupied
1930				
10 to 17 years	9,401,218	720,723	7.7	100.0
10 to 13 years ..	4,760,201	73,068	1.5	10.1
14 years .....	1,175,899	46,821	4.0	6.5
15 years .....	1,141,051	86,487	7.6	12.0
16 years .....	1,185,395	201,306	17.0	27.9
17 years .....	1,188,672	313,041	27.5	43.4
1920				
10 to 17 years	8,132,861	955,802	11.8	100.0
10 to 13 years ..	4,258,863	119,804	2.8	12.5
14 years ..	1,012,968	82,911	8.2	8.7
15 years .....	935,766	143,895	15.4	15.1
16 years .....	996,124	277,823	27.9	29.1
17 years .....	929,140	331,369	35.7	34.7

It is interesting to note the number of children between the ages of 10 and 15 gainfully employed by geographic divisions and particular States. In 1930, for males in the New England States, 2.4 per cent of all the children in the age group were gainfully employed; in the Middle Atlantic States, 2.0 per cent; in the East North Central States, 2.1 per cent; in the West North Central States, 4.1 per cent; in the South Atlantic States, 12.9 per cent; in the East South Central States, 18.2 per cent; in the West South Central States, 10.9 per cent; in the Mountain States, 4.0 per cent, and in the Pacific States, 2.2 per cent. The proportions of female children be-

tween the ages of 10 and 15 years gainfully employed in 1930 in the various geographic divisions were as follows: in the New England States, 2.0 per cent; in the Middle Atlantic States, 1.8 per cent; in the East North Central States, 0.6 per cent; in the West North Central States, 0.9 per cent; in the South Atlantic States, 5.9 per cent; in the East South Central States, 8.7 per cent; in the West South Central States, 4.6 per cent; in the Mountain States, 1.1 per cent, and in the Pacific States, 0.5 per cent. The States in which relatively high proportions of children 10 to 15 years old were gainfully employed were as follows: for males, South Carolina (23.0 per cent), North Carolina (15.1 per cent), Georgia (20.6 per cent), Florida (10.2 per cent), Tennessee (12.2 per cent), Alabama (22.6 per cent), Mississippi (30.7 per cent), Arkansas (17.1 per cent), Louisiana (13.5 per cent), Texas (10.1 per cent); for females, South Carolina (13.6 per cent), Alabama (12.3 per cent), Mississippi (18.8 per cent).

A distribution by occupations shows that for the age group 10 to 15 years inclusive, 70.4 per cent of all the children employed were engaged in agricultural activities, 10.2 per cent in manufacturing, 7.4 per cent in trade, 7.0 per cent in domestic and personal service, 2.5 per cent in clerical occupations, 1.3 per cent in transportation, 0.2 per cent in mining, and 1.0 per cent in other activities. A total of 68,266 boys and girls in the age group in question were working in factories and other manufacturing plants and shops. The distribution of this group by particular types of activities was as follows: 20,625 were laborers and semi-skilled operatives in textile plants, 8650 were in the clothing industries, 7380 were in the building trades, 4790 were in lumber and furniture mills and factories, 4324 were in food and allied industries, 3236 worked in iron and steel plants. If the number of children engaged in agriculture is eliminated, then we find that the proportion of children in the age group engaged in other activities is not to a large degree localized in the Southern States. Thus, while in South Carolina, 3.2 per cent of all the children in the age group were gainfully employed outside of agriculture and in Georgia 2.9 per cent, Maryland 2.7 per cent, Florida 2.5 per cent, Louisiana 2.1 per cent, and North Carolina 1.9 per cent, in the northern State of Rhode Island the proportion was 2.9 per cent and in Connecticut 2.8 per cent, New Jersey 2.2 per cent, Massachusetts 1.9 per cent, and Pennsylvania 1.8 per cent. For the age groups 16 and 17 years there is a decidedly different distribution by occupations. In agriculture but 34.2 per cent of all the boys and girls of these two years were gainfully employed; in manufacturing and mechanical industries the proportion was 26.9 per cent; in domestic and personal service it was 11.0 per cent; in clerical occupations it was 10.5 per cent; in trade it was 9.4 per cent; in transportation it was 4.5 per cent; in mining it was 1.2 per cent; and in other occupations it was 2.2 per cent. Of the 397,985 child workers of 16 and 17 engaged in manufacturing, 82,617 worked in textile mills and factories; 48,599 worked in the building trades; 36,550 worked in clothing industries; 35,016 worked in iron and steel plants; 22,164 worked in lumber and furniture mills and factories; 25,121 worked in food and allied industries; 14,453 worked in shoe factories; 9379 worked in the chemical industries;

8619 worked in clay, glass and stone industries.

The National Child Labor Committee in further comments on the status of the child in industry, as revealed by the 1930 census and the depression, said:

Even before the depression there was a marked decline all over the country in the number of worthwhile jobs offered juniors, and a decided tendency for children's work to be confined to routine, repetitive jobs, requiring little education and involving no skill or responsibility—blind-alley jobs, lacking in opportunities for advancement. Apprenticeship positions and the more worthwhile jobs went to older children with high school or trade school training. . . . With the competition of children in the labor market aggravating the unemployment situation, with a rapidly decreasing number of jobs open to children and such jobs as exist of a type that offers nothing for their future, and with delinquency running rampant among idlers and vocational misfits, the schools must face and accept the responsibility of holding in school boys and girls for whom there is no rightful place in industry, and providing for them an education fitted to their individual capacities, interests, and ambitions.

LEGISLATION. While only nine State legislatures were in session during the year progress was made in the raising of standards of children employed gainfully. Louisiana was responsible for the passage of three constructive child labor bills. One of these set up a sixth-grade requirement for children between the ages of 14 and 16 leaving school for work in the City of New Orleans, and also provided for temporary work permits for children with physical defects, and for the appointment of a safety engineer and a vocational counselor by the city. By the second law the children of New Orleans were required to attend school until the age of 16 regardless of school grade, unless they were over 14 and legally employed. By the third law cities were empowered to establish compulsory continuation schools for children of work permit age and having jobs. Massachusetts required contractors to report the names and addresses of all children engaged in tenement home work as well as the names and ages of all minor children in homes where such work was regularly going on. New Jersey prohibited the employment of minors between 16 and 18 years in occupations deemed by the State commissioner of labor to be a menace to their safety or health. As an indication of the nature of progressive legislation being regularly presented before the State legislatures, one may here note the character of important bills which failed of passage during the 1932 sessions. In Massachusetts and New York bills calling for the raising of the minimum age of children leaving school for work from 14 to 15 or 16 years failed. In the Kentucky, Louisiana, Massachusetts and Rhode Island legislatures there failed also bills to reduce the working hours of women and girls over 16. The New Jersey, New York, and Rhode Island legislatures refused to ratify the Federal Child Labor Amendment. There failed of passage in the Massachusetts, Louisiana, and Virginia legislatures measures awarding minors illegally employed, and injured while at work, double compensation. In South Carolina a bill prohibiting night work for women and minors under 18 in textile mills, which had been introduced in 1931, was withdrawn and there were also defeated in both houses of the legislature bills to set up a workmen's compensation system in the State.

Thirty representatives of State labor departments and national organizations, at a conference called by the Federal Children's Bureau, in

December, decided to declare war against the employment of children under 16, especially during periods of industrial depression. Members of the conference pledged themselves to work actively with the 41 State legislatures to be convened in 1933 for the following basic programme: An age minimum of 16 years for children; a proportionately shorter work day for young workers than for adults; and double compensation for injuries to illegally employed minors. The conference agreed that it was imperative that more uniform child labor laws and greater coöperation among State authorities be created to prevent the escape of sweated industries from one State to another. According to Courtenay Dinwiddie, general secretary of the National Child Labor Committee, sweat shop conditions in which children were being exploited were being reported in Connecticut, Massachusetts, Pennsylvania, and New Jersey. Children often illegally employed were working for as much as 51 hours a week at wages ranging from \$1 to \$3 a week.

WHITE HOUSE CONFERENCE REPORT ON CHILD LABOR. The White House Conference on Child Health and Protection, organized in 1930 to consider every aspect of questions relating to child health, published a report of its sub-committee on child labor in 1932. The report was divided into four parts: (1) Employment of children in non-agricultural occupations; (2) Employment of children in agriculture; (3) Employment of children in hazardous occupations; (4) Administrative problems with reference to laws affecting employment of minors. The United States Children's Bureau, in analyzing the report, pointed out that

a study of this report brings home to the reader a realization that child labor means different things, at different times in different places and that, although the United States has no child-labor problems of the kind that are common in China and India to day, or that characterized the early stages of development of the textile industry in New England, nevertheless, large numbers of children are still engaged in taxing, disagreeable and even dangerous occupations, or while still immature are assuming burdens of industrial life which exclude them from the activities of play and education essential if they are to reach maturity with physical vigor unimpaired and with the mental training and social equipment necessary for good citizenship.

In discussing employment in non-agricultural occupations the report indicated that while the number of children in industry was relatively small, nevertheless they were being employed by hundreds and thousands in a great variety of non-agricultural pursuits. Apparently these activities had these factors in common: they were unskilled, mechanical and monotonous, and offered the children little opportunity to acquire either experience or skill likely to be of aid to them as adult workers. While the majority of regularly employed children under 16 were to be found as a rule in the 14 and 15 year groups, particular kinds of work, such as employment in canneries, home work, and newspaper selling, engaged large numbers of very young children. Weekly wages for children under 16 in any kind of work almost invariably averaged under \$15 and generally under \$10. The recommendations of the committee stressed the importance of not merely legislative restrictions and safeguards but also utility of general economic, social, and educational devices. The committee called for serious attention on the part of the public to the problems of adult unemployment, farm eco-

nomics, and the establishment of a living wage, saying about the last that "an income earned by the chief wage earner of the family sufficient to maintain a decent standard of living is basic to a normal solution of the problem of child labor as it is to other problems of child welfare." The committee, impressed by the fact that children of limited mental ability leave school for employment as quickly as the law allows, advocated as a child labor measure the creation of an educational programme to provide for such minors general means of real development for them. As for legal regulation, the committee called for the establishment of the following standards: that no child under 16 should be permitted to leave school for work; that school attendance be required for children up to 16 years of age; that higher age minima should be set for occupations physically or morally hazardous; that no minor under 18 years should work more than 8 hours a day or 44 hours a week or at night; that all children under 18 should be required to obtain employment certificates testifying to their physical fitness. Further recommendations included the establishment of a minimum age of 16 years for newspaper selling, the prohibition of industrial home work, and the application of the provisions of the child labor laws to canneries, work outside of school hours, and work in theatrical exhibitions and moving pictures.

The section of the report relating to the employment of children in agriculture stressed the fact that here was to be found the most serious child labor problem in the country at the present time. On the basis of 1930 census figures 61 per cent of the total number of working children 10 to 16 years old were engaged in agriculture. Too, agriculture employed thousands of children as migratory workers and presented difficult problems of control, particularly as relating to school attendance. The recommendations of this section of the report called for the creation of educational opportunities for rural children equivalent to those afforded city children. It demanded also that the age and attendance standards for schooling should be the same for both groups, and that districts should be responsible for the schooling of migratory children. For children hired out for work under some form of family wage or contract system, the safeguards recommended included the minimum wage of 16 for agricultural work for school hours and of 14 outside of school hours. The proposals also called for the creation of a system of work permits for children in agriculture under 16 who were not working on a home farm, and recommended the regulation of sanitary conditions of labor camps for migratory workers under the State department.

The section on hazardous occupations, industrial accident, and workmen's compensation to minors drew a distinction between industrial accidents suffered by adult and minor workers. The report pointed out that while the adult worker might be expected to assume some risk, society was not in the position to tolerate any such reservation in the case of minor workers. The report stressed the fact that young workers were particularly liable to accident to a large extent growing out of their natural curiosity, irresponsibility, and carelessness, and that they were peculiarly susceptible to injuries from poisons and vitiated air. The recommendations stressed in this section of the report that the

State make some effort to revise their workmen's compensation codes on the basis of a careful and comprehensive study of the hazards of occupation in which minors are employed. Also, it is recommended that the employment of children under 16 in connection with machinery of any kind be prohibited, and that minors of 16 and 17 should be prohibited from operating dangerous machinery not guarded at the point of operation, as well as from the operation of elevators, and in such other occupations as have been proved by accident records to be hazardous. As regards provisions directly relating to minors injured in industrial accidents, the report called for the passage of legislation in which the employees' future earning capacity was to be considered as the basis for computing compensation to minors permanently disabled, and that minors injured while illegally employed be brought under the workmen's compensation law and be entitled to the award of extra compensation.

The section on the administration of laws affecting the employment of minors consisted in large part of a discussion and criticism of administrative procedure, and of methods relating particularly to the issuance of employment certificates, the proper enforcement of school attendance laws, and the inspection of establishments and imposition of penalties for violation. The report pointed out that the careful enforcement of laws relating to minors of school attendance age was at the heart of the whole problem. Also, inspection of places of employment played a significant part since it was the only method by which regulations applying to children at work could be enforced. This section of the report recommended the following administrative procedures: adequate legal provisions as to employment certificate issuance, including standards for evidence of age and proof of physical fitness; the enforcement of school attendance; provision of official personnel qualified by education and training, and adequately compensated and appointed under civil service laws; and supervision of State agencies in the development of effective administration of these activities.

NEW YORK. The New York law requires children of the ages 14 and 15 seeking work to possess employment certificates indicating the completion of certain grades of school work. Since 1915 children aged 16 and 17 years must also have a certificate testifying to their physical fitness and giving proof of age. Up to March, 1928, this requirement applied only to cities with a population of 5000 and over, but since that year it has been enforced throughout the State. A compilation made by the New York Department of Labor indicates an almost continuous decrease of the number of employment certificates issued to children aged 14 and 15 years in New York City from 1918 to 1930. In 1918 the number of such certificates issued was 50,710; in 1925 the number was 32,814; in 1929 the number was 35,934; while in 1930 the number was 27,319. For children aged 16 and under 17 the number of certificates issued in 1925 was 7376; in 1929 it was 18,841; and in 1930 it was 15,014. Outside of New York City employment the number of certificates issued to children aged 14 to 16 years in 1918 was 16,039; in 1925 it was 16,132; in 1929 it was 18,957; and in 1930 it was 16,250. Certificates issued outside of New York City to children aged 16 and under 17 in 1926 totaled 11,984; in 1929 the number was 10,751; in 1930

the number was 8845. In the depression of 1930 there was a sharp drop in the number of work certificates issued indicating in all probability a decline in child labor. Another index indicates the same general conclusion. Figures of school attendance seem to indicate a tendency to remain in school to a higher age than was formerly the case. This was particularly true of attendance in high school which is not compulsory. Thus, in New York State as a whole in 1918, 171,523 children were in high school attendance as compared with 379,912 in 1929 and 420,310 in 1930. The figures for New York City were 85,136 in 1918, 149,366 in 1929, and 159,832 in 1930. A third index pointed to the same conclusion. This was the total number of children found illegally employed. The total number of children in this category, 6896 in 1920, 5533 in 1921 and thereafter remained below 5000 until 1929 when it reached 5076. However, in 1930 it fell to 3804, a decrease of 25 per cent. The New York Department of Labor draws the following conclusions from these analyses: "Each of the three indexes of the trend of child labor, employment certificate, school attendance and inspection records, has indicated a decrease in child labor in depression years. Similar statistics for the next few years will be of especial interest in showing whether this represents a permanent decline in child labor or merely a temporary fluctuation due to scarcity of jobs."

**MIGRATORY CHILD WORKERS IN NEW JERSEY.** The New Jersey Commission to Investigate the Employment of Migratory Children published in January, 1932, a supplement to its report on migrant children giving information bearing on the loss of schooling. The commission came to the conclusion that the enactment of legislation to regulate the employment of, and to provide schooling for, migrant children was necessary and recommended that the commissioner of labor be given authority to enforce a housing code for the purpose of safeguarding the health of migrant families. The commission was of the opinion that New Jersey was under obligation to come to the assistance of migratory children working in agriculture who were suffering from inadequate schooling.

**INDUSTRIAL ACCIDENTS TO MINORS.** In 1927 *Illinois* made provision for the award of 50 per cent additional compensation to minors injured while illegally employed and fixed the age for minors at 18 years. In 1931, 432 minors under 18 years of age were reported as having suffered industrial accidents of which 412 involving loss of more than 6 working days were compensable. There were 64 accidents to children under 16 years of age. The *Wisconsin* law calls for the issuance of labor permits by the industrial commission for children under 17 years of age and declares as illegal the employment of such minors without permits. Exception is made in the case of certain employments prohibited because of their dangerous nature. Minors of permit age injured while employed without possession of a labor certificate are entitled to double indemnity in cases of industrial accident. A minor injured while employed in a prohibited occupation is entitled to triple indemnity. The law also stipulates that the increased liability cannot be insured and must, therefore, be paid by an employer instead of by an insurance carrier. In 1921, 97 extra compensable cases occurred of which 86 were due to employment without a per-

mit and 10 to employment in prohibited industries. In 1930 the number had dropped to 40 of which 31 were due to employment without permit and 9 to employment in prohibited industries; whereas in 1931, the number had dropped to 17 of which 12 were due to employment without permit and 5 to employment in prohibited industries.

**THE PERENNIAL NEWSBOY.** Mr. Harry M. Shulman, conducting a survey for the New York Child Labor Committee, estimated that over 1000 newsboys were engaged in night selling of newspapers in New York City. He pointed out that of 374 children arraigned for night selling by the Bureau of Attendance of the school system, 61 were under 12 years of age and 165 were 12 or 13 years old. Mr. Shulman's investigations indicated that illegal evening sellers were markedly more retarded in school, more irregular in attendance and much more frequently arraigned as truants than were unselected school children. The *American Child*, the bulletin of the National Child Labor Committee, declared that New York conditions were duplicated in smaller cities. However, newspapers themselves have been seeking more uniform policies and higher standards. The International Circulation Managers' Association recently went on record as advocating that "no boy will be permitted to engage in newspaper work when investigation discloses that such boy's participation is detrimental to his own best interests." Some circulation managers have sought to cope with the problem by inaugurating specific schemes. Thus, the manager of the *Louisville Courier-Journal* has devised a system of cooperation with the schools through an award plan which places a premium upon school achievement. The manager of the *Colorado Springs Gazette-Times* declares: "... we have been able to bear down forcibly on the boy who is getting negligent about school by explaining that only successful students would be kept on our payroll." The National Child Labor Committee reported that policies covering minimum ages of carriers and street sales boys, night street sales methods, time limits on route deliveries, and size of paper bundles carried by children, still remained unsatisfactory. While some papers limited the carrying time the number of papers per boy and put older boys on the morning routes, there were still to be found occurring only too frequently cases of boys rising at three or four in the morning to deliver staggering bundles of 100 or more papers. It was ascertained that in 53 cities, in some seventy observations made at night, a total of 1740 news boys apparently under the age of 14 were roaming business streets from eight in the evening to two in the morning. Of 100 news sales boys taken at random in one city, 44 were 12 years or under.

**FOREIGN NOTES.** The International Labor Conference, at its 1932 convention closing on April 30, adopted a draft convention, by a vote of 89 to 1, fixing the general minimum age of admission of children in non-industrial occupations to 14 years or at the school leaving age, whichever was higher. The convention also authorized light work for children over 12 years subject to specific safeguards and fixing a higher age limit than 14 years for dangerous and unhealthy trades, and for street occupations. The exception was made in the case of India where lower limits were allowed, subject, however, to revision after the passage of five years.

Because of the alarming increase of child labor in Berlin, *Germany*, the school authorities of the city took under advisement plans to check the work of children of school age. The official report of the Berlin schools for the last school year reported an average of 8800 school children gainfully occupied in order to aid in the support of their families. The past histories of these children indicated that 400 had been employed even before entering on their school careers. About 6000 of the working school children were employed for 3 hours daily, 1700 worked from 3 to 4 hours, 750 for 4 to 6 hours and about 200 children for more than 6 hours. In *France*, according to figures published by the French Ministry of Labor in 1929 a total of 84,138 minors under 18 years of age suffered industrial injuries, of which 110 resulted in fatalities and 652 in permanent disabilities.

On August 27, 1931, in *Mexico* the Mexican Congress enacted the first comprehensive federal labor law for the country applying to both manual and mental workers. The minimum age for employment was fixed at 12 years; children under 16 years were not to be employed for more than 6 hours a day; while the working day for all older persons was to be 8 hours. Children under 16 and women were to be prohibited from working between the hours of 8 p.m. and 6 a.m. as well as being engaged in a long list of designated unhealthful or dangerous occupations. The code made it compulsory for employers to furnish schools in localities more than two miles from a town wherever there were more than 20 children of school age.

In *Sweden* the child labor law of June, 1931, incorporated child labor provisions in harmony with the standards established by the international draft convention. This fixed 14 years as the minimum age for both sexes for employment in factories, work shops, construction, transportation and in mines and quarries. For work underground the minimum age was set at 16 years. For all other types of activity the minimum age was raised from 12 to 13 years. In November, 1930, *Turkey* adopted its first public health law with specific provisions prohibiting the employment of children less than 12 years old, restricting the hours of work for persons under 16 to 8 hours a day, and declaring illegal night work for children less than 16 years of age.

**CHILD PSYCHOLOGY.** See **PSYCHOLOGY**.

**CHILDREN'S BUREAU, U. S.** See **CHILD WELFARE; WELFARE WORK**.

**CHILD WELFARE.** The friends of the child welfare movement in the United States owe a great debt to the Federal Children's Bureau. The year 1932 marked the twentieth anniversary of the creation of this Bureau by Congress. The act, which was signed by President Taft on Apr. 9, 1912, put the United States into the forefront among civilized nations of the world as having created a central agency designed to promote the welfare of children primarily and of their mothers as well. Since 1921 similar organizations have been established in 28 countries. The Children's Bureau, being a federal agency, has always concerned itself with the collection of facts throwing light on the welfare of children, particularly problems of infant hygiene, mental hygiene, juvenile delinquency, family dependency, infancy and maternity care and the like. When the Federal Maternity and Infancy Act was passed in 1921, establishing a

fund for the promotion of the welfare of mothers and babies, the Children's Bureau was made the focal point about which a comprehensive programme of activities revolved. Largely as a result of the Bureau's stimulus, 124,000 child health conferences were held, 3,000,000 home visits were made by nurses, and hundreds of thousands of leaflets were disseminated to reach mothers in special classes and in their homes. Undoubtedly the marked decline in infant mortality in the country—from 100 per 1000 births in 1915 to 62 per 1000 births in 1931—was due to the enlightened and comprehensive character of this programme. Unfortunately the act was permitted to lapse in 1929. As a result of the depression the position of the Bureau has become perhaps even more significant in view of the fact that it is to-day a national clearing house for the collection of information and the dissemination of advice concerning the problems of children in families where chief sources of support have been wiped out. The centering of the Bureau's attention on such problems as malnutrition among dependent children, the startling appearance of a roving boy population, the incidence of juvenile delinquency and the like, has helped the American public to appreciate that there are victims of the depression whose problems cannot be lost sight of lest we are prepared to permit the accumulated heritage of these years to trouble the country for a long time to come. For these reasons friends of the Bureau have marked with great misgiving the economy programme of Congress which apparently has made the Children's Bureau one of the leading sufferers. The original estimates of the Senate appropriations committee recommended a reduction of \$100,000 in the Bureau's appropriation or a cut of 25 per cent; fortunately the Senate committee was prevailed on to halve its cut so that while the Bureau's appropriation was pared down by \$50,000, its effectiveness was not entirely destroyed. Nevertheless, it is to be regretted that in the interests of economy the Bureau, with the conclusion of the fiscal year 1931-32, was compelled to suspend its very useful *Child Welfare News Summary*, thus depriving newspapers, and interested social welfare agencies, of an important index to the progress and problems in the child welfare field.

One of the most significant activities of the Children's Bureau has been its devotion to a child welfare code of standards for the country. Miss Grace Abbott, its chief, has been outspoken in her insistence that the nation has a deep obligation to carry out as regards the welfare of children in order to insure the well-being of future generations. Thus, in the programme outlined by her in the May issue of *Parents' Magazine* Miss Abbott lays out the following 10-year programme for the children of America: (1) Reduction of the infant mortality rate from 62 per 1000 births to 34 per 1000 births. (2) A reduction of the 6,000,000 improperly nourished children by at least 3,000,000. (3) An increase of the number of counties having trained probation officers and adequate children's court mechanism to 2000. (4) Raising the minimum age of entry into work to 16 years. (5) The establishment of economic security for all families in order to eliminate definitely dependence upon child labor for the support of families. On this point Miss Abbott says:



What will be done during the next ten years to insure regular employment or support during unemployment is a child welfare as well as an industrial question. Many American children have suffered great losses in what one hopes may be our last great war with destitution. One of the declarations of what has been called the Children's Charter is that we should insure "every child the right to grow up in a family with an adequate standard of living and the security of a stable income as the surest safeguard against social handicaps." Since this ambition was voiced at the White House Conference, we have moved backward rather than forward in the economic independence of the working man. The minimum wage rates which are fixed by the employer, negotiated by employer and employee or determined by government rate fixing agencies, will be important factors in determining the welfare of children. Prevention of accidents and reduction of sickness among parents, also reduce the number of dependent children.

Miss Abbott also stressed the need for maintaining children in their own homes regardless of economic conditions and voiced the hope that, if separations from the home were necessary, adequate foster homes could be found.

**WANDERING BOYS.** One of the most startling effects of the depression in the United States was the springing up overnight of a vast body of wandering boys who, apparently compelled to leave their homes to shift for themselves, were taking to the highways of the country to support themselves precariously and on whatever fortune brought them. Estimates made of this army of wandering boys during the year ranged from 200,000 to 500,000. Whatever the number, there was no doubt that the Children's Bureau statement that the problem "transcends anything the country has yet known" was a just analysis and, therefore, reason for serious national concern. The Children's Bureau, enlisting the services of Dr. A. M. McMillen, of the Social Service Department of the University of Chicago, in the preliminary investigation of the situation, was able to disclose a group of highly significant facts. These pointed out that boys accustomed to the hitherto decent standards of living were going, for days at a time, without taking off their clothes to sleep, without regular meals, without proper medical attention to prevent the setting in of serious acute ailments, without regular shelter and other comforts of life. Jobs were hard to find, transportation from one community to another was practically limited to stolen rides in empty freight cars, and communities, instead of making a serious effort to cope with the problems of these boys, apparently closed their eyes to their needs. The report of the Children's Bureau stressed the fact that the boys were neither defectives nor delinquents. It said:

The traditional single transient of earlier years was the seasonal laborer, the "knight of the road," commonly called the hobo, and the occasional runaway boy or adventurous youth. To-day young men and boys who would normally be at work or in school predominate. Social workers, police, and railroad men, who are in constant touch with these boys, assert their belief that the overwhelming majority of them are young men and boys who would normally be in school or at work, that they are "on the road" because there is nothing else to do—sometimes because sheer pride will not permit them to sit idle at home—sometimes because support for the whole family came from a relief agency, and was wholly inadequate properly to feed the younger children; that they are, on the whole, not of the habitual hobo or criminal types.

The tentative programme suggested by the Children's Bureau proposed that social agencies make the effort to induce boys evidencing signs of restlessness to stay in their own homes. On this score the Bureau insisted that the influence of agencies "must be backed up by concerted action to make conditions more tolerable for the

boy at home." For boys on the road, finding themselves stranded in an alien town or city, the Bureau suggested the establishment of programmes within local communities to protect the boys from as many of the physical and moral hazards of the road as possible. This programme should, as a minimum, include shelter and food of acceptable standards; registration and interviewing; and a training programme to provide for those who cannot be sent home and who should not be passed on. Exact information obtained in New York City indicated how serious the problem was. In a study made by the Emergency Unemployment Relief Committee, whose findings were released in November, it was indicated that approximately 10 per cent of the homeless population of New York was made up of the ages of 16 and 21. The estimated total of this group was put at 5000 boys.

**FAMILY ALLOWANCES.** On Jan. 21, 1932, the French Senate adopted a bill amending the French labor code in order to make family allowances compulsory for all employers. In view of the fact that the Chamber of Deputies had already acted similarly, it was left to the Minister of Labor to put the act into effect gradually by decrees. According to the measure, every employer having on his payroll workers or employees of whatever age or sex in industry, commerce or the liberal professions, was to join a compensation fund made up of employers for the purpose of equalizing among them the cost of family allowances. Family allowances were to be paid for every child residing in France who was dependent on the worker and not over the compulsory school age. In the event of school attendance up to the age of 16, allowances also were to be paid. The minimum allowance for each child was to be determined by an order of the Minister of Labor for each department either for all trades together or for each trade group. In cases of industrial accidents, family allowances were to be maintained in full during the period of temporary disability; in cases of permanent disability or death, allowances were to be paid to such children as, by reason of their age, had a right to them.

The Quebec Provincial Social Insurance Commission, in a report issued in 1932, gave serious attention to the suggestion that workmen should receive a supplement to their wages in the form of a state grant for each dependent child. The commission set forth the rationale of family allowances in the following words:

We may ask ourselves then what there is of equity and social justice in the salary offered to workmen among us who have to support from 4 to 10 children. Families of that size—and are they not the most worthy of admiration?—must, in order to balance their budget, agree to painful restrictions, even in the case of necessities. The result will be that the large family, needing a larger house, better ventilated, with more sun, will have to remain satisfied with lodgings which are more cramped and less hygienic, because of the necessity of cutting down those expenses which can be curtailed. The same result will follow when it is a question of food and clothing. It will be necessary to reduce to their lowest sum all expenses in this department of the family economy.

The commission pointed out that the friends of family allowances built their case on the fact that the only way of restoring equilibrium in the budget of a large family was by the granting of a progressive allowance for each child in excess of the number of children in the average family in the Province. Such proposals usually took the form of the creation of a collective fund



for the benefit of large families somewhat similar to the accident fund in the case of workmen's compensation. While the commission itself did not endorse the idea of the establishment of family allowances in Quebec, because of existing economic conditions, there was no question that its report was destined to serve as a rallying point for all friends of the movement in the Province.

**MOTHERS' AID.** A study of the Children's Bureau of the status of mothers' aid programmes initiated and administered by State and local agencies was being conducted during the year. It was ascertained that since 1911 all but 3 States had passed legislation providing for aid to mothers with dependent children. A preliminary analysis of the material showed a very uneven development in the local administration of mothers' aid laws in States having no State agencies. In all but 2 of the 16 States in which counties reported directly to the Bureau, aid to mothers was not being granted in some of the counties. In fact, in 7 States which had adopted mothers' aid laws before 1918, from one-fifth to more than four-fifths of the counties reporting had failed to provide funds. It was noted, too, that some counties failed to distinguish between mothers' aid and poor relief, in fact, some even going so far as to make payments in kind. A preliminary estimate of the average monthly grant per family for all counties in each of 16 States indicated that the average amount given varied from a little more than \$8 a month per family to a little more than \$38 a month per family. The depression apparently was having its effects even in this branch of public welfare activity. Statements made in 26 out of the 101 reporting counties in the States of Arkansas, Oklahoma, Texas, and West Virginia declared that aid to mothers had been discontinued during the year or that the size of family grants had been reduced because of lack of funds.

The 1932 session of the Virginia legislature for the first time appropriated funds for State participation in the administration of mothers' aid. Despite the fact that since 1922 there has been on the State statute books a law permitting the State to cooperate with cities and counties to the extent of one-third of the cost of preserving homes in which the father has died, has become mentally incompetent, is imprisoned, has deserted, is divorced or is physically incapacitated to earn a living, such cooperation had not been given. The fact is only one city and two rural counties in the State had been granting mothers' aid. By an appropriation of \$25,000 in 1932 it was agreed by child welfare workers that such an act would stimulate similar activity on the part of local units.

In 1921 approximately 121,000 children were receiving aid in the 40 States having mothers' aid laws on their statute books at that time. In 1931, on the basis of a compilation made by the Federal Children's Bureau, it was estimated that approximately 250,000 children were receiving this form of assistance in their own homes in the 44 States and the District of Columbia having such laws as of June 30, 1931. The Children's Bureau points out that this increase of more than 100 per cent was not due to the addition of the 5 jurisdictions, namely, Kentucky, Mississippi, North Carolina, Rhode Island, and the District of Columbia, which passed mothers' aid acts after 1922. In large measure the great

growth of this form of public relief was caused by the following facts: additions to the number of counties granting aid in the States where the legislation antedated 1922; increased appropriations making it possible to reduce or wipe out waiting lists; better administrative policies; growth in population; and movement of population to larger urban areas where mothers' aid was being granted by local welfare agencies. The number of families aided per 10,000 population for the 44 States and the District of Columbia was 10 families and 28 children, the average number of children per family aided being 2.7. The ratio varied from 1.5 families in the majority of the counties in North Carolina to 24 in Wisconsin. In the year 1931 throughout the country the total amount reported as paid to families due to mothers' aid legislation was \$35,000,000. This sum represented an average annual per capita expenditure for the population in the area granting mothers' aid of 40 cents. The average monthly grant per family for the United States as a whole was \$32.80; but in the individual States it varied from \$6.83 in Arkansas to \$69.31 in Massachusetts. The average grant per family paid in the large cities was \$45.82 a month. From two-thirds of the families information was obtained as to the reasons for receiving aid. In 82 per cent, the father was dead; in 5 per cent, he had deserted the family; in 2 per cent, the parents were divorced; in 3 per cent, the father was in prison; in 4 per cent, he was physically disabled; in 3 per cent, he was mentally disabled. It is interesting to note that in those 10 States and the District of Columbia in which aid was granted not merely to widows alone but to all needy mothers, the percentage of aid for children whose mothers were widows varied from 54 in Washington to 94 in New Hampshire.

**MATERNITY AND CHILD HYGIENE.** While the death rate from puerperal causes as based upon the number of deaths among 100,000 women of child bearing age has shown a steady decline in the 10 States constituting the original birth registration area (from 63 in 1915 to 47 in 1929), the birth rate has also been steadily declining thus indicating that the frequency with which women have been exposed to the dangers of child birth has diminished. The Metropolitan Life Insurance Company Statistical Bureau, therefore, points out that a better indication of the true condition would be found in the ratio of puerperal deaths per 1000 live births. On the basis of such a ratio for 10 States in the original registration area, the Metropolitan Life Insurance Company finds a trend line which is practically horizontal, except for the influenza years of 1918 and 1920. Despite the continuance of the depression the mortality rate for 1931 for the children in the families of wage earners insured by the industrial department of the Metropolitan Life Insurance Company was the lowest ever registered by this agency. For the age group 1 to 14 years, the rate was 2.65 per 1000 or 57 per cent below that for the years 1911 to 1915 and 2 per cent below the prevailing rate for 1930. The greatest decline was found in the rate for the age group 1 to 4 years. The Metropolitan Life Insurance Company indicated that this low mortality was due in part to the decline in deaths from such infectious diseases as diphtheria, measles, scarlet fever, and whooping cough. The tuberculosis rate for children between the ages

of 1 and 14 also reached the new low point in 1931 and the rates from diarrhea and enteritis were the lowest since 1911.

**JUVENILE DELINQUENCY.** These columns have before touched on the activities of the Children's Bureau as regards the compilation of statistics relating to the activities of juvenile delinquency agencies in the United States. The fourth annual report made public by the Bureau covering the record of the year 1930 showed a slightly higher juvenile delinquency rate when comparison was made with the three-year period 1927-29. Ninety-two courts sent in reports for the year 1930 as compared with 96 in 1929, 65 in 1928, and 43 in 1927. The delinquency rate as used by the Bureau is the number of cases of delinquency reported per 1000 boys and girls of juvenile court age by the area surveyed by the court; in 1930 this rate was approximately 1 child out of every 100 children. For 88 of the 92 juvenile courts a total of 53,757 juvenile delinquency cases was reported in 1930. Stealing accounted for 44 per cent of the boys' cases while acts of carelessness or mischief accounted for 27 per cent; whereas, being ungovernable, sex offenses, running away and truancy were the charges which brought most of the girls into the courts. The striking difference between boys' and girls' cases were shown in figures relating to home conditions. In two-thirds of the boys' cases as contrasted with less than one-half of the girls' cases for which information was reported, children were living with both their own parents when referred to the court. In slightly more than one-fifth of the boys' cases but in nearly one-third of the girls' cases one or both parents were dead. The conclusion drawn by the Bureau was as follows: "The lack of normal family life may play a more significant part in the delinquency of girls than of boys. It is generally conceded that the difficulties which bring girls into court are usually more serious in character and probably more nearly related to home conditions than the difficulties of boys."

The Bureau's bulletin, released in December, 1932, *Facts About Juvenile Delinquency, Its Prevention and Treatment*, which summed up the situation over the period 1927-30, insisted that there was no single cause of delinquency and that the foundations of delinquent behavior often were laid in early childhood. The general position of the Bureau may be understood from the following summary remarks in the bulletin:

The problem of delinquency is not a superficial blemish which can be removed with ease. It is an indication of weakness and maladjustment in the whole social organism. We can not hope that it will be eliminated in this generation or the next. Conditions of modern living may even tend to increase it. But this generation may make important contributions to its solution by continued scientific research in problems and methods of treatment, by education of the general public in the nature, causes, and extent of delinquency, and by the mobilization and practical utilization of those resources which every community can and should possess not only for the treatment of the delinquent child but for assistance to parents, teachers, and child-welfare organizations in the wholesome training and education of children to the end that much unnecessary delinquency may be prevented.

On June 11 President Hoover approved a bill authorizing the transfer of cases of juvenile delinquents from the Federal system of criminal justice to juvenile courts in their own communities providing these juvenile courts were willing to accept them. This step grew directly out of the recommendation made by the Na-

tional Commission on Law Observance and Enforcement (Wickersham Commission), whose report was commented on in these columns last year. The act authorized the United States attorney of the district, in which any person under 21 years of age had been arrested for a Federal offense, to forego prosecution in a Federal court and to surrender him to State jurisdiction under the following conditions: First, if it appears that the offender is a delinquent under the laws of any State that can or will assume jurisdiction over him and will take him into custody and deal with him according to its laws. Second, if such surrender will be to the best interest of the United States and of the juvenile offender. Third, the juvenile offender must signify his willingness to be returned or his return must be demanded by the executive authority of the State. In March, probably anticipating such legislation, the Children's Bureau added to its staff Judge Carl Britt Hyatt, who was to spend his time in developing plans for Federal and State cooperation in dealing with juveniles who violate Federal laws. The object of the Department of Justice and the Children's Bureau, cooperating on this programme, is ultimately to have each State assume responsibility in dealing with its own juvenile offenders against Federal laws.

Statistics presented to the New York legislature by the State commissioner of corrections showed that 1 out of every 4 persons over the age of 16 arrested in New York State for 1930 was under 21 years. The number of arrests of persons between 16 and 18 was double the number for the 19 and 20 age groups together. The age group between 16 and 18 years was involved largely in the commission of such serious crimes as automobile theft, burglary, and robbery. About one-third of the persons arrested for homicide were under the age of 35.

The criminal statistics for *England and Wales* for 1930, issued by the Home Office during the year, showed a considerable increase in crime among young persons. Two-thirds of all the persons found guilty of crime were below 30 years and two-fifths of the total were below 21 years. The report points out that the youthful group among the criminals has been regularly increasing despite the fact that the English and Welsh population has been growing older. In the age group 14 to 16 years the rate of delinquency was almost 3 times as high as it should have been to the proportion of the percentage of this group in the whole population; in the age group 16 to 21 years the proportion was between 2 and 3 times as high. Juvenile delinquency was particularly marked in the industrial areas of north of England and of Wales. Undoubtedly the industrial depression, which has continued particularly in the two mentioned areas, accounts for a great increase in the less serious forms of crimes against property.

**MENTALLY SUB-NORMAL CHILDREN.** A study made by the Children's Bureau summarizing the employment histories of mentally deficient boys and girls pointed out that such handicapped young persons were not debarred from becoming self-supporting members of the community despite their inability to continue with public education programmes. The study included seven cities and covered 949 boys and girls who had been pupils in so-called ungraded classes. At the time of the inquiry, from 3 to 7 years after the children had left school, it was divulged that

71 per cent of the boys and 43 per cent of the girls were gainfully employed; only 3 per cent were in institutions either for defectives or delinquents. Some of the results developed by this study were: about one-half of the boys and nearly two-fifths of the girls reporting age on going to work commenced their employment history before they were 16. Most of the boys and girls covered by the study held one position for a long time; in fact, almost three-fourths of the boys and girls worked for one employer at least a year. The girls and boys, for the most part, found employment in unskilled and semi-skilled occupations requiring little, if any, industrial training. Only a few boys had been successful in learning a skilled trade. The boys who were not in manufacturing and mechanical industries usually found occupations as truck drivers or teamsters, helpers to drivers, farm laborers, general helpers in stores or markets and privates in the army or seamen in the navy. The girls not working in factories were in personal and domestic service as a rule. The wages of the boys and girls were not unlike those paid for unskilled and semi-skilled occupations. The median cash wage for boys in their last jobs (the figures being for mostly 1923 or 1924) ranged from \$19 a week in Cincinnati to \$27 a week in Detroit where many were employed in the metal and automobile industries. The girls' median cash wage ranged from \$12.50 a week in Cincinnati to \$16.50 in Californian cities. The study did not show any relation between intelligence ratings of the boys and girls and the steadiness with which they had worked or the number of times they had been discharged. The report stressed two principal needs as having been revealed by the study, viz.: "the need of further development of special training for mentally deficient children" and "the need for the development of a system of placement and supervision of pupils from special and ungraded classes."

**BIRTH CONTROL.** The frequency with which the subject of birth control was discussed in the press, by social work conferences and by public authorities during the year makes particularly interesting an article written by Messrs. R. E. Riegel and L. Eager in the *Current History Magazine* of August, 1932. The birth control movement in the United States dates back to the 1830's when volumes by Robert D. Owen and Charles Knowlton were published. It is true that general interest lapsed for almost thirty years, though literature agitating the adoption of the idea continued to circulate. During the 1860's, 1870's and early 1880's there was a revival of interest, once more to be followed by a recession which lasted until the second decade of the twentieth century. To a very large extent growing out of the agitation headed by Anthony Comstock in the 1870's, though it is true that public opinion to a considerable degree supported Comstock's attitude, a long series of State and federal laws appeared to ban the dissemination of birth control information. During the last twenty years the advocates of birth control have once again renewed the fight, this time receiving great assistance from social and religious groups. The modern movement definitely dates from the appearance of Margaret Sanger on the scene in 1912. Having come into first hand contact with the problem of excessive child birth among the poor as a visiting nurse on the East Side of New York, Mrs. Sanger

made a trip to France and in 1914 returned to the United States to issue the *Woman Rebel* and to agitate for legislative acceptance of the establishment of clinics and the dissemination of information. In recent years the movement has received great support from the pronouncements of religious bodies. The decennial Lambeth Conference of Anglican Bishops, meeting in London in 1930, voted by 193 to 97 to lift the church ban against birth control. In 1931 a committee of the Federal Council of the Churches of Christ in America, an organization representing over 22,000,000 Protestants in twenty-seven denominations, also approved birth control. Perhaps the first religious group in America to take the step was the social justice committee of the Central Conference of American Rabbis, which in 1929 went on record as favoring the lifting of the ban against the dissemination of literature, the opening of clinics and the right of doctors to prescribe contraceptive methods. The birth control controversy was once more before the public as an important social question as a result of the encyclical on Marriage issued by Pope Pius XI in January, 1931, in which the Roman Catholic view of contraception as a mortal sin was again set forth.

The growth of the birth control movement actually dates from 1878 when the first birth control clinic was established in Amsterdam, Holland. In America between 1923 and 1929 alone 31 birth control clinics and birth control centres were founded, many connected with hospitals throughout the country. Birth control groups have been bringing, in recent years, pressure to bear on legislative bodies in an effort to amend existing laws. An organization known as the National Committee on Federal Legislation for Birth Control, with Mrs. Sanger as chairman, was responsible for the introduction of the so-called limited or doctor's bill—which authorized doctors, nurses and midwives to give instruction—in the United States Senate in 1930. Hearings on this bill took place in February, 1931, but the measure died in committee without being presented to the chamber. Since the beginning of 1932 Mrs. Sanger's organization has interviewed 206 members of both houses. A total of 171 Representatives were interviewed of whom 92 reported themselves as favorable, 58 were non-committal and 21 indicated their opposition. A total of 35 Senators were seen of whom 22 were favorable, 7 non-committal and 6 in opposition.

Interest on birth control has become focused particularly in the last two years when vital statisticians have definitely indicated the possibility of declining population in western, southern, and eastern Europe and in the United States before the end of the twentieth century. This is due definitely to a steady decline in the birth rate. Thus, the birth rate in England and Wales for the March quarter 1932 was only 15.3 for 1000 of the population, the lowest ever recorded for the period of the year. In 1870 the rate was 36.3. In London the birth rate for the quarter was 14.0; in the 117 great cities of England the rate was 15.6. The situation was not dissimilar in other large metropolitan areas. In Berlin the rate was 8.8; in Dresden it was 8.9; in Leipzig it was 10.8; in Munich it was 11.0; in Hamburg it was 11.1; in Oslo it was 8.9; in Paris it was 14.5; in New York it was 15.9; in Chicago it was 14.3. According to the Paris correspondent

of the *Daily Mail* of London, as reported in the *Literary Digest* of July 9, 1932, the decrease of births was causing grave concern in France. This correspondent wrote: "It has become so serious that, whereas in 1930 the number of youths called to the colors was 258,000, the contingent for 1935 will, it is estimated, be only 136,000." It was also pointed out that in 1835 the average French family raised 4 children as compared with only 3 in 1896 and 2.2 to-day. In 1931 the surplus of births over deaths in Germany was 305,525 against 416,600 in 1930. In Berlin deaths exceeded births by 10,718. In Italy the birth rate dropped from 27 in 1927 to 25 in 1931. In 1884 the rate was 39. In the United States the rate dropped from 24.3 in 1921 to 18.9 in 1930. The *Daily Mail* writer insists that the main cause of the birth decline is the widespread adoption of birth control. According to him "the time is not far distant when the population of Great Britain will become stationary. Professor Bowley some years ago estimated that it would attain a figure of 48,000,000 twenty years hence, after which it would rise no more. There is now general agreement that the stationary point may be reached in the immediate future."

The question of birth control again came to the fore as a result of the discussions of the Third International Congress of Eugenics held in New York in September. Prof. Henry Fairfield Osborn, while he insisted that eugenics can be the solvent of all our ills, declared that birth control as it is practiced and advocated to-day is a two-edged sword, eliminating alike the fittest and the unfittest. Said Dr. Osborn: "Whatever its benefits in limiting the unfittest, birth control is always in danger still more of limiting the fittest, and thus becoming positively dysgenic or against the interests of the race as a whole in which it is practiced." Dr. Osborn thought that the present propaganda and purpose of the birth control movement were "largely negative and death dealing rather than positive and birth encouraging." Another significant contribution to the discussions of the Congress was the position taken by Prof. H. J. Muller, of the University of Texas, who insisted that the achievement of the eugenicists' ultimate goal was impossible under the capitalistic system of economics. Because of the heavy burden of the cradle, economic considerations rather than genetic worth, according to Professor Muller, must in the main govern human reproduction so far as it is voluntary at all, "and eugenics must remain an idle dream." Professor Muller declared that not subsidies were needed in order to allow for the propagation of the biologically and mentally fit but a society so organized as to assure every one economic plenty.

The question of birth control for the first time seriously assumed the proportions of a public matter when Gov. James R. Beverley, of Puerto Rico, in his first annual report to Secretary of War Hurley, openly advocated birth control as a definite specific for the island's great economic and public health problems. Governor Beverley pointed out a net increase of 20.4 per 1000 in Puerto Rico's population during 1931-32, bringing the total to 1,599,142 or 465.5 to the square mile. Governor Beverley's report declared: "Conditions demonstrate that this population is too large for an area which is and must always remain largely agricultural. Organization of agriculture, encouragement of industries, and voca-

tional training can all help to alleviate the situation, but they will never be sufficient to raise the average standard of living of the people to a satisfactory point with the present density of population and in the present state of technical and agricultural development." The Governor urged, as possible remedies for the acute situation, new industries, heavy emigration, and a decrease in the birth rate.

WHITE HOUSE CONFERENCE OF 1930. During the year there began to appear from the press (published by the Century Company) the extraordinary record of the White House Conference on Child Health and Protection of 1930. When the series is fully published undoubtedly this will be the most complete library pertaining to the problems of American childhood ever gathered together in a single compass. Already published and announced for forthcoming publication are the following:

*In education and training: Administration of the School Health Programme* (which evolves an effective programme of health service and education for schools and gives direction for its administration); *Child Labor* (a comprehensive study of the present day problem, with concrete and practical recommendations for improving conditions); *Children's Reading* (a study of reading habits and the problems of promoting good reading among American children); *Home and School Cooperation* (which makes clear the need of coöperation and the means of bringing it about); *The Home and the Child* (home management viewed in its relation to the health and welfare of the child and his family); *Nursery Education* (a comprehensive survey, with recommendations for improving the usefulness of nursery schools, kindergartens, and day nurseries); *Parent Education: Types, Content, Method* (a complete view of the history, purpose, and present status of the parent education movement); *Safety Education in Schools* (practical suggestions on a vitally important problem); *The School Health Program* (which deals with all phases of the obligation of the school to help safeguard the health of the child); *Social Hygiene in Schools* (which discusses social hygiene and the sex education and training of children); *Special Education: The Handicapped and the Gifted* (a thorough study of what is being done and what should be done in the field of education for exceptional children); *Vocational Guidance* (an authoritative statement of the present status of vocational guidance in the United States and a discussion of its problems and needs).

*In medical service: Body Mechanics: Education and Practice* (a study of the relation of body mechanics and posture to health); *Growth and Development of the Child: Part III Nutrition* (a consideration and evaluation of all the available scientific data bearing upon nutrition); *Health Protection for the Pre-school Child* (which shows what preventive medical and dental services are doing for children under six, with constructive suggestions); *Nutrition Service in the Field and Child Health Centers: A Survey* (a study of nutrition work of field agencies and a survey of child health centres; two separate studies published in one volume); *Obstetric Education* (a comprehensive view of obstetric education in this country); *Pediatrics: Education and Practice* (a critical examination of pediatric education in this country); *Psy-*

*chology and Psychiatry in Pediatrics: The Problem* (a discussion of the relation of psychology and psychiatry to the work of the pediatrician and family doctor).

*In public health: Communicable Disease Control* (methods and practices of controlling communicable diseases among children); *Public Health Organization* (a comprehensive study of the administration of public health services).

*For the handicapped: The Delinquent Child* (which offers a new point of view toward the problems of juvenile delinquency based upon authoritative data); *Organization for the Care of Handicapped Children: National, State, and Local* (practical suggestions for improving official and private services on behalf of handicapped and dependent children).

*Other publications: Growth and Development of the Child—Part IV—Appraisalment of the Child* (a study of the mental and physical factors of growth and development); *Hospitals and Child Health; Growth and Development of the Child—Part I—General Considerations* (various topics of general interest in connection with growth and development); *Growth and Development of the Child—Part II—Anatomical and Physiological Considerations* (discussion of the growth and development of individual organ systems of the body); *Problems of Maternal Care* (basic sciences in relation to embryonic, newly born and maternal life); *Maternal and Early Infant Care* (part of the report of the Committee on Prenatal and Maternal Care); *Education for Home and Family Life* (I. in elementary and secondary schools; II. in colleges. A summary of what is being done by secondary schools and by colleges to educate young people for home and family life); *The Physically and Mentally Handicapped* (basic facts about physically and mentally handicapped children with detailed consideration of a programme for their care and preparation for life); *Milk Production and Control* (public health, economic and nutritional aspects of the nation's milk supply); *Factors in Maternal Mortality* (causes of fetal, newly born and maternal deaths and morbidity); *Summer Vacation Activities* (a study of the problems presented by the summer vacation period, with suggestions for healthful and creative vacation activities).

**CHILE**, ché'li, or chí'li. A South American republic, occupying the Pacific coastal region from Peru to the southernmost point of the continent. Capital, Santiago.

**AREA AND POPULATION.** With the extreme length of 2628 miles and an average width of 177 miles, Chile had a total area of 286,396 square miles after the Tacna-Arica boundary adjustment with Peru in 1929. The population at the census of Nov. 27, 1930, was 4,287,445 compared with 3,731,573 in 1920. With the exception of nomadic Fuegians in the south, about 100,000 Araucanians, and the Changos of the northern coast region, the people are of European descent. The principal cities, with their 1930 census populations, are: Santiago, 696,231; Valparaíso, 193,205; Concepción, 55,591; Antofagasta, 53,591; Viña del Mar, 49,488; Iquique, 46,458; and Talca, 45,020. For the years 1926 to 1930, annual births averaged 171,058 and deaths 106,124. The average birth rate per 1000 inhabitants was 40.5 and the death rate 25. Immigrants in 1930 numbered 39,270 and emigrants 37,860.

**EDUCATION.** Education is free, and compulsory

for children from 7 to 15 years of age. In 1930, there were 3860 public and private elementary schools, with 559,016 pupils and 9856 teachers; 6 public normal schools, with 1342 pupils; 175 public and private secondary schools, with 51,024 pupils and 2438 teachers; and 10 public commercial schools, with 4229 pupils and 211 teachers. Advanced education is provided by the State University of Chile (3338 students in 1930), the Catholic University at Santiago (1049 students), the National Institute of Santiago, the University of Concepción, and other lyceums and colleges.

**PRODUCTION.** Agriculture in central Chile, mining in the northern zone, and stock raising and lumbering in the South are the chief occupations of the people. Minerals, especially nitrate, normally furnish nearly 90 per cent of the value of all Chilean exports. Manufacturing has increased in importance in central and southern Chile. There were in 1928 about 6,216,000 acres of arable land (3.3 per cent of the total area), 39,075,000 acres of permanent meadow, pasture, and unproductive land, and 11,232,000 acres of woods and forests. The total value of agricultural production in 1930 was estimated at 1,200,000,000 pesos (\$144,960,000), of which 577,000,000 pesos (\$69,702,000) represented grain products, 332,000,000 pesos (\$40,000,000) livestock and dairy products, and 271,000,000 pesos (\$32,737,000) wines and fruits. Livestock in 1930 included 2,323,000 cattle, 4,569,000 sheep, 751,000 goats, 328,000 swine, and 411,000 horses. A survey of the 57,950,000 acres of farm land in 1932 showed that 51,604,600 acres were in 10,000 large estates and 6,345,400 acres in 80,000 small farms.

The 1931-32 crop yields were (in bushels): Wheat, 22,770,000; barley, 2,986,000; oats, 5,664,000; corn, 3,473,000; potatoes, 15,966,000; beans, 2,424,000; and peas, 686,000.

Two-thirds of the mineral output of the continent is mined in Chile. Nitrate deposits of over 3,000,000,000 tons in the northern provinces gave employment to 65,000 persons in 1930. In that year all nitrate companies in Chile were merged under government initiative in the Chilean Nitrate Company (Cosach) in an effort to restrict production and restore profitable prices, undermined by the competition of synthetic nitrate producers. See FERTILIZERS. Chile is second only to the United States in copper production and has estimated reserves of 20,000,000 tons of fine copper, or 45 per cent of the known world deposits. In 1929, three American companies produced 90 per cent of the total copper output. Production of the chief minerals in 1931, with 1930 figures in parentheses, was: Gold, 16,776 fine ounces (17,333); silver, 372,000 fine ounces (760,000); copper, 475,523,000 pounds (485,724,000); iron ore, 712,000 metric tons (1,721,000); nitrate of soda, 1,125,000 metric tons (2,446,000); iodine, 184,000 pounds (1930); coal, 1,107,000 metric tons (1,442,000).

Manufacturing establishments in 1928 numbered 8585, with 96,832 employees, aggregate salaries of 218,008,865 pesos, and an output valued at 1,575,237,072 pesos.

**COMMERCE.** Chile's foreign trade declined 40.1 per cent in 1931 to \$197,369,000 from the 1930 total of \$329,567,000, according to a preliminary report of the Chilean Statistical Bureau. Exports, totaling \$111,816,000, were 30.3 per cent less than in 1930, while imports, amounting to \$85,552,000, declined 49.5 per cent. The mer-

chandise balance of trade was favorable by \$26,264,000, compared with an unfavorable balance of \$8,697,000 in 1930. The leading 1931 exports, with figures for 1930 in parentheses, were: Nitrate, \$55,699,000 (\$71,671,000); copper bars, \$36,999,000 (\$53,658,000); sheep's wool, \$2,687,000 (\$3,819,000); iron ore, \$1,651,000 (\$3,197,000). The chief imports were: Benzine and gasoline, \$3,172,000 (\$4,170,000); sugar, \$2,901,000 (\$3,729,000); woolen cloth, \$2,347,000 (\$5,110,000); sacks, \$2,296,000 (\$2,515,000); diesel oil, \$1,934,000 (\$1,564,000).

Although Chile's import and export trade with the United States dropped heavily during 1931, the United States sold more goods than its closest competitors, Great Britain and Germany, together. Imports from the United States were valued at \$29,354,000 (\$56,609,000 in 1930); from Germany, \$14,424,000 (\$28,567,000); Great Britain, \$13,379,000 (\$25,814,000). Exports to the United States totaled \$33,965,000 (\$40,791,000). The 1932 exports (preliminary) totaled 350,304,000 pesos; imports, 213,830,000 pesos.

**FINANCE.** The Chilean government reported a total deficit of 512,738,552 pesos from its budget operations during the calendar year 1931. Of this sum, 243,310,388 pesos represented the deficit in the ordinary budget, which showed receipts of 783,805,209 pesos and expenditures of 1,027,115,597 pesos. Under the extraordinary budget, expenditures totaled 302,978,709 pesos while receipts amounted to only 106,856,713 pesos, leaving a deficit of 196,121,996 pesos. The final deficit included also expenditures to be liquidated, amounting to 38,436,450 pesos, and expenditures and advances to be liquidated with the product of loans, amounting to 34,869,718 pesos. The final cash deficit was reduced to 412,738,552 pesos as a result of an advance of 100,000,000 pesos made by the Central Bank against the purchase of bonds of the *Campaña de Salitre de Chile* (Cosach). Preliminary budget estimates for 1932 balanced at 597,860,645 pesos, but successive governmental overturns during the year made it difficult to determine the status of the budget. See *History*.

The external bonded debt at the end of 1931 amounted to 2,430,829,000 pesos, and the internal debt to 480,056,792 pesos. In addition, unpaid bank advances to the government on Dec. 31, 1931, amounted to 398,744,053 pesos, making a total national debt of 3,309,629,847 pesos. The total excluded interest and amortization charges on the external debt amounting to 106,840,195 pesos, which were unpaid during 1931. The peso, valued at \$0.1217 at par, exchanged at an average of \$0.1207 in 1931 and in 1932 declined steadily to \$0.0602 in October.

**COMMUNICATIONS.** Chile in 1930 had 5540 miles of railway lines, of which 3600 belonged to the state system and 1940 miles were owned by private, mostly British, interests. At the end of 1931, there were about 24,530 miles of highways, including 65 miles of concrete, 545 miles of macadam, and some 15,400 of gravel and earth roads suitable for motor traffic. During 1931, 116 miles of highway, including 28 miles of concrete and 7 of macadam, were constructed at a cost of about \$3,353,000. Air lines connected the principal cities and the Pan-American Airways linked Chile with most of the other countries of North and South America.

**GOVERNMENT.** Under the Constitution of Oct. 18, 1925, executive power is vested in a presi-

dent, assisted by a cabinet responsible to him, and legislative power in a national congress, consisting of a senate of 45 members, and a chamber of deputies of 132 members, elected by the departments. By an agreement of political parties, in March, 1930, an election to fill half the seats in the Senate and the entire Lower Chamber was waived and the vacant seats were filled through selection by the various parties. The President, who is elected for six years by direct popular vote, is ineligible to succeed himself. President at the beginning of 1932, Juan Esteban Montero, who was elected Oct. 4, 1931, and assumed office Dec. 4, 1931.

## HISTORY

Severe economic depression in Chile had led to the overthrow on July 26, 1931, of President Carlos Ibañez del Campo, the dictator who had ably guided the country for some six years. Throughout 1932 the depression tightened its grip, bringing in its train widespread suffering and increasing political chaos. Successive governments strove to maintain order, relieve distress, and restore economic equilibrium, but all failed. The economic blizzard appeared to have shattered the political morale of the nation. It slumped into a welter of class warfare and political intrigue, in which ambitious military officers played a predominant rôle.

**THE FALL OF MONTERO.** Less than a year after he had succeeded Ibañez as Acting President and six months after his induction as constitutional President, Juan Esteban Montero was overthrown on June 4, 1932, by a comparatively bloodless revolution. His position had become increasingly insecure since the first of the year. With the closing down of mines and factories, unemployment rose to more than 125,000, in a country which normally has a shortage of 10,000 workers. While the unfavorable trade balance was redressed and the moratorium on foreign debt payments was continued, the government fought a losing battle to maintain the stability of the peso. The gold reserves of the Banco Central declined from 447,700,000 pesos in December, 1929, to 165,600,000 pesos in April, 1932. In the latter month (April 19), the government, in effect, abandoned the gold standard and the exchange value of the peso declined from an average of \$0.1006 in April to \$0.06 in May.

The country's economic difficulties were increased by the failure of the world nitrate conference in Lucerne, Switzerland, in the spring of 1932, and the controversy with Argentina over cattle shipments, which led to the closing of the Trans-Andine Railroad. The President was attacked, also, because of his lenient attitude toward American and other foreign corporations operating in Chile, and particularly for his refusal to dissolve Cosach, the great nitrate combine, in which the government held 50 per cent of the shares. The working classes and Left elements, who polled 40 per cent of the total vote in the 1931 Presidential election, grew more and more restive. On February 28, the government announced that it had frustrated a plot to restore ex-President Ibañez to power. On March 8, it arrested Dr. Carlos G. Dávila, Chilean Ambassador to the United States under the Ibañez régime, whose severe criticisms of the government in his newspaper had notably strengthened the opposition. Dr. Dávila was absolved of charges of plotting the overthrow of the government, but

on April 21 his arrest was again ordered on the same charge, and he went into hiding. Meanwhile, on April 10, former President Arturo Alessandri, Montero's opponent in the 1931 election for the presidency, was elected to the Senate. He immediately consolidated the Left parties in a bloc whose principal aim was the dissolution of Cosach.

Depletion of the nation's gold reserve and talk of the abandonment of the gold standard started a run on the Central Bank of Chile and an increase in commodity prices, which led to the fall of the cabinet. About the same time, there were demonstrations for unemployment relief accompanied by some rioting, in various cities. Accordingly, the President on April 8 declared martial law for an indefinite period, upon authorization of Congress. A new cabinet was formed, including four Liberal holdovers from the previous ministry and five new members (two Radicals, two Conservatives, and one Liberal) from the middle-class, professional, and conservative parties supporting the President. Dr. Montero's appeal for support in the crisis, and his strenuous efforts to balance the budget, were generally approved by the press. But on June 4 a revolt broke out at El Bosque aviation school near the capital. The national military police declined to defend the government, which collapsed.

**THE SOCIALIST EXPERIMENT.** Power now resided in the hands of the revolutionary junta, consisting of Dr. Dávila, Gen. Arturo Puga, and Eugenio Matte. Dr. Dávila assumed the title of Provisional President. On June 6 the junta dissolved Congress and appointed a cabinet, in which Col. Marmaduke Grove, head of the revolting military forces, was made Minister of Defense. General Puga became Minister of the Interior. Other posts were held by representatives of the Left parties, including two Socialists, two Communists, two Industrial Progressives, a Radical, and a Democrat. Luis Barriga, a Conservative, held the portfolio of Foreign Affairs. On the same day Dr. Dávila announced that the new government would impose a collective economy on the existing system of private economic activity. Declaring that it was impossible for Chile to revive economically under the capitalistic system, he said it was necessary to progressively nationalize many industries, including the distribution of food. He promised that private property, both Chilean and foreign, and contracts and foreign debts would be respected. His programme called for state monopolies of petroleum, iodine, tobacco, matches, and sugar; state control of banking; government regulation of utilities; reorganization of the Cosach nitrate combine; partial control of industry by the workers; division of large estates; and heavy income taxes.

Despite pledges to the contrary, the junta expropriated foreign deposits in Chilean banks by a decree of June 9 and took over the Viña del Mar Sugar Refinery Company. These actions led to protests by foreign interests, who had investments aggregating about \$1,000,000,000 in Chile. American investments as of Jan. 1, 1932, were estimated by the Foreign Policy Association at \$659,202,000 and British investments as of Jan. 1, 1931, were £68,082,174.

Dissensions soon developed within the junta and on June 12, Dr. Dávila was forced to resign as Provisional President, apparently because he was not sufficiently radical to satisfy his colleagues. He was succeeded by Rolando Merino,

a comparatively unknown figure who served as a puppet for Colonel Grove, the dominating personality in the reconstructed junta. The new government indicated its extremism by appointing Aurelio Nuñez Morgado, a critic of Cosach, as supervisor of the nitrate industry, and by other actions. It had little opportunity to develop a programme, however, for on June 17 Señor Dávila was restored to power by a military counter-revolution.

These developments had forced Dávila to seek support from the Right and his new junta included Senator Armando Cabero, a former member of the Radical party, with which ex-President Montero was affiliated. Nolasco Cárdenas, a former Deputy, was the other member. The Minister of Defense in the new cabinet was General Puga, who had been forced out with Dávila on June 12. Colonel Grove and his colleague, Señor Matte, were banished to an island of the Juan Fernández group in the Pacific.

Faced with the active hostility of conservative as well as radical extremists, the Dávila régime resorted to extreme measures to maintain itself. Railway workers, bakers, and slaughter-house workers struck in protest against the exile of Colonel Grove. The government placed the railways under military control and decreed the death sentence for persons interfering with the manufacture or sale of food or with public utilities. Communist activities were vigorously crushed. Following street disorders in Santiago and Valparaíso on June 20 and 21, the junta published a curfew decree, closing amusement places at 9 p.m. and the streets at 10 p.m. Thereafter conditions improved and on June 25 the curfew law was modified. Meanwhile the government had restored the status of the Central Bank, changed by the Grove régime, engaged four European economists as advisers to the government, returned \$3,000,000 of foreign gold currency to its owners, decreed a moratorium on internal debts (June 20), and announced plans for opening public lands to the unemployed. The effect of these steps was largely nullified by the action of the United States, which is the principal market for Chilean copper, in raising the tariff on copper imports to four cents a pound, commencing June 22.

At this juncture, Dr. Dávila faced a new crisis, when his two colleagues on the junta resigned in protest against his policies. They were said to have demanded an early return to constitutional government. Dr. Dávila responded June 29 with a call for the meeting of a constitutional assembly on October 2 to rewrite the Constitution along socialistic lines. Meanwhile he continued his effort to reduce military and naval expenditures and on July 4 ordered the disbandment of the destroyer division. On this issue, he was confronted with the determined opposition of naval and army officers, who sent an ultimatum demanding his immediate resignation. Dr. Dávila ignored it, believing that he retained the support of the enlisted men in both the army and navy.

Into this confusion and turmoil a new element of danger to the Dávila régime was introduced by the return to Santiago on July 6 of former President Ibañez, who had been in exile in Argentina since his overthrow a year earlier. After conferring with Dr. Dávila, the former dictator on July 7 stated that he was not a candidate for office and urged public support of the government. Two days later he led certain military units



in an attempt to oust Dávila and regain power. Unsuccessful, Ibañez took refuge among the military forces loyal to him and soon afterwards returned to Argentina. Early in September he accepted from Provisional President Dávila the post of Chilean Ambassador in Buenos Aires.

Beset by constant intrigue and conspiracy, Señor Dávila pushed forward his programme of socialization, while striving to obtain diplomatic recognition for his régime from the United States and the other great powers. On July 15, the Chilean Foreign Commerce Institute assumed control of all Chilean exports. Charged with the supervision of the supply of exchange bills, the expansion of markets, the furnishing of capital for industries, and tariff reforms, it had unusual powers for the extension of its powers over agriculture and manufacturing. A National Socialist Legion was formed early in August to support the Socialist government against its Communist and conservative enemies. On August 13 a rising among students at the University of Chile, said to be part of a Communist plot for the restoration of Colonel Grove, caused the proclamation of martial law throughout the country.

The government plan for the elimination of unemployment through the subsidizing of new and old industries to the amount of \$21,210,000 with funds obtained through an increase in the currency was launched on August 29. Complete state supervision of all details of the programme was provided for.

**DÁVILA OVERTHROWN.** Before the feasibility, or lack of feasibility, of this socialist plan could be demonstrated in practice, the Dávila régime was unexpectedly overthrown on September 13 by another bloodless military revolt, led by Col. Arturo Merino Benítez, chief of the Chilean air force. Gen. Bartolomé Blanche, Commander-in-Chief of the Chilean Army, became Provisional President of the new government, which was dominated by high army and naval officers. Immediately there came an open break between General Blanche and Col. Merino Benítez, who demanded that General Blanche resign as Provisional President. A short mutiny of the aviation corps was ended with the capture of Col. Merino Benítez and his supporters at the Ovalle air field on September 15. General Blanche announced his intention of remaining Provisional President until the election of a Constitutional President, set for October 30. There was growing opposition to even a temporary military régime, however. This culminated on September 29 in the formation of a separate civil junta in the northern Province of Antofagasta, which was supported by army units there.

**THREAT OF CIVIL WAR.** General Blanche's tenure of power ended abruptly after an eventful two weeks. The movement for the secession of Antofagasta Province, unless civilian control was restored in the capital, rapidly spread to other provinces and to Santiago itself. Riotous crowds milled in the streets and attacked one of the military barracks. On October 1 General Blanche and the entire cabinet resigned, and on the following day Humberto Oyánedel, president of the Supreme Court, succeeded him as Provisional President. A so-called national fusion cabinet was formed October 4, with Javier Ángel Figueroa as Minister of Interior, to hold office until a new President and Congress were elected. This régime was recognized by the United States and Great Britain on October 21.

The economic strain of the depression and the widening breach between Chilean classes dominated the presidential campaign, which ended October 30. The voting gave Arturo Alessandri, moderate Socialist and President from 1920 to 1924, about 152,800 votes to 57,793 for Col. Marmaduke Grove (radical Socialist and nationalist), 39,140 for Hector Rodríguez de la Sotta (Conservative), 34,984 for Enrique Zanartu (semi-Socialist), and 4248 for Elias Laferte (Communist). Although formerly considered a radical, Alessandri received the support of various conservative as well as moderate elements.

Dr. Alessandri was inaugurated on Dec. 24, 1932. The new cabinet, formed the same day, included some of Chile's ablest men, who were selected without regard to political affiliation. The cabinet members included: Premier and Minister of the Interior, Horacio Hevia; Foreign Affairs, Miguel Cruchaga Tocornal, who was recalled from his post as Ambassador to Washington; Finance, Gustavo Rossa; Education and Justice, Domingo Duran; Defence, Emilio Bello-Codesido; Industry, Alfred Piwonka. President Alessandri pledged himself to a régime of strict constitutionality. He indicated that his policies would be semi-socialistic. The two immediate problems confronting the government were the balancing of the budget and the liquidation of the Cosach issue. The budget deficit for 1933 was estimated at 550,000,000 pesos (about \$33,660,000).

**CHINA.** A state of eastern Asia, established as a republic Feb. 12, 1912. Capital, under the Nationalist government, Nanking. The name of Peking, the former capital, was changed to Peiping in 1929 by a Nationalist decree.

**AREA AND POPULATION.** China comprises 28 Provinces including three in Manchuria, and the dependencies of Mongolia and Tibet, over which it exercises nominal authority. It has an area of over 4,300,000 square miles, or nearly that of the United States and Mexico combined, and a population variously estimated from 442,000,000 to 485,000,000, or about one-fourth of the population of the earth. The 21 Provinces of China proper and Manchuria embrace less than 1,900,000 square miles, but contain 435,000,000 of the population, while the remaining 2,300,000 square miles support less than one-fortieth of the total inhabitants. The estimated area and population of the Provinces and dependencies in 1930 is shown in the table on page 177. Capitals of the respective Provinces are in parentheses. In July, 1931, the Ministry of Interior estimated the total population at 474,487,000. The Chinese Maritime Customs office in 1929 estimated it at 438,933,373, including 19,290,000 in Manchuria. The population of the chief cities, as estimated by the Chinese Post Office, was as follows: Shanghai area, 3,156,000; Greater Shanghai municipality, 1,713,000; International Settlement of Shanghai, 1,008,000; French concession at Shanghai, 435,000; Peiping, 1,000,000; Tientsin, 1,000,000; Canton, 900,000; Chungking, 625,000; Chengtu, 550,000; Nanking, 525,000; Tsinan, 500,000; Soochow, 500,000; Hankow, 490,000; Hanyang, 450,000; Hangchow, 425,000; Mukden (Shenyang), 400,000.

Foreigners in China in 1930 were estimated by the Customs authorities at 361,940, while in October, 1928, the number of Chinese abroad was estimated at about 6,245,682, including 1,456,264 in British South India and Malaya. The



population is predominantly Buddhist, although most Chinese also profess and practice Confucianism and Taoism. Mohammedans, most numerous in the west and north, number approximately 20,000,000. In 1929, there were 2,486,841 native Roman Catholics and, in 1922, 806,926 native Protestants (366,524 communicants).

#### AREA AND POPULATION OF CHINA BY PROVINCES

<i>Province (Capital)</i>	<i>Area in sq. miles</i>	<i>Population</i>
Anhui (Anking) .....	55,090	21,715,000
Chahar (Kalgan) .....	99,928	1,997,000
Chekiang (Hangchow) .....	89,020	20,643,000
Chinghai (Sining) .....	281,156	6,195,000
Fukien (Foochow) .....	56,737	10,017,000
Heilungkiang* (Tsitsihar) .....	223,151	3,755,000
Honan (Kaifeng) .....	66,469	30,566,000
Hopeh (Tientsin) .....	54,257	31,233,000
Hunan (Changsha) .....	83,188	31,501,000
Hupeh (Wuchang) .....	70,312	26,699,000
Jehol (Chengteh) .....	67,166	6,594,000
Kansu (Lanchow) .....	147,051	6,281,000
Kiangsi (Nanchang) .....	64,956	20,323,000
Kiangsu (Chinkiang) .....	40,774	34,126,000
Kirin* (Kirin) .....	109,008	7,635,000
Kwangsi (Nanning) .....	84,894	13,648,000
Kwangtung (Canton) .....	86,426	32,428,000
Kweichow (Kweiyang) .....	68,139	14,746,000
Liaoning* (Mukden) .....	96,839	15,233,000
Outer Mongolia* (Ulan Bator Hoto) .....	622,744	6,160,000
Ningsia (Ningsia) .....	116,776	1,450,000
Shansi (Taiyuan) .....	62,487	12,230,000
Shantung (Tsinan) .....	59,348	28,673,000
Shensi (Sian) .....	75,319	11,802,000
Sikang (Kangting) .....	182,510	8,906,000
Sinkiang (Tihwa) .....	633,802	2,552,000
Suiyuan (Kueihuaicheng) .....	117,396	2,123,000
Szechwan (Chengtu) .....	115,843	7,993,000
Tibet* (Lhasa) .....	349,419	3,722,000
Yunnan (Yunnanfu) .....	153,892	13,821,000
Total (approximate) .....	4,314,097	474,821,000

\* The "three eastern provinces," Liaoning (Fengtien), Kirin, and Heilungkiang constitute the geographical region referred to as Manchuria, which on Feb. 18, 1932, was proclaimed the free state of Manchoukuo (State of the Manchus).

<sup>b</sup> Dependencies.

**EDUCATION.** In 1931, there was an estimated total of 10,000,000 children and adults of both sexes attending educational institutions of all grades. Wherever possible, the educational system was being reorganized on the French model. In 1923, the lower primary schools numbered 167,067, with 5,814,375 pupils, and higher primary schools, 10,236, with 582,579 pupils. There are eight government universities at Peiping (two), Wuchang, Kaifeng, Nanking, Sianfu, Tung Luh in Yunnan Province, and Hangchow. In 1928-29, there were 34 universities and colleges and 16 technical colleges in China, including governmental and private institutions, with a total of 19,453 students. A total of 1484 students were studying abroad in 1929-30, including 826 in Japan and 272 in America.

**PRODUCTION.** China has an estimated area of 192,000 square miles of arable land, divided into small holdings averaging about two acres and supporting directly about four-fifths of the population. Production is on a highly intensive basis, there being from two to four crops annually. The republic is the world's largest producer of rice, soy beans, tea, and tung oil, ranks second to Japan in the production of raw silk, and third or fourth in cotton and wheat. Wheat, barley, maize, millet, peas, and beans are chiefly cultivated in the north and sugar, rice, tea, and

indigo in the south. Kaoliang, corn, tobacco, sweet potatoes, fibres, fruits, and vegetables are important crops. The 1931-32 cotton crop was 860,400,000 pounds (1,075,500 pounds in 1930-31).

With coal fields extending over 133,513 acres and an estimated annual output of about 29,000,000 metric tons, China is one of the world's leading coal countries. There are large iron-ore deposits in Shansi, Hopeh (Chihli), Shantung, Manchuria, at Tayeh near Hankow, and in other Provinces. In 1930, the output of salt was 2,562,000 tons; antimony, 14,700 tons; iron ore (1928), about 2,003,000 tons. China ranks first in output of antimony, second in tungsten, and fourth in tin. Petroleum, wolfram, molybdenum, bismuth, gold and silver are produced also.

Industrialization is proceeding rapidly in the larger cities and is also causing fundamental changes in the economic life and social order in the villages near the industrial centres. Cotton and woolen cloth, silk filatures, flour, iron products, and glass are the chief manufactured products. During 1931 the production of cotton yarn was 2,380,671 bales, of which 823,437 bales were produced in Japanese, 1,480,919 bales in Chinese, and 76,315 bales in British-owned mills. The output of cotton piece goods was 16,179,844 pieces. At the beginning of 1932 there were 130 cotton mills, with a total of 4,497,902 spindles and 33,580 looms, of which 45 mills were owned by Japanese, 82 by Chinese, and three by British interests. There are over 200 modern flour mills, some 400 glass factories, and large iron works at Hanyang. Cement, cigarettes, shoes, ships, knit goods, and the products of printing establishments are other leading products. Handicraft industry is extensively carried on in connection with agriculture. The Chinese government has encouraged industrial development in various ways.

**COMMERCE.** The dollar value of China's foreign trade declined in 1931, reflecting adverse economic conditions, but the value in Haikwan taels showed a slight increase, due to the depreciation of the silver tael. The 1931 general imports were valued at \$492,384,000, as against \$610,987,000 in 1930, a decline of 19 per cent, while exports of Chinese products were valued at \$309,222,000, against \$411,628,000 in 1930, a drop of 25 per cent. The 1931 values in Haikwan taels were: imports, 1,448,187,000 (1,328,232,000 in 1930); exports, 909,476,000 (894,844,000 in 1930).

The United States in 1931 displaced Japan as the chief source of supply, furnishing 22.3 per cent of China's net imports, as against 20.2 per cent supplied by Japan and Formosa, 15.2 per cent by Hong Kong, 8.3 per cent by the United Kingdom, and 5.8 per cent by Germany. In 1930, Japan and Formosa supplied 24.6 per cent of the total imports; the United States 17.5 per cent; Hong Kong 16.4 per cent; the United Kingdom 8.2; and Germany 5.2 per cent. On the other hand, Japan increased its purchases from China, while the United States purchased less. Japan and Formosa took 29.1 per cent of all China's exports (24.2 per cent in 1930), against 16.3 per cent by Hong Kong (17.7 in 1930); 13.2 per cent by the United States (14.7 in 1930); 7.1 per cent by the United Kingdom (7 per cent in 1930); and 2.5 per cent by Germany (2.6 per cent in 1930). The distribution of trade among China's five leading customers in 1931 and 1930 is shown in the table on the following page.

## FOREIGN TRADE OF CHINA BY LEADING COUNTRIES

[In thousands of U. S. dollars]

	General imports		Exports, Chinese products	
	1930	1931 <sup>a</sup>	1930	1931
United States . . . .	106,907	108,890	60,665	40,870
Japan and Formosa . .	150,496	98,731	99,615	90,085
Hong Kong . . . . .	100,439	74,178	72,688	50,426
United Kingdom . . .	49,799	40,577	28,828	21,939
Germany . . . . .	31,788	28,277	10,746	7,867
All Countries . . . .	610,987	487,386	411,628	309,222

<sup>a</sup> Net imports. General imports in 1931 totaled \$492,384,000.

The dollar value of the five leading import items in 1931, with 1930 in parentheses, was: raw cotton, \$50,751,000 (\$61,242,000); cotton piece goods, \$25,611,000 (\$53,319,000); sugar, \$25,311,000 (\$39,759,000); wheat, \$24,990,000 (\$5,902,000); and kerosene, \$18,570,000 (\$25,404,000). The five leading export items were: soy beans, \$40,318,000 (\$44,007,000 in 1930); raw silk, \$24,635,000 (\$45,798,000); bean cake, \$18,234,000 (\$22,767,000); cotton yarn, \$12,795,000 (\$8,724,000); and tea, \$11,240,000 (\$12,091,000).

FINANCE. The budget of the Nanking (Nationalist) government has shown increasing deficits since 1928-29. In 1929-30, revenue was 438,063,208 Yuan dollars and expenditure 539,005,919 dollars. For 1930-31, budget estimates placed revenue at 500,000,000 dollars and expenditure at 640,000,000 dollars; for 1931-32, expenses were estimated at 977,087,761 dollars, including military expenditures of 406,617,220 dollars. The chief revenue items in 1929-30 were: Salt tax, 122,146,170 dollars; customs duties, 275,545,215 dollars; rolled tobacco and kerosene, 36,566,506 dollars; wine and tobacco tax, 6,830,995 dollars; stamp tax, 5,426,844 dollars; flour tax, 3,924,260 dollars; miscellaneous, 21,309,161 dollars. Borrowings amounted to 100,942,710 dollars. The principal expenditure items were: Military services, 245,445,112 dollars; loan services, 158,995,288 dollars; civil expenses, 51,470,476 dollars; party expenses, 4,017,000 dollars. The Yuan dollar in 1929 had an average exchange value of \$0.4190. According to the Finance Minister's report, as made public by the Chinese Consulate in New York City in February, 1933, actual receipts and payments in the fiscal year ended June 30, 1931, balanced at \$714,468,144, with military expenses totaling \$311,646,128. For the fiscal year 1931-32, actual receipts and payments balanced at \$682,990,864, with military expenses totaling \$303,777,062.

In 1931 (calendar year) customs revenues increased to 248,314,000 taels from 180,619,758 taels in 1930, but revenue from other sources declined due to floods and disorders. Beginning with July, 1931, the government was forced to reduce sharply interest rates of all domestic bond issues and to virtually double the amortization periods for all domestic bonds. It became increasingly difficult to borrow from Chinese banks or investors. In June, 1932, due to the seizure of the Manchurian customs revenues by the new government of Manchoukuo, the Nanking government reported that customs collections were not sufficient to service the loans secured upon customs receipts. The government in 1932 was further embarrassed by appeals for help from some half dozen of the richest Provinces in the Yangtze valley, which had incurred large deficits as a result of the disastrous floods of 1931. The public debt on Jan. 1, 1931, was equivalent to

about \$743,094,000 U. S., on which arrears of capital and interest amounted to about \$97,100,000 U. S. Internal loans on June 1, 1931, totaled about 741,640,699 Yuan dollars, of which 488,413,139 dollars were secured on customs revenue.

COMMUNICATIONS. At the beginning of 1931 there were approximately 12,335 miles of railway lines in China, excluding 1857 miles in Manchuria, divided into 12 principal systems (two in Manchuria). A section of the Lunghai Railway from Lingpao to Tungkwan, a distance of about 45 miles, was completed in December, 1931. Early in 1932 a section of the projected Hangchow-Kiangshan Railway, from Hangchow to Lanchi, a distance of 125 miles, was placed in operation. Internal traffic, however, is carried on chiefly by means of the numerous canals and rivers. Highways passable to motor traffic extended about 34,810 miles in 1930, of which 1072 miles were macadam and 33,728 miles were improved earth roads. The new Shanghai-Hangchow motor road, 120 miles long, was opened Oct. 10, 1932. A number of air lines were in operation; 52,050 miles of telegraph line connected all the principal cities; telephones were in operation in the chief population centres; and in May, 1931, 21 government radio stations in as many cities provided international services. Vessels entering and clearing Chinese ports during 1930 numbered 180,981, of 155,605,954 tons. Entrances of vessels in the foreign trade totaled 32,580, of 25,690,289 tons; and clearances, 29,837 vessels, of 24,548,479 tons.

GOVERNMENT. The "Organic Law of the Nationalist government of the Republic of China" was promulgated Oct. 4, 1928, by the Executive Committee of the Kuomintang party, which exercises all political power and which assumed control and supervision of the new system of government. The law provided for the establishment of a state council as the highest unit of the National government, composed of from 12 to 16 members, from whom the presidents and vice presidents of five subordinate Yuan, or branches of the government, were selected. The chairman of the State Council was designated head of the government for purposes of representation, with the duties of Commander-in-Chief of the army and navy. The five Yuan (branches) of the government are the Executive, Legislative, Judicial, Examination, and Control Yuan. The Executive Yuan is assisted in the executive work of the government by 10 ministries and 4 boards. The Legislative Yuan, which is the highest legislative organ, consists of between 49 and 99 members appointed by the National government at the instance of the President of the Yuan. By the provisional Constitution, adopted May 12, 1931, to serve until the end of the period of "political tutelage" in 1934, the powers of the chairman of the State Council were extended. He was authorized to select and recommend to the State Council for appointment the chairmen of the five governing Yuan and the chairmen of all governmental commissions.

The Chairman of the State Council, or nominal President of the National government, at the beginning of 1932 was Lin Sen, elected Dec. 27, 1931. The chairmen of the five Yuan were: Executive, Sun Fo; Legislative, Chang Chi; Judicial, Wang Ch'ung-hui; Examination, Tai Chitao; Control, Yu Yu-jen. The Cabinet ministers functioning under the Executive Yuan were: Interior, Li Wen-fan; Foreign Affairs, Eugene

Chen; Military Affairs, Ho Ying-ching; Navy, Chen Shao-kuan; Finance, Huang Han-liang; Industry, Commerce and Labor, Chen Kung-po; Education, C. H. Chu; Railways, Yeh Kung-cho; Communications, Chen Ming-hsu.

### HISTORY

**THE BATTLE OF SHANGHAI.** In January, 1932, the flames of Sino-Japanese conflict in Manchuria and North China spread to Shanghai. For 35 days the fiercest fighting the Far East had witnessed since the Russo-Japanese War raged in China's largest city, while within the International Settlement foreigners and thousands of Chinese refugees lived in daily peril behind the barbed-wire barricades of an international military force.

The struggle developed primarily as a result of the anti-Japanese boycott, which since the Manchurian outbreak of Sept. 19, 1931, had reduced Japan's trade with China by one-third. In Shanghai the boycott had been accompanied by attacks upon Japanese residents of the native city. On January 19, a Chinese mob assaulted five Japanese monks, one of whom died. The following day a Japanese mob attacked a Chinese factory and in the resulting riot two persons (one Japanese and one Chinese) were killed and several hundred wounded. The Japanese immediately took steps to end the boycott by military force. While warships and marines were concentrated at Shanghai, the Japanese Consul-General there presented a note to the mayor of the Chinese city demanding satisfaction for the attack on the Japanese monks, the suppression of anti-Japanese activities, and dissolution of the boycott associations.

The Chinese mayor, Wu Teh-chen, declined to dissolve the private boycott associations, whereupon Consul-General Murai presented him with an ultimatum calling for unconditional acceptance of the Japanese demands by 6 p.m. of January 28. Four hours before the ultimatum expired, Mayor Wu capitulated and the Consul-General stated that his assurances were satisfactory. Several hours later, however, Admiral Shiozawa, in command of the Japanese naval forces at Shanghai, announced that he would "take necessary military action to preserve peace and order in the Chapei district." Shortly after midnight Japanese marines launched an attack upon the native borough of Chapei, using the International Settlement as a base. This action disregarded previous official Japanese assurances that 24-hours' notice would be given to Shanghai consular authorities before military action was resorted to.

To the world's surprise, the Japanese marines made slight progress against the stubborn resistance of the veteran Cantonese 19th Route Army, commanded by Gen. Tsai Ting-chai. After 36 hours of fighting, Admiral Shiozawa halted his offensive and sent for reinforcements, while the Chinese strengthened their defenses of ruined Chapei. This district, normally sheltering 200,000 Chinese, had been battered by Japanese bullets and air bombs and swept by the resulting fires. Subsequent fighting completed its destruction.

The Japanese action inaugurated a period of extreme tension between Japan and the foreign powers having interests to protect in Shanghai. On January 31 the Japanese disarmed the Settlement police within the Hongkew area of the In-

ternational Settlement. Great Britain and the United States immediately protested and both dispatched additional forces to guard their interests in the International Settlement. They received assurances that Japan would not use the Settlement as a military base, but on February 2 fortifications manned exclusively by Japanese were erected around the Hongkew area. Meanwhile the League of Nations, upon invocation of Articles X and XV by the Chinese delegate at Geneva, had appointed a commission to report on the Shanghai outbreak. The United States cooperated with, although not represented upon, the commission composed of official representatives in Shanghai of six leading powers. On February 2, the United States and Great Britain, supported by France and Italy, submitted to Japan and China a five-point plan for the immediate restoration of peace at Shanghai.

Rejecting two of the five points, the Japanese government sent a full division of 11,000 troops to Shanghai to reinforce the 5000 marines already there and launched new attacks upon Chapei and the forts at Woosung, guarding the entrance to the Wangpoo River and Shanghai. At the same time (February 8) Japan advanced an unofficial proposal for the establishment of neutral zones surrounding the five leading Chinese ports of Shanghai, Canton, Hankow, Tientsin, and Tsingtao, to be policed under international supervision. The proposal was abruptly rejected by the United States on the ground that it would violate the Nine-Power Treaty signed at Washington in 1922.

The battle inaugurated at Chapei continued with varying intensity, and with increasing numbers of troops on both sides, until the fall of Kiangwan on March 2 forced the Chinese to withdraw from the environs of Shanghai. Attacks and counter-attacks continued day and night, accompanied by heavy artillery fire and repeated bombardments of Chinese positions by the Japanese air force. Occasional stray shells burst in the International Settlement.

Launching their offensive from Hongkew, the Japanese pushed their lines gradually to the north and northwest, pivoting on Chapei. The most sanguinary fighting occurred at Woosung and at Kiangwan, both of which were reduced to shambles before the Chinese finally gave ground. Before the struggle ended some 120,000 Chinese troops were involved against 70,000 regulars of the Japanese army. Part of the Japanese reinforcements were landed at Liuho on the banks of the Yangtze some distance to the north of Shanghai. From the pincers movement begun by these new troops in conjunction with the main Japanese force at Hongkew, the Chinese commander extricated his army with much skill. The Japanese military forces were commanded at first by Major General Uyeda and later by Gen. Yashimori Shirakawa. Admiral Kichisaboro Nomura succeeded Rear Admiral Shiozawa in command of the naval forces on February 9. The Japanese throughout were aided by uncontested mastery of the air. Up to March 3, the total losses of both armies were estimated at 23,000 killed and wounded, while the property damage in Chapei and Kiangwan amounted to more than \$600,000,000 gold.

**THE EFFORTS TOWARD PEACE.** Throughout the fighting at Shanghai, the major powers and the members of the League of Nations strove unceasingly to end the conflict. The report of the

League's Shanghai inquiry commission, made public at Geneva February 14, was outspoken in its criticism of the Japanese action and declared that "since the 3d of February a state of open war has existed, any pretense of a truce being abandoned." The representatives of the powers continued their representations to the Tokyo Foreign Office without avail. Meanwhile on February 12, the Chinese delegate at Geneva requested the Council, under Article XV of the Covenant, to refer the Shanghai affair to the League Assembly for action. Despite Japan's objections, the Council on February 19 summoned the Assembly for March 3 to consider further action (see LEAGUE OF NATIONS). League authorities on February 29 proposed a peace conference at Shanghai under League auspices and on March 1 Japan accepted these proposals. Besides having virtually obtained their announced military objectives at Shanghai, the Japanese were apparently impressed by the world-wide condemnation of their action, the growing agitation in the United States for a boycott against Japan, and the concentration of the U. S. fleet in the Pacific.

Having cleared the Chinese forces from the immediate vicinity of Shanghai, the Japanese rested on their arms while negotiations for a settlement dragged on before the League committee. The League Assembly, in a resolution of March 4, recommended the initiation of Sino-Japanese negotiations with neutral aid to "make definite the cessation of hostilities and regulate withdrawal of the Japanese forces." It was not until May 5, however, that a truce agreement was formally concluded, under which the Japanese forces gradually withdrew while the Chinese troops retained their existing positions. The supervision of the truce provisions was placed in the hands of a joint committee, composed of two members each representing China, Japan, Britain, France, Italy, and the United States. Reports that the truce agreement included an unwritten Chinese pledge to end the anti-Japanese boycott aroused nation-wide condemnation and increased the unpopularity of the Nanking government. While a group of high Japanese military and civilian officials were reviewing a military parade in Shanghai April 29, a Korean threw a bomb among them. Dr. T. Kawabata, president of the Japanese Residents' Association of Shanghai, was killed and the Japanese Minister to China, Marmoru Shigemitsu, Consul-General Murai, Generals Shirakawa and Uyeda, and Admiral Nomura and others were seriously wounded. General Shirakawa (q.v.) died of his injuries on May 26.

The evacuation of Japanese troops from Shanghai was speeded by the outbreak of large-scale guerrilla warfare in Manchuria (see JAPAN under History). By May 31, there remained only 2500 Japanese bluejackets for garrison duty out of nearly 100,000 Japanese troops landed for action. Chinese police took over control of the former occupied area. Despite orders issued from Nanking May 5 to disband the anti-Japanese boycott associations, the boycott of Japan continued—under cover around Shanghai and openly in Canton and other points. In the first six months of 1932, Japanese exports to China slumped in value by 20,000,000 yen (\$10,000,000 at par), compared with the first six months of 1931. In August, Sino-Japanese tension at Shanghai again became acute and there was an intensification

of the boycott. At the end of the month the Japanese Third Squadron was ordered to Shanghai, following renewed mob outbreaks.

**INTERNAL POLITICS.** Despite the crisis with Japan, political chaos in China became steadily worse during 1932. The prestige of the Kuomintang party and of the Nationalist government at Nanking declined to a low ebb with the apparent failure of Chiang Kai-shek's policy of relying upon the League of Nations and foreign powers to oppose Japan's conquest of Manchuria. There was growing dissension within the government itself over the policy to pursue toward Japan.

The Nanking government, as reconstituted at the end of December, 1931 (see *Government*), was reorganized within a month. Sun Fo, Chairman of the Executive Yuan, and Eugene Chen, Foreign Minister, resigned following the Japanese ultimatum of January 23 at Shanghai. In a statement issued January 25, Eugene Chen declared that China's difficulties were the result of the passive policy pursued by Gen. Chiang Kai-shek in the face of "Japanese violence in Manchuria." He revealed that Chiang had rejected his (Chen's) policy calling for severance of diplomatic relations with Japan and the invocation of Article XVI of the League Covenant, which Chen felt would create a situation necessitating a conference under the Nine-Power Treaty. Chen was succeeded as Foreign Minister by Lo Wen-kan. Wang Ching-wei, Sun Yat-sen's right-hand man, succeeded Sun Fo as chairman of the Executive Yuan. T. V. Soong returned to his old post at the Ministry of Finance and Chiang Kai-shek, who ostensibly had retired in December, continued to exercise control through the chairmanship of the Kuomintang (Nationalist party).

With the development of the battle at Shanghai, the government, fearing that Japan intended to seize the Yangtze Valley and bombard Nanking, established a temporary capital at Loyang and retained only a skeleton administration at Nanking. Preparations for resistance were made in case Japan extended her military operations and some of Chiang Kai-shek's best troops participated in the defense of Shanghai. Chiang, however, persisted in his policy of partial resistance to Japan, partly on account of the increasing Communist threat in his rear. The numerous army planes at his disposal took no part in the battle of Shanghai. Nevertheless, tension between Chinese and Japanese was close to the breaking point at Hankow and Ichang on the Yangtze.

The growing opposition to the Kuomintang's rule was indicated when the government called a national emergency conference to meet at Loyang from April 7 to 12. Delegates from Shanghai asked the termination of government financial support for the Kuomintang and refused to pay homage to the portrait of Dr. Sun Yat-sen. North China leaders announced their secession from the party because of its dictatorial policy and the failure of its foreign and domestic policies. The Loyang Conference determined upon prolonged military and diplomatic resistance to Japan. The policy was not carried out, however, due to diversity of opinion among Chinese political and military leaders. Chiang Kai-shek and his adherents, who opposed military resistance to Japan, urged that the government concentrate upon the suppression of Communism and of internal rebellion, while relying upon the League

of Nations to fight China's battle against Japan. The group headed by Wang Ching-wei urged the diplomatic isolation of Japan and active military resistance, although hoping for assistance from the League. A third faction was opposed to further attempts to unify the country by force. It urged that all leaders be invited to share in the responsibility of government and of united resistance against Japan.

Chiang Kai-shek's policy was pursued in the main throughout the year, without conspicuous success. Although the budget of the central government was showing a deficit estimated at 12,000,000 dollars monthly, the government raised a new loan from Chinese bankers for a six-months' campaign against the Communists. The rapid growth of the Communist movement in central and south China constituted a serious menace to the government. In June, the area under Communist control—chiefly in Hunan, Anhwei, Hupeh, Kiangsi, and Fukien Provinces—was estimated to contain from 50,000,000 to 70,000,000 people. In several Provinces sovietized governments had functioned uninterruptedly for several years. The anti-Communist campaign—the third in as many years—was launched in July under the personal direction of General Chiang. Heavy fighting was reported from widely scattered points in the Communist areas, but as in previous years the campaign ended indecisively.

The Nanking government halted its offensive against the Communists upon the development of a crisis in North China. On July 25, the Chinese authorities imposed a postal blockade against Manchuria following the action of the Manchoukuo authorities in retaining the customs revenues of Manchuria, which had previously brought about 2,800,000 Mexican dollars (\$583,000) monthly into the Nanking treasury. Five days later, Finance Minister T. V. Soong announced that the Nanking government would withhold payment of the Japanese portion of the Boxer indemnity due July 31, which amounted to about \$150,000. Contemporaneously, Japan adopted a threatening attitude, hinting openly that further Chinese opposition to Japan's military occupation of Manchuria would be followed by a Japanese invasion of Jehol and the Peiping-Tientsin district. Foreign Minister Uchida of Japan on July 28 stated that the dismissal of Marshal Chang Hsiao-liang as commander of the Peiping-Tientsin area would avert the necessity of Japanese intervention.

Chang Hsiao-liang (known as Chang Hsüeh-liang until July, 1932) was the young war lord dispossessed of his Manchurian domains by the Japanese in 1931 (see 1931 YEAR BOOK). As an ally of Gen. Chiang Kai-shek, he played an important rôle in maintaining Chiang's power at Nanking. The Japanese demand for his resignation threatened to upset the balance of power in China and to precipitate new civil wars. Following outbreaks in Manchuria which the Japanese attributed to Marshal Chang, Japanese forces were concentrated on August 6 at points north of the Great Wall strategically located for an advance on Peiping. There they remained until the end of the year.

Wang Ching-wei, as the nominal Premier of China, called upon Marshal Chang to resist the threatened invasion with all his forces. According to Wang, Marshal Chang thereupon deluged the Nanking government with telegrams asking

for funds. Chiang Kai-shek refused to unite with Wang Ching-wei in forcing Marshal Chang's resignation and Wang resigned as chairman of the Executive Yuan (August 6) in protest against the government's relation with the young Marshal. In a signed statement, which strikingly revealed Chinese disunity, Wang charged Chang with governing Hopeh (Hopei), Jehol, and Chahar "as a separate country," retaining all national revenue collected in these Provinces and refusing to state the strength of his armies or the amount of military disbursements. "Unless state and regional independence is ended, it would be virtually impossible to resist a strong enemy," Wang Ching-wei asserted. He admitted that similar conditions prevailed in other parts of the country. On August 9, all 11 members of the Cabinet resigned in support of Wang's protest.

Chang Hsiao-liang now went through the formalities of resigning as commander of the Peiping area. On August 15 the Executive Committee of the Kuomintang, accepting his resignation, abolished his post and named a military commission of 18 members, composed of henchmen of Marshals Chang and Chiang, to administer the area for the national government. Deprived of his post, Marshal Chang still retained control through his armies and his alliance with Chiang Kai-shek. While the majority of the Cabinet returned to their posts, Wang Ching-wei persisted in his withdrawal. Finance Minister Soong assumed the post of Acting President of the Executive Yuan. The widening rift between Chiang Kai-shek and influential civilian members of the Kuomintang led by Wang Ching-wei caused Chiang in September to undertake the organization of a "Brown Shirt" Fascist movement, called Chiu Wang-hui (Save-the-Nation Society).

With September, there commenced new outbreaks of civil war which emphasized the disorganization and disintegration of the country in the face of foreign assault. Governor Han Fu-chu of Shantung Province on September 16 suddenly attacked Liu Chen-nien, a minor war lord, allied with Chiang Kai-shek, controlling Chefoo and the surrounding territory. Governor Han defeated Liu in a campaign, but was robbed of the main fruits of his victory when Marshal Chang Hsiao-liang landed marines at Chefoo and seized Tengchow, an important revenue centre of Northern Shantung. The Shantung civil war had not ended before an anti-Nanking insurrection developed in Shensi Province, causing the Provincial Governor, Gen. Yang Fu-cheng, to evacuate Sianfu, the capital. Early in October a similar outbreak occurred in the western Provinces of Szechuan, where local war lords rebelled against the Nanking representative, Gov. Liu Wen-hui.

The Szechuan war involved some 300,000 troops, many of whom were withdrawn from the anti-Communist drive which had been resumed by Gen. Chiang Kai-shek. The result was that Communist armies in western Hupeh Province resumed their offensive, crushed two government divisions, and recaptured Lotien, near Hankow, which was also threatened. The Tibetans, who had been driven back after invading parts of western China earlier in the year, also took advantage of the Szechuan struggle to advance once more. On October 7, Gen. Feng Yu-hsiang emerged from retirement, where he had remained

since his defeat by Chiang Kai-shek and Marshal Chang Hsiao-liang in 1931. These developments, in the face of Chiang Kai-shek's orders and entreaties for peace, presaged the renewal of civil warfare on a scale which would involve Chiang himself. Contemporaneously, some of China's outstanding personalities, led by the philosopher Hu Shih, urged the government to terminate its armed campaign against the Communists. They demanded that the Nanking government take over the Communist programme for the redistribution of the land and recognize the redistribution already made in Communist-controlled areas in order to prevent the impending collapse of "the whole of the rural economic life of China" (see COMMUNISM).

The Chinese capital was removed from Loyang back to Nanking on December 2. On December 15, the third plenary session of the Kuomintang central executive committee opened at Nanking. Dominated by the Chiang Kai-shek and Wang Ching-wei factions, the sessions were attended by several leading Cantonese and ignored by most of the northern war lords. There was slight public interest in the meeting, partly due to a strict censorship of both domestic newspapers and the dispatches of foreign correspondents. On December 21, the committee decided to bring the period of military tutelage to an early close by establishing a national people's assembly in 1933 and by electing by popular vote in 1935 an assembly to draft a constitution. The national assembly, designed to prepare the way for the adoption of a constitution and the elimination of the Kuomintang party government, was to be composed half of members appointed by the government and half of members designated by various public bodies. Its chief function would be the supervision of the national finances. The session closed December 22, with a manifesto announcing the determination of the Kuomintang to safeguard the nation's sovereignty and territory. The Cantonese delegates urged aggressive resistance to Japan, but their proposals were not adopted by the committee.

As though civil and foreign warfare were not enough, China suffered from a severe cholera epidemic, which extended over an area as large as Europe and took thousands of lives. The great floods of 1931, which drove more than 25,000,000 farmers from their lands and inflicted property damage to the extent of several billions of dollars, left as residue some 4,000,000 penniless peasants whose farms were obliterated. These swelled the countless bandit gangs who lived by begging and thieving. In one district alone, the National Flood Relief Commission reported 5,000,000 famine sufferers at the beginning of June. The commission aided more than 6,500,000 flood refugees during the year. Faced by decreasing tax receipts from the oppressed population, the war lords resorted to still more onerous methods of extorting funds to pay their troops and encouraged the illegal growing and sale of opium.

**CHINA AND MANCHOUKUO.** The formal recognition by Japan on September 15 of the new state of Manchoukuo (see JAPAN under *History*) aroused all China to a new pitch of anti-Japanese hostility. On September 12, Lin Sen, chairman of the State Council, threatened a punitive expedition against Manchoukuo. Demonstrations protesting against Japan's act were held in many Chinese cities, while at the same time China

appealed to the League of Nations and the signatories to the Nine-Power Treaty to nullify Japan's recognition of Manchoukuo. On September 24, Finance Minister Soong announced that China would immediately begin to collect import and export duties on all goods moving to or from Manchuria. The publication on October 2 of the report of the Lytton commission, appointed by the League of Nations to investigate the Sino-Japanese dispute over Manchuria, was received with bitter disappointment by the Chinese press and leading politicians but with restrained approval by the Nanking authorities. W. W. Yen, Chinese Minister to Washington, was named head of the Chinese delegation to the crucial session of the League Council held in November to consider the Lytton report (see LEAGUE OF NATIONS). During his absence his place at Washington was filled by Dr. S. Alfred Sze, former Minister to Great Britain. Meanwhile the anti-Japanese boycott in China was intensified and in many cities there was a recrudescence of bitter anti-foreign feeling.

**THE SINO-SOVIET RAPPROCHEMENT.** Disappointment at their inability to enlist more effective support among the western powers caused the Chinese leaders to turn to Moscow in the hope of securing aid against Japan in Manchuria. These negotiations bore fruit on December 12 in the resumption of diplomatic relations, which had been severed since 1927. The announcement was made simultaneously at Geneva by Dr. W. W. Yen, head of the Chinese delegation to the Disarmament Conference, and Foreign Minister Maxim Litvinov of the U.S.S.R. Coming at a time when the League's Committee of Nineteen was seeking the help of the Soviet Union and the United States in conciliating the Manchurian dispute, the announcement caused resentment in Tokyo and enthusiasm in Nanking. It was indicated, however, that there would be no let-up of the anti-Communist campaign in China. The resumption of diplomatic and consular relations was approved by the Kuomintang central executive committee during its plenary sessions. Dr. Yen, was named Ambassador to Moscow, being replaced in Washington by Dr. Alfred Sze. Dimitri Bogomoloff, former Soviet Minister to Poland, was appointed Ambassador to China.

**OTHER DEVELOPMENTS.** The government of The Netherlands in 1932 returned to China the funds thereafter due it as Boxer indemnity. As in the British Boxer Indemnity Agreement, the Netherlands stipulated that 65 per cent of these funds were to be assigned for conservancy works in China under Dutch engineers using Dutch materials, and the balance of 35 per cent were to be applied to cultural purposes. In September the Ministry of Interior issued regulations for the abolition of juvenile slavery throughout the country.

**BIBLIOGRAPHY.** Consult Harold Archer Van Dorn, *Twenty Years of the Chinese Republic* (New York, 1932); Chih Meng, *China Speaks* (New York, 1932); Wang Ching-wei and others, *The Chinese National Revolution* (Peiping, 1931); J. B. Condliffe, *China Today: Economic* (Boston; World Peace Foundation, 1932). For a clarifying statement of conditions in China in 1932, see a special chapter in the report of the Lytton commission.

**CHINESE LITERATURE.** See PHILOLOGY, MODERN.

**CHORAL MUSIC.** See MUSIC.

**CHOSEN.** See KOREA.

**CHRISTIAN CHURCH.** See CONGREGATIONAL AND CHRISTIAN CHURCHES; and articles on various religions.

**CHRISTIAN ENDEAVOR, INTERNATIONAL SOCIETY OF.** Founded in 1881 by the Rev. Francis E. Clark, D.D., in Portland, Me., the Christian Endeavor world-wide movement reported in 1932 a membership of more than 4,000,000 young persons. These are members of 80,000 Christian Endeavor societies, representing more than 80 denominations, in 105 countries, dominions, and island groups. The 58,000 societies of Christian Endeavor in North America unite to form the International Society of Christian Endeavor. The national unions of all the continents compose the World's Christian Endeavor Union, which is probably the largest youth federation formed for any purpose. In a half century the movement has helped to train 20,000,000 or more young persons for active church membership and leadership, as well as influencing and broadening their personal religious life.

Christian Endeavor members are pledged to certain forms of Christian devotion and expression, and service, "trusting in the Lord Jesus Christ for strength." The principles to which members owe allegiance are as follows: confession of Christ, active service for Christ, loyalty to Christ's church, and fellowship with Christ's people. Most of the societies are affiliated with local churches of the Protestant denominations, but some have been organized at schools, public institutions, prisons, army posts, and aboard merchant vessels and the ships of the U. S. Navy.

A number of societies furnish leadership to smaller churches without stated pastors and are similarly active in home and foreign mission fields. Practically every society conducts a weekly devotional and discussion meeting, and conducts through committees in which every member of the society has specific duties such activities as organized recreation, education for citizenship, social service, local missionary work, missionary and stewardship promotion, church publicity, fellowship work among newcomers to the community, and evangelism. The society promotes regular habits of prayer and daily Bible reading. It has interested and prepared numerous young men and women to enter the ministry, missionary work, or other Christian vocations, as well as assisting many others to make a wise choice of other vocations that could be followed with a Christian spirit.

The societies function interdenominationally not only through the International Society but through 1200 city, county, and district unions, composed of from four or five to several hundred societies, and through unions in most States and provinces. Union officers for the most part are young volunteers, averaging 22 years of age, who assist in the forming of new societies, conduct workers' conferences and local conventions for the younger members, and provide a clearing-house for the exchange of ideas and fellowship among the societies of a designated area. Several of the State unions employ a field secretary for educational and promotional work. The total employed force of the movement, however, is less than 100 persons.

The next biennial convention was to be held July 8-13, 1933, in Milwaukee, Wis. Officers in 1932 were: President, the Rev. Daniel A. Poling, D.D., LL.D.; vice-presidents, the Rev. William Hi-

ram Foulkes, D.D., and the Rev. Howard B. Grose; general secretary, Carlton M. Sherwood. The official magazine is the *Christian Endeavor World* (monthly). Headquarters are in the World's Christian Endeavor Building, Mt. Vernon and Joy Streets, Boston, Mass.

**CHRISTIAN SCIENCE.** A system of metaphysical or spiritual healing discovered by Mrs. Mary Baker Eddy in 1866. The first church was established by Mrs. Eddy in Boston in 1879 and given a charter by the Commonwealth of Massachusetts. In 1892 it was reorganized as a voluntary religious association known as The First Church of Christ, Scientist, in Boston, called more frequently by its adherents "The Mother Church." Mrs. Eddy wrote the textbook of the movement, *Science and Health with Key to the Scriptures*, first published in 1875. The Sunday services of the church are conducted by first and second readers, the former reading from *Science and Health* and the latter from the authorized version of the Bible. In 1932 more than 10,000 practitioners of Christian Science in the United States and other countries devoted their entire time to healing the sick through prayer.

A board of directors administers the affairs of The Mother Church. Its annual meeting was held in Boston June 6, 1932. Reports indicated a yearly expenditure totaling \$1,164,928 from the general fund of the church. During the fiscal year ending May 31, 1932, 92 churches and Christian Science societies, including several university societies, were recognized as branches of The Mother Church, 49 being in North America, 34 in Europe, 2 in Asia, 6 in Australia, and 1 in Africa. The total number of recognized branches was 2592.

Three departments conduct the principal activities of the movement: the Board of Education, Board of Lectureship, and Committee on Publication. The Board of Education instructs and authorizes students to teach Christian Science. The Board of Lectureship consists of 24 members who are engaged in delivering free lectures on Christian Science throughout the world. During 1932 they delivered 3639 lectures, of which 3157 were in the United States, Canada, and Alaska and 482 in foreign fields.

The Committee on Publication aims to correct impositions on the public in regard to Christian Science. It endeavors also to guard the rights of Christian Scientists against restriction by public authority. The Christian Science Publishing Society, which publishes and issues the authorized literature of The Mother Church, operates under a deed of trust granted by Mrs. Eddy; its affairs are now administered by a board of trustees according to the Manual of the church. It issues the daily paper of the organization, *The Christian Science Monitor*. Other periodicals include *The Christian Science Journal*, *Christian Science Sentinel*, and four editions of *The Herald of Christian Science* in the German, French, Dutch, and Scandinavian (Danish, Swedish, and Norwegian) languages respectively, each with the English translation opposite.

The Benevolent Association of the Church conducts sanatoria in Brookline, Mass., and San Francisco, Calif. Pleasant View Home in Concord, N. H., is a home for Christian Scientists of advanced years. Robert E. Buffum was president of The Mother Church for the year ending May 31, 1932. The headquarters of the church are at 107 Falmouth Street, Boston, Mass.



**CHRISTIAN UNITY.** See INTERNATIONALISM.

**CHRISTMAS ISLAND.** The name applied to two separate islands, one in the Indian Ocean forming a part of the Straits Settlements (q.v.) and the other the largest atoll in the Pacific Ocean, being over 100 miles in circumference, belonging to the Gilbert and Ellice Islands Colony (British).

**CHRISTY, CUTHBERT.** A British naturalist and explorer, died in the Belgian Congo, May 29, 1932. Born in 1863, he studied medicine at the University of Edinburgh, from which he was graduated in 1892. After traveling in the Argentine and West Indies he went to Africa, and in 1898 became attached, as special medical officer, to the second battalion of the West African field force in Northern Nigeria. In 1900 on the outbreak of a plague in Bombay he was transferred there, and was later made assistant to the Haffkine Bombay Plague Laboratory in Parel. He was appointed a member of the first Uganda Sleeping-Sickness Commission in 1902, and in the following year joined an expedition of the Liverpool School of Tropical Medicine to the Congo. After serving in Ceylon, and in East Africa, Uganda and other parts of Africa, he spent three years (1911-14) conducting a scientific expedition in the Congo for the Belgian government, and during 1915-16 explored and mapped the Nile-Congo divide for the Sudan government. Also, he explored for the British Museum the Bahr-el-Ghazal during 1920-23 and the Nyasa and Tanganyika lakes during 1925-28. In 1930 he was made chairman of the international commission appointed by the League of Nations to inquire into the existence of slavery and forced labor in Liberia. At the time of his death he was again exploring the Congo for the Belgian government. He was the author of *Mosquitoes and Malaria* (1900); *The African Rubber Industry* (1911); and *Big Game and Pygmies* (1924).

**CHRONOLOGY.** The following chronology lists the more important happenings of the year 1932 according to the dates of occurrence. In most cases these are treated in more detail under the respective heads, and to such articles, particularly those on leading countries and states, such as United States, Great Britain, New York, and so forth, the reader is referred. For a list of prominent persons who have died during the year, reference should be made to the article **NECROLOGY** and the important obituary notices there listed.

**January 1**—Hearings on Senator Johnson's investigation into American foreign loans revealed that a total of \$815,000,000, all floated by South American governments, States, or municipalities, was in default.

**3**—Japanese troops occupied Chinchow, Chinese headquarters in Manchuria.

The Government of India again arrested Mahatma Gandhi and outlawed the All-India National Congress, as the civil disobedience campaign was renewed.

**4**—The American Congress reconvened. President Hoover urged immediate action on his reconstruction proposals.

A revolution broke out in Honduras.

**5**—Prime Minister J. A. Lyons completed his new Australian Cabinet.

**6**—The House Foreign Affairs Committee approved an appropriation of \$450,000 for expenses of the American delegation to the Geneva Disarmament Conference.

**7**—Secretary of State Stimson, in notes to both China and Japan, affirmed that the American Government would not recognize any situation, treaty, or agreement brought about in Manchuria by means contrary to the Kellogg-Brinard Pact.

**8**—Lieut. Thomas H. Massie, U.S.N., his mother-in-

law, Mrs. Granville Fortescue, and two sailors of the U. S. Navy were arrested in Honolulu charged with the murder of Joseph Kahahawai, a Hawaiian accused of attacking Mrs. Massie.

The Democratic Presidential campaign got under way at the annual Jackson Day dinner in Washington.

**9**—President Hoover appointed Col. Theodore Roosevelt, Governor of Puerto Rico, as Governor General of the Philippines, succeeding Dwight F. Davis, who had resigned.

A Democratic tariff bill passed the U. S. House, with 12 Republicans and the Farmer-Labor member voting with the Democrats.

Chancellor Brüning declared in Berlin that Germany could not make any more reparation payments.

**11**—President Hoover's proposal for the \$2,000,000,000 Reconstruction Finance Corporation passed the Senate.

By an agreement with the International Committee of Bankers on Mexico, the moratorium on Mexico's foreign debt was extended to Jan. 1, 1934.

**12**—Oliver Wendell Holmes resigned as Associate Justice of the U. S. Supreme Court, at the age of 90.

The Round-Table Conference on Burma closed at London. Burma was promised a separate Constitution with larger autonomy.

**13**—France submitted a new debt plan to Great Britain, and suggested that the United States cancel the Allied war debts.

Premier Mussolini urged the European countries to wipe out their mutual war debts and present a united demand for annulment of their war debts to America.

André Tardieu became Minister of War, and Premier Laval assumed the Foreign Affairs portfolio in a reorganization of the French cabinet.

Former Premier Witos and other prominent foes of Marshal Pilsudski were sentenced to prison by a Warsaw (Poland) court, on charges of treason.

**14**—President Hoover's candidacy for reelection was announced by Postmaster-General Brown.

Japan announced plans for an "independent" Manchuria.

**15**—Germany's unemployed totaled about 6,000,000.

**17**—An important archaeological discovery—the tomb of a Mixtec noble—was reported from Monte Alban, State of Oaxaca, Mexico.

**18**—Anti-clerical and anti-monarchist outbreaks occurred in Spain.

**19**—The Jesuit order was dissolved and its property confiscated by a decree of the Spanish Republican government.

France and Britain agreed to extend the Hoover moratorium on war debts and reparations until after the American Presidential election in November.

President Hoover named Gen. Charles Dawes president and Eugene Meyer, Governor of the Federal Reserve Board, chairman of the Reconstruction Finance Corporation.

**20**—The Lausanne Conference on Reparations, scheduled for January 25, was postponed by the British Foreign Office, when Germany insisted upon a permanent settlement.

**21**—The Japanese Diet was dissolved and a general election called for February 20.

Secretary Stimson's memorandum to the French Ambassador at Washington, asserting that Europe "must take the initiative in reparations," was made public in Paris.

A Soviet-Finnish non-aggression pact was signed at Helsingfors (Helsinki), Finland.

**22**—A Communist rising in El Salvador was crushed with heavy loss of life.

President Hoover signed the Reconstruction Finance Corporation bill.

A House Committee at Washington heard Sergio Osmena, head of the Philippine Mission, ask full independence for the islands.

**23**—Franklin D. Roosevelt openly entered the race for the Democratic Presidential nomination by permitting the use of his name in the North Dakota primary.

President Hoover signed a bill providing the Federal Land Banks with \$125,000,000 of additional capital.

The so-called Standstill Agreement, under which about \$1,275,000,000 of foreign short-term credits were retained in Germany, was prolonged for one year.

**25**—A Communist general strike broke out in Seville and other Spanish cities.

Sir Eric Drummond resigned as Secretary-General of the League of Nations.

The Japanese attacked Chapei, Chinese quarter of Shanghai.

**26**—The British submarine *M-2* sank in the English Channel with 60 men.

**27**—The Legislature's investigation of the administration of New York City's affairs was extended for one year by the State Legislature.

**29**—Following China's appeal, the League Council ordered a full investigation of the situation at Shanghai.



30—The Chinese capital was moved from Nanking to Lovang because of threatened war with Japan.

The 17th Conference of the Russian Communist party was held in Moscow.

31—The first blast furnace was blown in at the great Magnitogorsk steel factory in the Soviet Union.

American military and naval reinforcements were ordered to Shanghai.

A voluntary wage reduction of 10 per cent was accepted by 1,500,000 American railway workers at a Chicago conference.

February 1—Japanese war vessels shelled Nanking.

2—France and Italy joined Britain and America in protesting Japan's action at Shanghai.

The Disarmament Conference opened at Geneva, with 64 nations represented.

3—President Hoover called upon the nation to release \$1,300,000,000 of hoarded money.

President Hoover appointed Andrew W. Mellon as Ambassador to Great Britain.

The city of Santiago, Cuba, was badly damaged by a series of earthquakes.

4—Japanese troops captured Harbin from Chinese irregulars.

Governor Roosevelt opened the Third Olympic Winter Games at Lake Placid, New York.

Ogden L. Mills, Under-Secretary of the U. S. Treasury, was appointed Secretary to succeed Andrew W. Mellon.

6—The Lithuanian governor of Memel Territory ousted the German president of the Memel Directorate.

André Tardieu, French War Minister, proposed at the Geneva Disarmament Conference that the League of Nations be reorganized as a super-state.

7—Alfred E. Smith announced his willingness to accept the Democratic nomination for President of the United States.

8—Great Britain, through Foreign Minister Sir John Simon, proposed a 25 per cent arms cut at Geneva.

9—Junnosuke Inouye, Japanese opposition statesman, was assassinated in Tokyo.

The American disarmament delegation proposed a nine-point programme to the Geneva Conference.

More than 100 labor leaders presented a formal petition for unemployment relief to President Hoover.

Ecuador went off the gold standard.

10—109 Communist ringleaders of a revolt in Catalonia were exiled from Barcelona to Spanish Guinea.

Secretary of War Hurley opposed political independence for the Philippines before the House Committee on Insular Affairs.

11—Maxim Litvinov, Soviet delegate to the World Disarmament Conference, proposed total disarmament.

The report of the Royal Commission on Malta recommended the restoration of parliamentary government.

Premier Mussolini made his first official call upon Pope Pius XI.

12—France and Italy reopened negotiations for a settlement of their naval differences.

14—An unemployment insurance scheme was recommended by a committee appointed by Governor Roosevelt of New York.

15—At Washington, the House passed the Glass-Steagall bill, 350 to 15.

President Hoover appointed Benjamin Nathan Cardozo, Chief Judge of the New York State Court of Appeals, to the seat on the U. S. Supreme Court vacated by Justice Holmes.

Chinese Communists again captured Nanchang, capital of Kiangsi Province.

16—Sixteen Opposition leaders were deported by the Peruvian Government.

The Costigan-LaFollette bill provided \$750,000,000 for direct federal relief for the unemployed was defeated in the U. S. Senate, 48 to 35.

The U. S. House of Representatives adopted a resolution to initiate the "lame-duck" amendment to the Constitution. Virginia was the first State to ratify (March 4).

The Laval Cabinet resigned in France.

The combined Fianna Fail (Republican) and Labor parties won 81 seats in the Irish Free State Dail against 68 seats held by President Cosgrave's party.

17—President Hoover asked Congress for authority to reorganize government bureaus.

18—Chinese and Mongol leaders in Manchuria and Jehol Province, acting under Japanese auspices, declared their independence of China.

19—The U. S. Senate passed the Glass-Steagall bill.

20—The League of Nations called the Assembly in special session for March 3 to consider action against Japan. Hostilities were renewed at Shanghai.

The Seiyukai (government) party in Japan won a majority in the Diet in national elections.

22—President Hoover addressed a joint session of Congress in observance of the Washington bi-centennial.

23—Tardieu's new French cabinet received a vote of confidence in the Senate.

Secretary of State Stimson, in a letter to Senator

Borah, reaffirmed the American Government's position regarding Manchuria.

24—Sir Malcolm Campbell established a new automobile speed record of 253,968 miles per hour at Daytona Beach, Fla.

The Berlin Boerse opened for the first time in five months.

27—The Glass-Steagall bill was signed by President Hoover.

The U. S. House passed the Almon bill loaning \$132,500,000 to the States for emergency highway construction.

29—Great Britain abandoned its 80-year policy of free trade.

March 1—The son of Col. and Mrs. Charles A. Lindbergh was kidnaped from his home in Hopewell, N. J.

The new state of Manchoukuo was formally established.

2—The U. S. Senate adopted the joint resolution to submit the "lame-duck" Constitutional amendment to the States.

3—The special session of the League Assembly opened at Geneva, while Japan sent additional troops to China.

4—The U. S. Senate appropriated \$50,000 for a full investigation of stock exchanges.

The League Assembly unanimously resolved that Japanese troops must withdraw from the Shanghai area.

5—The Lapuan (Fascist) plot to seize control in Finland was frustrated.

Japanese assassins murdered Baron Takuma Dan, a leading financier and industrialist, in Tokyo.

6—An assassin shot and wounded President Sánchez Cerro of Peru and his chief of staff.

7—A riot of unemployed workers at the River Rouge (Michigan) plant of the Ford Motor Company ended with four men killed and 35 injured.

Aristide Briand died in Paris, France.

8—The House passed the La Guardia anti-injunction bill. A similar measure passed the U. S. Senate on March 1.

Franklin D. Roosevelt won the first Democratic presidential preference primary of the campaign, held in New Hampshire.

9—Eamon de Valera was elected president of the new Irish Free State government.

Henry Puyi, former Emperor of China, was installed as head of the new government of Manchoukuo.

11—The Assembly of the League of Nations endorsed the Stimson Doctrine. The Assembly took the stand that the Manchurian and Shanghai problems were both within its jurisdiction and appointed a Commission of 19 to negotiate a Sino-Japanese peace.

12—Ivar Kreuger committed suicide in Paris.

13—President Paul von Hindenburg led Hitler in an indecisive German presidential poll.

14—The Beck-Linthicum resolution to return liquor control to the States was defeated in the House, 227 to 187.

15—The Geneva Disarmament Conference established a committee of 21 nations to consider plans for "moral" disarmament.

17—The League demanded that the Japanese withdraw from Shanghai without obtaining political or economic concessions from China, and empowered the Lytton Commission to negotiate a truce at Shanghai.

18—The House voted to apply war-time surtax rates on American incomes.

21—Violent windstorms in Alabama, Georgia, Tennessee, Florida, and Kentucky killed more than 360 persons and injured over 2000.

22—President De Valera notified the British Government that the Irish Free State would abolish the oath of allegiance to the British King.

The Moslem representatives withdrew from the Lahore conference called to consider the problem of communal representation.

23—President Hoover signed the Norris anti-injunction bill.

24—The U. S. House rejected the sales tax, 223 to 153.

25—The U. S. House defeated a measure to legalize 2.75 per cent beer.

31—The U. S. Senate ratified, with six reservations, the 1931 Geneva Convention for the limitation of manufacture of narcotic drugs.

April 1—The U. S. House passed the tax bill, calculated to balance the budget.

3—Premier Tardieu of France visited London to discuss European problems with British officials.

4—The U. S. House of Representatives passed the Hale bill, granting independence to the Philippines after eight years.

Asst. Atty.-Gen. Seth W. Richardson reported to the Senate on crime conditions in Hawaii.

5—Unemployed demonstrators in St. John's, Newfoundland, attacked the legislative building and threatened the Prime Minister, Sir Arthur Squires, with violence.

Finland's 18-year prohibition experiment ended with the opening of government liquor shops.

6—The French proposal for establishment of a Danubian Federation was rejected by Germany and Italy at a Four-Power Conference in London.

7—In order to make the State of New South Wales pay defaulted installments on its public debt, the Commonwealth Government of Australia ordered citizens of the State to pay their taxes directly into the Federal Treasury.

10—Hindenburg defeated Hitler, 19 million votes to 18 million, in the runoff election for the German Presidency.

Public and private charity was being dispensed to 828,000 persons in New York City, it was announced.

11—The American delegation to the Geneva Disarmament Conference proposed the abolition of weapons designed primarily for aggressive warfare.

18—The Brüning Government in Germany ordered the dissolution of Adolf Hitler's Storm Troops.

14—Ohio National Guard units were called out to preserve order in the State's bituminous coal fields.

Unemployed mobs in Auckland, New Zealand, wrecked and looted hundreds of stores in the city's best shopping district.

21—Governor James Rolfe of California refused to pardon Thomas J. Mooney.

Nicaraguan National Guard units, in a clash with irregulars near Apala, lost three American officers and eight native guardsmen.

New import tariffs were imposed in Great Britain.

24—In the Prussian elections, Hitler increased his delegation in the Diet from 6 to 162, but failed to secure a majority.

The new Shakespeare Memorial Theatre at Stratford-on-Avon was opened by the Prince of Wales.

25—Wholesale arrests frustrated the All-India National Congress attempts to meet in New Delhi in defiance of the government's ban.

26—Former Governor Smith defeated Roosevelt in the Massachusetts presidential preference primary.

The *Literary Digest* nation-wide poll showed 1,236,660 votes in favor of the Eighteenth Amendment and 3,431,877 against it.

28—A Korean terrorist and patriot tossed a bomb into a group of high Japanese officers reviewing a military parade in Shanghai, killing Dr. Y. Kawabata, fatally injuring Gen. Yoshinori Shirakawa, and wounding Maj. Gen. Kenkichi Uyeda, Minister Mamoru Shigemitsu, and Consul General Kuaramatsu Mura.

The four defendants in the Massie case were convicted of manslaughter by a jury in Honolulu. Their sentence of 10 years imprisonment at hard labor was subsequently commuted by Governor Judd to one hour.

May 1—The French parliamentary election resulted in gains by the Socialists and Radical-Socialists.

4—John N. Garner of Texas won California's Democratic presidential primary preference.

A truce was signed by Chinese and Japanese representatives at Shanghai.

A non-aggression pact between Estonia and the Soviet Union was signed at Moscow.

7—Paul Doumer, President of France, was assassinated.

10—Albert F. Lebrun was elected President of France.

11—President Hoover vetoed the Democratic tariff bill.

12—The body of Colonel Lindbergh's kidnapped son was found.

13—Premier J. T. Lang of New South Wales was removed from office by Sir Philip Game, British Governor.

15—Premier Ki Inukai of Japan was assassinated in Tokyo by reactionaries.

Two days of rioting between Hindus and Moslems in Bombay ended with 72 killed and hundreds injured.

16—Forty-one lives were lost when fire at sea destroyed the new French liner *Philippar*.

Peru temporarily abandoned the gold standard.

18—A united fight against atheism and communism was urged by Pope Pius XI in an encyclical.

19—The Irish Free State Dail, by a majority of eight votes, passed on third reading a bill to abolish the oath of allegiance to the British Crown.

20—The U. S. Congress placed import tariffs on coal and oil. On March 23, lumber and copper import duties were voted into the tax bill.

21—Mrs. Amelia Earhart Putnam was the first woman to make a solo non-stop crossing of the Atlantic by airplane.

22—At the Socialist party's national convention in Milwaukee, Norman Thomas of New York was nominated for President and James H. Maurer of Reading, Pa., for Vice-President.

23—Admiral Viscount Minoru Saito, became Premier of Japan.

Former President Menocal sought refuge in the Brazilian legation at Havana, Cuba, from the Cuban Government.

26—The Hofstadter legislative committee concluded its two-day examination of Mayor Walker in New York.

28—With the completion of an 18-mile dike connecting Wieringen with Friesland, the Zuider Zee passed out of existence. Most of the inland lake remaining, known as IJssel Lake, was to be reclaimed for Dutch agriculture.

30—A conspiracy to restore the monarchy in Spain was squelched by police and republican troops.

The Brüning Cabinet in Germany resigned.

31—Col. Franz von Papen formed a German cabinet dominated by conservative Junkers.

The Jorga Cabinet resigned in Rumania.

June 1—The Revenue bill passed the U. S. Senate.

2—Expropriation of private property was authorized by a law adopted by the State of Vera Cruz, Mexico.

4—President Juan Esteban Montero of Chile was ousted by a junta led by Carlos Dávila, former Ambassador to the United States.

Edouard Herriot formed a liberal cabinet in France.

Harmodio Arias was elected President of Panama.

6—The Revenue bill was signed by President Hoover.

John D. Rockefeller, Jr. announced his support of a prohibition repeal plan suggested by Dr. Nicholas Murray Butler.

7—Unemployed World War veterans assembled in Washington to demand immediate payment of the \$2,400,000,000 maturity value of adjusted compensation certificates.

Speaker Garner's \$2,290,000,000 relief bill was passed by the U. S. House.

8—The Irish Free State Senate rejected President de Valera's bill to abolish the oath of allegiance.

11—J. T. Lang, Premier of New South Wales, was overwhelmingly defeated in State legislative elections.

The government of Sir Richard Squires in Newfoundland was defeated at the polls.

14—The gold outflow from the United States ended after \$1,500,000,000 had been withdrawn.

15—The Patman bill to pay veterans' adjusted compensation certificates by issuing \$2,400,000,000 in United States currency passed the House.

16—The Republican national convention at Chicago renominated President Hoover and Vice President Curtis.

17—The U. S. Senate rejected the Patman bill, while 14,000 veterans assembled on Capitol Hill.

21—Jack Sharkey won a decision over Max Schmeling in a world's heavyweight championship boxing bout.

22—The Eucharist Congress of the Roman Catholic Church opened at Dublin.

President Hoover's plan to reduce armaments of each nation by one-third was presented to the Geneva Disarmament Conference.

23—The U. S. Senate approved the \$2,300,000,000 Wagner relief bill.

24—A military revolution changed Siam from an absolute to a constitutional monarchy.

30—The British Chancellor of the Exchequer announced the successful conversion of about \$7,400,000,000 of 5 per cent war loan bonds into bonds bearing interest at 3½ per cent.

Siam's newly created Senate held its first session at Bangkok.

The Democratic platform adopted at Chicago advocated outright repeal of prohibition.

July 1—Gov. Franklin D. Roosevelt secured the Democratic nomination for President.

The U. S. Government incurred a deficit of \$2,885,000,000 in the 1931-32 fiscal year, Secretary Mills announced.

2—Manuel Baganza, deposed King of Portugal, died in Twickenham, England.

4—The British House of Commons placed a 20 per cent import duty on Irish exports to England following President De Valera's refusal to pay \$24,000,000 in land annuities.

6—The American aviators, James Mattern and Bennett Griffin, landed at Berlin after a non-stop trans-Atlantic flight from Harbor Grace, Newfoundland.

A Communist uprising occurred at Trujillo, Peru, it was suppressed by government troops on July 11.

7—The French submarine *Prométhée*, with 62 men, sank off Cherbourg.

Señora Mariana de la Torre, wealthy Cuban woman, her son, nephew, and another were convicted of attempting to assassinate President Machado and sentenced to 14 years in Prison. Later she was pardoned.

The Finnish Soviet non-aggression pact was ratified.

8—At Lausanne, the Allied Powers reduced their reparation claims on Germany from \$10,000,000,000 to \$714,000,000.

9—The Mexican Supreme Court upheld the law limiting the number of priests and churches in Mexico City to 25.

11—President Hoover vetoed the Garner-Wagner relief bill.

12—Thomas Bata, Czech shoe manufacturer, was killed in an airplane accident.

13—Terms of the Anglo-French agreement at Lausanne were made public.

15—The U. S. National Citizens' Committee for the Welfare and Relief Mobilization was established.

16—Great Britain proposed a plan for communal representation under the projected Constitution of India. The first session of the Seventy-second Congress adjourned at Washington.

18—The Canadian-American treaty for the joint development of the St. Lawrence waterway was signed at Washington.

Turkey was admitted to membership in the League of Nations.

20—Prussia was placed under the military and political control of the German Federal Government by President von Hindenburg's emergency decree.

Mussolini ordered a drastic reorganization of the Fascist Cabinet, removing Foreign Minister Grandi and others.

President-elect Bonifaz of Ecuador was declared ineligible by Congress.

The Ottawa Conference ended with the conclusion of 12 separate trade pacts.

21—Japanese forces invaded Jehol Province in China. President Hoover signed the Bacharach bill reducing interest rates on government loans to war veterans.

23—The Geneva Disarmament Conference adjourned for a six months' recess.

26—Atlee Pomerene, former Democratic Senator, was appointed chairman of the U. S. Reconstruction Finance Corporation.

The Chinese authorities at Nanking declared a postal blockade of Manchuria.

28—Federal troops called out by President Hoover ousted the "Bonus Expeditionary Force" from its camps in the city of Washington.

29—The inter-American committee of neutrals at Washington proposed suspension of Bolivian-Paraguayan hostilities in the Chaco region for 60 days.

30—Vice-President Curtis opened the Olympic Games at Los Angeles.

31—Hitler's National Socialists increased their standing in the German Reichstag from 107 to 230 seats in the general election.

August 2—The U. S. Government accepted a League of Nations invitation to participate in the International Monetary and Economic Conference, but ruled out any discussion of war debts, reparations, or tariffs.

6—The new Welland Canal was formally dedicated at Welland, Canada.

Felix T. Hamrin succeeded Carl G. Ekman as Premier of Sweden.

8—Secretary of State Stimson, in address before the Council on Foreign Relations, New York, said that consultation between signatories of the Kellogg-Briand Pact "becomes inevitable" when violation of the Pact is threatened.

10—A monarchist revolt at Seville and Madrid, led by Gen. José Sanjurjo, was put down by the Republican government.

13—A Polish-Danzig agreement settled several disputes between the two states which had threatened the peace of Europe.

16—A farmers' strike closed roads leading into Sioux City and Des Moines, Ia., to farm produce and livestock.

18—Prof. Auguste Piccard made his second ascent into the stratosphere by balloon from Zurich, Switzerland, reaching a height of 54,120 feet.

19—J. A. Mollison, Scottish aviator, completed the first solo east west flight across the North Atlantic.

26—Foreclosures on first mortgages by receivers of closed National banks in the United States were ordered suspended by the Controller of the Currency, pending the opening of newly authorized Home Loan Banks.

27—The Lancashire, England, cotton industry was disrupted by a strike of 200,000 operatives.

31—Astronomers from all parts of the world studied a total eclipse of the sun visible in northeastern United States and eastern Canada.

A Conservative revolt in Ecuador was crushed with the recapture by government troops of the city of Quito.

September 1—Mayor James J. Walker of New York City resigned.

3—President Pascual Ortiz Rubio of Mexico resigned and was succeeded by Gen. Abelardo Rodríguez (September 4).

The annual military review of the Stahlhelm drew 100,000 German war veterans to Berlin.

A treaty was signed providing for termination of American intervention in Haiti on Dec. 31, 1934.

5—Chancellor von Papen's radical programme for the revival of German economic activity went into effect.

6—The German Government threatened to withdraw from the Geneva Disarmament Conference unless its demand for equality of armaments was granted.

9—Seventy-one men were killed and 70 injured in a boiler explosion on board the steamboat *Observation* in the East River, New York City.

New York City's new \$191,200,000 municipal subway was opened to traffic.

The Spanish Cortes, before adjourning, passed a law for the redistribution of large estates.

12—The German Reichstag was again dissolved after it had repudiated the Von Papen Government, by a vote of 513 to 32.

In the Maine election the Democrats elected the Governor and two Representatives.

13—Paul Gorgoulou, assassin of President Doumer of France, was guillotined in Paris.

President Carlos G. Dávila was deposed as Provisional President of Chile by a military revolt.

14—A troop train in Algeria plunged into a ravine, killing more than 100 men and officers of the French Foreign Legion.

16—The American Legion, in convention at Portland, Ore., advocated immediate cash payment of the soldiers' bonus.

Japan formally recognized Manchoukuo.

Germany withdrew from the Geneva Disarmament Conference, demanding equality of armaments.

16—French authorities reported the surrender of 15,000 tribesmen in the Grand Atlas mountains, French Morocco.

18—A British note admitted Germany's right to arms equality, but insisted that it be achieved through the Geneva Conference.

19—Premier F. T. Hamrin, of Sweden, resigned following the victory of the Socialists and Agriculturalists in the parliamentary elections.

The Colombian Congress voted a \$10,000,000 national defense fund, following Peru's refusal to evacuate the seized Colombian port of Leticia on the Amazon.

20—The economic and financial conference of Central and Eastern European states closed at Stressa, Italy.

President Hoover urged Germany to remain in the Geneva Conference.

21—The Karolyi Cabinet resigned in Hungary.

23—The U. S. Interstate Commerce Commission plan for consolidation of eastern railways into four main systems was accepted by the railway executives.

24—Discussion of the Lytton Commission's report on Manchuria was postponed by the League Council to November 18.

25—The Spanish Republic granted autonomy to Catalonia.

The Venizelists and their Republican allies retained a slight parliamentary majority over the Royalists in the Greek elections.

Communists captured control of Sofia, the Bulgarian capital, in the municipal elections.

26—Pres. Eamon de Valera of the Irish Free State presided at the opening of the 13th annual Assembly of the League of Nations at Geneva.

Mahatma Gandhi's 149-hour hunger strike forced a settlement of the electoral representation issue between the caste Hindus and the Untouchables, the new arrangement was approved by the British Government.

27—A hurricane devastated the northern part of Puerto Rico, killing 245 persons and injuring more than 3300.

Dr. Clemente Vázquez Bello, President of the Cuban Senate, was assassinated at Havana.

28—Viscount Snowden, Sir Herbert Samuel, and Sir Archibald Sinclair resigned from Britain's National Government.

The Argentine Chamber, in voting to reënter the League of Nations, repudiated the Monroe Doctrine as recognized in Article XXI of the League Covenant.

29—President Hoover declared a temporary moratorium on 75 per cent of the government's crop-production loans to wheat farmers.

30—Gen. Julius Gombos formed a new Hungarian cabinet.

A Papal encyclical protested against "iniquitous" laws restricting religion in Mexico.

October 2—The Lytton Commission's report on Manchuria charged Japan with major responsibility.

3—Civil war in Brazil ended with the surrender of the São Paulo rebels.

Iraq's admittance to membership in the League of Nations terminated the mandate allotted to Great Britain after the World War.

At the request of Eamon de Valera's government, King George accepted the forced resignation of James McNeill, Governor-General of the Irish Free State.

4—Samuel Insull, utilities magnate, was indicted by a Cook County (Ill.) grand jury on charges of embezzlement and larceny.

President Hoover opened his campaign for reelection at Des Moines, Ia.

Mexico deported the Apostolic Delegate, Leopoldo Ruiz y Flores.

5—The annual conference of the British Labor party at Leicester adopted a resolution binding its leaders to follow a strictly socialistic policy in the event of their return to office.

10—The Soviet Union opened the largest hydro-electric plant in the world at Dnieprostroy.

Japan opened an "anti-bandit" campaign in southern and northwestern Manchuria.

11—Ex-President Coolidge spoke in New York City in support of the Republican national ticket.

Zinoviev, Kamenev, and other political opponents of Josef Stalin were expelled by the Russian Communist party.

12—Canadian tariffs were readjusted in accordance with the Ottawa treaties.

13—At Washington, President Hoover laid the cornerstones of the new \$10,000,000 U. S. Supreme Court building.

16—28—Fascist Italy celebrated the tenth anniversary of the March on Rome.

17—Great Britain abrogated the trade agreement with the Soviet Union.

21—Former Pres. Arturo Alessandri was elected President of Chile.

23—Paraguayan troops in the Chaco continued their advance by capturing Fort Arce.

27—American unemployment dropped 560,000 in September, according to figures published.

28—Premier Herriot's new disarmament plan called for the abolition of professional armies and the substitution of national defense militias.

29—The French liner *Normandie*, largest in the world, was launched at St. Nazaire.

30—Juan de Dios Martinez Mera was elected President of Ecuador.

31—Premier Herriot of France arrived in Madrid for conferences with Spanish government officials.

November 1—President Machado's supporters won all the contested seats in the Congressional, provincial, and municipal elections in Cuba.

About 20,000 "hunger marchers" rioted in London. Nevada declared a 12-day legal bank holiday.

Nearly 100 leaders of the São Paulo revolt were exiled from Brazil.

3—The Ottawa trade pacts were approved by the British House of Commons.

Wheat prices, at less than 42 cents a bushel, were the lowest in American history.

4—Panayoti Tsaldaris, Royalist leader, formed a new Greek cabinet, succeeding Eleutherios Venizelos.

5—A Yugoslav political crisis caused the reorganization of the Serahkitch Cabinet.

Paraguay captured Fort Platanillos in the Chaco.

6—A German general election reduced Hitler's delegation in the Reichstag from 230 to 195.

Mussolini extended amnesty to several thousand political prisoners and anti-Fascist exiles.

The Philippine Legislature adopted a resolution calling for immediate independence.

Nicaraguan elections, held under the supervision of U. S. Marines, gave the Presidency to Dr. Juan B. Sacasa, Liberal.

7—The British Royal Commission on Unemployment Insurance approved the "dole" and recommended its extension to cover domestic servants and farm workers.

8—American elections resulted in a Democratic sweep. Troops fired on Socialist demonstrators in Geneva, Switzerland, killing 13 and wounding 45.

10—A hurricane devastated southern Cuba, killing more than 1000 persons.

13—Great Britain and France asked the United States for an extension of the war-debt moratorium and reconsideration of the whole debt question.

The Colorado River was diverted into a tunnel, leaving the bed of the river dry for construction of the foundations of the Hoover Dam.

14—The new French (Herriot) plan for armament limitation was submitted to the Geneva Disarmament Conference.

15—The British House of Commons approved on final reading the Ottawa trade pacts, effective November 16.

16—The party opposed to the separation of Burma from India won in the Burma general elections.

The Socialist government in Denmark retained power in the elections to the lower chamber of parliament.

The Prince of Wales dedicated the new Parliament Building of Northern Ireland at Stormont.

17—The Papen-Schleicher Cabinet resigned in Germany.

The third Round-Table Conference on India opened at London.

19—The new Siamese Constitution was promulgated at Bangkok.

20—Japan's reply denying the major findings of the Lytton Report was filed with the League of Nations Secretariat.

21—A. Lawrence Lowell resigned as President of Harvard University.

The League Council commenced consideration of the Lytton Report.

The American "radio trust" was dissolved by a consent decree in the U. S. District Court at Wilmington, Del.

22—European requests for postponement of \$123,641,698 in war-debt payments due the United States Decem-

ber 15 were discussed by President Hoover and President-elect Roosevelt at the White House.

25—American notes to France, Great Britain, and Belgium insisted that the December war-debt installments be paid.

26—Donal Buckley, retired shopkeeper, became Governor General of the Irish Free State.

27—A non-aggression pact between Poland and the Soviet Union was ratified.

28—The Persian Government announced its intention to cancel the petroleum concession held by the Anglo-Persian Oil Company.

President William Green of the American Federation of Labor demanded for labor the six-hour day and the five-day week.

29—A Franco-Soviet non-aggression pact was signed at Paris.

Secretary of Interior Wilbur's Committee on the Costs of Medical Care recommended the greater socialization of medical services.

30—The American Federation of Labor at Cincinnati endorsed State-administered unemployment insurance.

December 2—Lieut.-Gen. Kurt von Schleicher became Chancellor of Germany.

5—The "lame-duck" session of the Seventy-second Congress opened at Washington. Speaker Garner's prohibition repeal measure failed to secure a two-thirds majority in the House.

6—President Hoover's annual message was read in both houses of Congress.

The League Assembly opened a special session to consider the Lytton Report and the minutes of the Council's discussion of the Report.

7—President Hoover submitted to Congress budget proposals calling for expenditures of \$4,218,803,844.

The House Ways and Means Committee opened hearings on the Collier bill to legalize beer and light wine in the United States.

The U. S. Federal Farm Board reported a loss of \$239,000,000 in 1931-32 as a result of its efforts to stabilize wheat and cotton prices.

8—Yosuke Matsuoka, the Japanese delegate, informed the League Assembly that no action its might take would deter Japan from its course in Manchuria.

10—The Paraguayan drive in the Chaco was finally checked. On December 13 the Bolivians resumed the offensive.

11—A declaration indorsing in principle Germany's claim to equality of armaments was signed at Geneva by representatives of Great Britain, Germany, France, Italy, and the United States, paving the way for Germany's return to the Disarmament Conference.

12—Resumption of diplomatic relations between China and the Soviet Union was announced at Geneva.

14—Premier Mussolini, in a speech at Rome, denounced anti-Italian developments in Yugoslavia and by implication placed the blame on France.

16—A revolutionary plot against the government of President Justo was nipped in the bud at Buenos Aires, Argentina.

17—The U. S. Senate passed its bill providing for Philippine independence in 12 years.

18—The Little Entente powers, meeting at Belgrade, Yugoslavia, prepared to resist the drive for revision of the peace treaties.

24—The Pope, in a broadcast address, proclaimed 1933 a Holy Year.

Arturo Alessandri was inaugurated as President of Chile.

28—Aiming to decrease excessive labor turnover, the Soviet Government issued a decree requiring a passport of every citizen over 16 years of age.

29—The House at Washington accepted, 171 to 16, the report on the Senate's Philippine independence bill.

South Africa abandoned the gold standard.

31—The Soviet Five-Year Plan ended in four and a quarter years, with a broad general base for industrialization accomplished.

CHURCHES. See ARCHITECTURE; and articles on various religious denominations.

CHURCHES OF CHRIST. See DISCIPLES OF CHRIST.

CHURCHES OF CHRIST IN AMERICA, FEDERAL COUNCIL OF. See FEDERAL COUNCIL OF CHURCHES IN AMERICA.

CHURCHILL. New port on Hudson Bay. See CANADA under History.

CHURCH OF ENGLAND. See ENGLAND, CHURCH OF.

CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS. See LATTER-DAY SAINTS, CHURCH OF JESUS CHRIST OF.

**CHURCH UNITY.** See PRESBYTERIAN CHURCH IN THE UNITED STATES OF AMERICA; PROTESTANT EPISCOPAL CHURCH.

**CIGARS, CIGARETTES.** See TOBACCO.

**CINCINNATI, UNIVERSITY OF.** An institution for the higher education of men and women in Cincinnati, O., founded in 1870. The registration for the autumn of 1932 was 9182. The summer-school enrollment for 1932 was 1162. There were 560 members on the faculty. The endowment funds of the university for the year ended Dec. 31, 1931, amounted to \$8,993,325; the income for the same period was \$2,233,853. The library contained 206,664 volumes. During 1932 Stores and Service Building, Biology Laboratory and Physics Laboratory were completed. President, Raymond Walters, A.M., LL.D.

**CINCINNATI MUSEUM.** See ART MUSEUMS.

**CINEMAS, CINEMATOGRAPHY.** See MOTION PICTURES; PHOTOGRAPHY.

**CIRENAICA.** See CYRENAICA.

**CITY AND REGIONAL PLANNING.** Official planning commissions existed in 828 communities of the United States at the beginning of 1932. This was a gain of 42 in a year, according to details published in April, 1932, by the Division of Building and Housing, Bureau of Standards, U. S. Department of Commerce, which summarizes progress in city planning, regional planning and zoning each year. In number of city planning commissions Massachusetts led with 121. New York followed closely with 114. California had 108; Ohio, 79; Pennsylvania, 56; Illinois, 51. Of the 93 cities which had a population of 100,000 or over in 1930, all but 10 had planning commissions, the population of the 83 having been over 34,000,000 and of the 10 without commissions some 2,000,000. South Dakota was the only State without such a commission on Jan. 1, 1932. Besides the 828 official commissions there were 51 unofficial bodies, of which 11 were in New York and 10 in New Jersey. To meet the joint needs of large areas embracing many municipalities there had been created by Jan. 1, 1932, 75 official and 4 unofficial regional planning commissions. Of these official bodies 45 were county commissions and 4 were official State organizations. The county commissions function much more readily than the other regional organizations since they have county governments to base upon. Regional planning for more than a single county finds no local governmental agency in existence upon which to build and from which can spring the power necessary to put regional planning into effect. These lacks have to be met by State legislation setting up new governmental agencies, larger than the county. The only other alternative is voluntary coöperation, generally through private organizations with no legal power. The handicap is still greater where the region for which a plan is desired lies in two or more States. Notable examples of how these obstacles have been met and largely overcome are afforded by The Regional Plan for New York and Environs, covering 11,000,000 population in New York, Connecticut, and New Jersey, and the Philadelphia Tri-State District Plan for 11 counties in Pennsylvania, New Jersey, and Delaware, both outlined in the YEAR BOOK for 1931. Each of these plans was completed in 1931 but the reports upon them were not completed and published until 1932. The New York report extends to eight octavo

and two quarto volumes, besides a number of minor progress reports, issued over a period of several years. The Philadelphia report, which deals with an area having a population of 3,500,000 in 1930, is comprised in a large single volume. Some of its major recommendations, as summarized in the Philadelphia *Record* of May 17, 1932 (which gives many details), are:

Belt line highways providing direct routes for vehicular traffic between sections in the region as well as across it.

Seven additional highway river crossings, either bridges or tunnels, for the Delaware and five for the Schuylkill.

Development of Philadelphia's port.

Five additional airways, an additional air-transport terminal, 25 aerial service bases, 7 auxiliary landing fields and completion of the Hog Island air-rail-marine terminal.

Eight hundred miles of parkways in stream valleys. Development of 130,000 acres of park lands.

Interchange and interconnection of water supplies in the Camden and Trenton areas, sanitary treatment of sewage and waste.

Control of housing by local government regulation.

Not ordinarily classed under either regional or State planning but really a part of one or the other are the vast networks of State highways (made possible only by Federal aid) and many of the great bridges of recent years, as also the Hudson Vehicular Tunnel. (See this and earlier YEAR BOOKS.) This tunnel and the Philadelphia-Camden bridge over the Delaware, have led New Jersey to spend scores of millions of dollars to reinforce its through highways, notably for viaducts leading from the Holland Tunnel across Jersey City, the Hackensack and Passaic Meadows to Newark and Elizabeth, the last link of which was officially opened on Nov. 24, 1932. See BRIDGES.

Progress on the Chicago Plan, formulated years ago by the Chicago Plan Commission, included the completion of the widening of Western Avenue and the extension of Ogden Avenue. The latter is a heavy piece of work recommended in 1916, parts of which are a concrete viaduct, two bascule bridges and a steel viaduct over the intersection of two heavy-traffic streets. This improvement is 2¾ miles long. Western Avenue, for 23½ miles, has been converted from a major street with bottle necks into a main arterial highway. The width of the avenue varied in 18 places from 50 to 330 feet, with an average of only 66 feet. As widened, the minimum width is 100 feet. The plan commission advised widening in 1918. Four successive bond issues were voted from 1919 to 1930 to pay the city's share of the cost. The balance of the cost was met by assessments on 66,200 pieces of property.

For summaries of legislation on city and regional planning and on zoning see yearly bulletins of U. S. Department of Commerce, already mentioned; also April issue of *City Planning* (Boston). The quarterly just named carries news and descriptive articles, as does the *Town Planning Review* (Liverpool, England). Many papers and discussions are given in the 1931 *Proceedings of the National Conference on City Planning* (Philadelphia). See also: Adams, Lewis, and Orton, *Regional Plan of New York and Its Environs*, vol. ii, Graphic Regional Plan, The Building of the City (New York); Adams and others, *Recent Advances in Town Planning* (London and New York); *Planning for Residential Districts*, one of a series of committee reports in book form resulting from the President's Conference on Home Building and Home Ownership (U. S. De-

partment of Commerce, Washington); Warren and Davidge, editors, *Decentralization of Population and Industry: A New Principle in Town Planning* (London).

**CITY GOVERNMENT, CITY MANAGEMENT.** See MUNICIPAL GOVERNMENT.

**CITY OF NEW YORK, COLLEGE OF THE.** See PHILOLOGY, MODERN.

**CIVIC FEDERATION, THE NATIONAL.** See NATIONAL CIVIC FEDERATION, THE.

**CIVIL ENGINEERS, AMERICAN SOCIETY OF.** An association of professional engineers, founded in 1852 to advance engineering and architectural knowledge and practice, to maintain high professional standards, and to encourage intercourse among men of practical science. The membership as of Nov. 15, 1932, consisted of 19 honorary members (persons of acknowledged eminence in engineering), 5817 members (civil, military, naval, mining, mechanical, electrical, and other engineers in active practice 12 years and qualified to design as well as to direct engineering work), 6285 associate members (those who had been practicing eight years), 2879 junior members (beginners in the profession), 117 affiliate members (persons qualified to cooperate with engineers but not themselves engineers), and five fellows (contributors to the permanent funds of the society, who may not be eligible to membership). There were 56 local sections and 103 affiliated student chapters in colleges and universities throughout the United States.

Three general meetings of the society were held in 1932, the annual meeting, annual convention, and fall meeting. At the annual meeting, held in New York City January 20-22, the following medals and prizes were awarded or papers published in the *Transactions*: the Norman Medal to Floyd A. Nagler and Albion Davis, the J. James R. Croes Medal to John R. Freeman, the Thomas Fitch Rowland Prize to Samuel A. Greeley and William D. Hatfield, and the Arthur M. Wellington Prize to George F. Schlesinger. The sixty-second annual convention, held in Yellowstone Park July 6-9, discussed national parks, the public domain, and engineering projects in the West. Tri-State improvements in the vicinity of Philadelphia were the chief concern of the fall meeting held in Atlantic City, N. J., October 5-8.

At each of the meetings some sessions were under the direction of one or more of the 10 technical divisions, for which papers were presented on their special branches of engineering. Eight research committees, with a total personnel of about 60, were engaged throughout the year in special investigations. Nearly 100 members served on joint boards and committees, with representatives of other societies, for research and standardization.

The society publishes two monthly magazines: *Proceedings*, containing technical papers which are later collated, with discussions, in the yearly volume of *Transactions*; and *Civil Engineering*, which presents news of society affairs and articles of more popular appeal. The *Year Book* contains a list of members and general information about the society. A series of *Manuale*, published at irregular intervals, deal with various topics of engineering interest.

The officers of the society in 1932 were: president, Herbert S. Crocker; vice-presidents, J. N. Chester, H. M. Waite, D. C. Henry, and Arthur S. Tuttle; secretary, George T. Seabury; treas-

urer, Otis E. Hovey. Headquarters are in the Engineering Societies Building, 33 West Thirtieth Street, New York City.

**CIVIL SERVICE REFORM LEAGUE, NATIONAL.** Organized in 1881 for the purpose of putting to an end the so-called spoils system of making appointments to public office, this organization has sought to accomplish its end by promoting administrative efficiency through the application of the merit system to the appointment, promotion, and tenure of government officials. It also has advocated, on the principle that public office is a public trust, that those best fitted through demonstrated ability and capacity should serve the State.

During 1932 the League urged that an end be made of appointment of presidential postmasters on a political basis. It urged the competitive classification under the civil service law of collectors of internal revenue and their subordinates, and the consolidation with the U. S. Civil Service Commission of all federal agencies having to do with personnel administration. It sought the modification of the executive orders giving veterans preference in appointment to civil service positions.

The league endeavors to secure the adoption and improvement of civil service laws in various States and cities. Reports of its work are issued periodically. *Good Government* is the official organ. The officers in 1932 were: George McAneny, president; W. W. Montgomery, Jr., chairman of the executive committee; Howard R. Guild, chairman of the council; A. S. Frissell, treasurer; and H. Eliot Kaplan, secretary. Headquarters are at 521 Fifth Avenue, New York City.

**CIVITAN INTERNATIONAL.** An organization composed of selected professional and business men throughout the United States and Canada, who have dedicated themselves to unselfish service to their city, county, State, and nation. The first Civitan Club was founded in Birmingham, Ala., in 1917. The name "Civitan" was formed from the Latin "civitas." The motto of the organization is "Builders of Good Citizenship." The organization of field work was begun in 1920, when the international association was formed in Birmingham, and by 1921, when the first annual convention was held, there were 30 clubs. A total of 268 clubs had been chartered by Nov. 1, 1932. The primary requisite for membership is that every applicant be a "duly qualified and registered voter."

Among the outstanding achievements of the Civitan Clubs in 1932 were the awarding of medals to students of the Citizens Military Training Camps who possessed outstanding attributes of citizenship. Many clubs were sponsoring the "Sunbeam and Shadow" radio programme, the plan of which originated with the Miami (Fla.) Civitan Club. It consists of broadcasting appeals of those in distress by number; these appeals are known as "shadows," while the responses for the relief of such unfortunates are known as "sunbeams." The various clubs continued also their work of curbing crime, eliminating tuberculosis, and eradicating communistic activities wherever found. There were the usual agencies of Big Brothers work, Boy Scout camps, parole of first offenders to Civitans for personal observation, Americanization work, city beautification, sponsoring of essay contests on "Good

Citizenship," and in general participation in all matters of civil improvement and humanitarian betterment.

The 1932 convention was held in Baltimore, Md., June 19-23, and the 1933 convention was to be held in Memphis, Tenn. The official organ is the *Civitan* (monthly). The officers for 1932 were: president, Frederick E. Lykes, Asheville, N. C.; vice-presidents, Arthur Crownover, Nashville, Tenn., Dr. Frank P. Topping, Sacramento, Calif., and Herbert Porter, Atlanta, Ga.; international secretary, Arthur Cundy, Birmingham, Ala.; and international treasurer, Claude L. Hagan, Birmingham, Ala. Headquarters are at 800 Farley Bldg., Birmingham, Ala.

**CLAIMS COMMISSION.** See MEXICO under History.

**CLARK UNIVERSITY.** A nonsectarian university in Worcester, Mass., founded in 1889. It comprises a college for men, a coeducational graduate division of arts and sciences, and a coeducational senior college (extension courses) granting the degree of bachelor of education. The registration for the autumn of 1932 was 508 including 270 undergraduates, 91 graduate students, 17 special students, and 130 extension students. The enrollment for the summer session was 181. There were 40 members on the faculty. The productive funds amounted to approximately \$5,000,000. The library contained 140,000 volumes. President, Wallace W. Atwood, Ph.D.

**CLASSICAL ANTIQUITIES.** See ARCHÆOLOGY.

**CLASSICAL STUDIES.** See PHILOLOGY, CLASSICAL.

**CLERK, SIR DUGALD.** A British engineer and inventor, died in Ewhurst, Surrey, Eng., Nov. 12, 1932. He was born in Glasgow, Scotland, Mar. 31, 1854, and attended the Andersonian and the West of Scotland Technical colleges. He was professor of technical chemistry at Glasgow University and also at the Yorkshire College of Science in Leeds. As a result of his invention of the two-stroke Clerk cycle gas engine, he became recognized as an authority on internal combustion engines and was made a director of the National Gas Engine Co., Ltd. His other researches pertained to the properties and possibilities of gaseous fuel and gas lighting, the specific heat of gases and explosive pressure. During the World War he served as director of engineering research for the Admiralty, as a member of the advisory committee for aeronautics of the Air Ministry (being chairman of the internal combustion engine committee), and as a member of the Panel Board of Invention and Research.

Clerk was elected a Fellow of the Royal Society in 1908. He served as president of the Society of British Gas Industries (1906-08), the Incorporated Institution of Automobile Engineers (1908-09), the engineering section of the British Association for the Advancement of Science (1908), and the Institution of Gas Engineers (1919-20). During 1915-17 he was chairman of the council of the Royal Society of Arts. He was a recipient of the Watt Medal (1882) and the Telford Gold Medal (1907), awarded by the Institute of Civil Engineers; the Albert Medal (1922), awarded by the Royal Society of Arts; and the Royal Medal (1924), awarded by the Royal Society. In 1917 he was created a Knight Commander of the Order of the British Empire. Besides many scientific papers he

wrote: *The Theories of Gas Engines* (1891); *The Gas and Oil Engine* (1896); and *The Gas, Petrol, and Oil Engine* (2 vols., 1909-13).

**CLEVELAND COLLEGE.** See WESTERN RESERVE UNIVERSITY.

**CLEVELAND MUSEUM OF ART.** See ART MUSEUMS.

**CLIMATE.** See METEOROLOGY.

**CLIPPERTON ISLAND.** An island in the Pacific, situated some 500 miles southwest of Mexico and 1500 miles northwest of the Panama Canal. In dispute between Mexico and France, it was awarded to France in January, 1931, by the King of Italy acting as arbitrator. It is less than a square mile in area, with 30 inhabitants, and has small phosphate deposits. See MEXICO under History.

**COAL.** The combination of decreased buying power, a winter of marked mildness, and the increasing use of substitute fuels resulted in a further curtailment in coal production in 1932 from the output of 1931 as shown compared with earlier figures in the accompanying table. The reduction in consumption was necessarily followed by labor troubles in many fields where the efforts of the operators to meet competitive prices were in part directed toward securing wage reductions.

**PRODUCTION OF SOFT COAL IN 1932.** The total production of soft coal in the United States, including lignite and coal coked at the mines, was estimated by the U. S. Bureau of Mines at 305,667,000 net tons, a decline of 76,422,000 tons or 20 per cent from the production of 1931, and the lowest output of any year since 1904 when the production was 278,660,000 tons. Until 1931, production since 1913 had not been below 400,000,000 tons annually, and for eight years (1923-1930) had averaged over 500,000,000 tons annually.

**ANTHRACITE PRODUCTION IN 1932.** The production of Pennsylvania anthracite as estimated by the U. S. Bureau of Mines for the 52 weeks of 1932 amounted to 48,350,000 net tons, the lowest annual output in the present century. The estimate as compared with the final figures for the preceding year showed a drop of 10,296,000 tons, a decline of 17.3 per cent, and a drop of 24,578,000 tons since 1929, or 33.1 per cent. The fluctuations in the production of anthracite in a twenty-year period is seen in the accompanying table.

ANTHRACITE PRODUCTION IN THE UNITED STATES  
[Net tons]

1913 . . . . .	91,525,000	1923 . . . . .	93,339,000
1914 . . . . .	90,821,000	1924 . . . . .	87,927,000
1915 . . . . .	88,895,000	1925 . . . . .	61,817,000
1916 . . . . .	87,578,000	1926 . . . . .	84,437,000
1917 . . . . .	99,612,000	1927 . . . . .	80,096,000
1918 . . . . .	98,826,000	1928 . . . . .	75,348,000
1919 . . . . .	88,100,000	1929 . . . . .	73,828,000
1920 . . . . .	89,598,000	1930 . . . . .	69,385,000
1921 . . . . .	90,473,000	1931 . . . . .	58,646,000
1922 . . . . .	54,683,000	1932 . . . . .	49,350,000

Despite the low production both of bituminous and anthracite coals, *Coal Age*, New York, in its annual review number editorially states that leadership in coal is not on the retreat. It points out that the record for the year "shows accident-prevention work, despite the tragedies of last December, establishing a new level for comparison; the anthracite industry making real headway in cost reductions through greater underground mechanization; a bituminous research programme directed and controlled by the indus-



try itself on the rim of reality; fresh and searching exploration of old and new roads to modernization; intensified merchandizing activities reflected in interest in greater refinements in preparation; an increasing percentage of the output of the country loaded mechanically."

Although the lowered output of anthracite was proportionally less severe than that for bituminous, the same general causes hit each industry. In the domestic field, the sale of oil burners and the consumption of fuel oil continued to gain, though not at so rapid a rate as in 1931, with an estimated installation of 86,000 burners against about 110,000 in 1931. In the same period it is estimated that 220,000 range-burner units, using distillate as fuel, were sold against 140,000 in 1931. These are increasingly serious factors in the normally large percentage of domestic consumption, especially of anthracite; for, although in most areas the cost of operation is about the same, the use of fuel oil or distillate saves the user the labor of handling coal and ashes.

In the public utilities and railroads also there has been a noticeable proportionate increase in the use of fuel oil. In 1932 such consumption declined by 4.3 per cent to 7,775,000 barrels in pub-

lic utilities and by 12.2 per cent to 1,750,000,000 gallons in railroads; but coal consumption in the same period in these fields declined 21.7 per cent and 18.5 per cent respectively, according to figures compiled by *Coal Age*.

Natural gas, according to the same authority, also increased its proportion of the domestic, industrial, and commercial fuel utility throughout the country in 1932, although the actual volume declined. In domestic and commercial consumption the decline was about 4.4 per cent, and 10.1 per cent in industrial consumption, excluding field operations, petroleum refining, manufacture of carbon black, and public utilities. In public utilities the consumption of natural gas declined 23.4 per cent in 1932 from the previous year's consumption.

An added factor to the distress of the producers of anthracite was the mild winters of 1931-32 and 1932-33 throughout the New England and Middle Atlantic States which supply the bulk of the domestic market for the industry. Reductions in the price of coal met with little response, for, under the general depression, few householders cared to overestimate the year's requirements and buy beyond their needs.

PRODUCTION, VALUE, MEN EMPLOYED, DAYS WORKED, AND OUTPUT PER MAN PER DAY AT COAL MINES IN THE UNITED STATES IN 1931

[Exclusive of product of wagon mines producing less than 1,000 tons]

State	Production, net tons	VALUE		Number of em- ployees, total	Average number of days worked	Average tons per man per year <sup>a</sup>
		Total (thousand dollars)	Average per ton			
Alabama	11,998,781	21,866	1.82	22,973	136	522
Alaska	105,900	556	5.25	80	277	1,324
Arizona	7,120	42	5.90	27	155	264
Arkansas	1,153,555	3,511	3.04	4,783	95	244
California, Idaho, Nevada, and Oregon	17,885	88	5.06	116	86	150
Colorado	6,604,869	15,944	2.41	10,028	142	659
Georgia	21,580	45	2.09	62	180	348
Illinois	44,303,295	75,527	1.70	49,685	136	892
Indiana	14,295,165	20,735	1.45	12,311	146	1,161
Iowa	3,888,355	8,575	2.53	7,897	142	429
Kansas	1,986,870	3,771	1.90	3,813	123	521
Kentucky	40,238,803	51,168	1.27	48,204	159	835
Maryland	2,005,773	2,807	1.45	3,224	190	622
Michigan	359,408	1,094	3.04	1,372	96	262
Missouri	3,620,497	7,248	2.00	5,362	142	675
Montana	2,878,052	4,299	1.81	1,672	163	1,422
New Mexico	1,552,822	4,597	2.96	2,830	145	549
North Carolina	2,363	9	3.81	32	83	74
North Dakota	1,519,307	2,155	1.42	1,300	166	1,169
Ohio	20,410,995	25,371	1.24	25,085	174	814
Oklahoma	1,908,394	4,614	2.42	4,634	115	412
Pennsylvania bituminous	97,659,698	155,060	1.59	116,726	169	837
South Dakota	27,485	64	2.33	56	127	491
Tennessee	4,446,366	6,524	1.47	7,010	169	634
Texas	716,020	1,070	1.49	1,148	140	624
Utah	3,350,044	7,442	2.22	3,268	140	1,025
Virginia	9,698,680	14,060	1.45	11,857	175	854
Washington	1,846,461	5,800	3.14	2,662	170	694
West Virginia	101,473,172	132,762	1.31	97,787	176	1,038
Wyoming	4,993,686	11,996	2.40	4,759	154	1,049
Total bituminous, 1931	382,089,896 <sup>b</sup>	588,895	1.54	450,213	160	849
Total bituminous, 1930	467,526,299	795,483	1.70	493,202	187	948
Pennsylvania anthracite, 1931	59,645,652 <sup>c</sup>	296,355	4.70	139,431	181	428
Pennsylvania anthracite, 1930	69,884,837	354,574	5.11	150,804	208	460
Grand total, 1931	441,735,048 <sup>c</sup>	885,250	2.00	589,644	165	749
Grand total, 1930	536,911,136	1,150,057	2.14	644,006	192	834

<sup>a</sup> The output per man per day for the country as a whole, calculated by dividing the tonnage by the product of the number employed at each mine times the number of days worked by the mine, was 5.30 in 1931 and 5.06 in 1930 in the bituminous mines; 2.87 in 1931 and 2.21 in 1930 in the anthracite mines, 4.54 in 1931 and 4.34 in 1930 in bituminous and anthracite mines combined.

<sup>b</sup> The figures relate only to active mines of commercial size that produced bituminous coal in 1931. The number of such mines in the United States was 5,642 in 1931; 5,891 in 1930; 6,057 in 1929.

Size classes of commercial mines in 1931: There were 126 mines in Class 1A (500,000 tons and over) producing 23.6 per cent of the tonnage; 452 in Class 1B (200,000 to 500,000 tons) with 36.3 per cent; 536 in Class 2 (100,000 to 200,000 tons) with 20 per cent; 551 in Class 3 (50,000 to 100,000 tons) with 10.3 per cent; 1,144 in Class 4 (10,000 to 50,000 tons) with 7.7 per cent; 2,833 in Class 5 (less than 10,000 tons) producing 2.1 per cent. Methods of mining in 1931: The tonnage by hand was 40,833,483; shot off the solid, 19,495,654; cut by machines, 302,262,746; mined by stripping, 18,932,881; not specified, 565,182.

<sup>c</sup> Includes 122,894 tons of anthracite stored at collieries.



The Anthracite Institute continued its research work on merchandising and the extension of uses. It also studied retail selling, distribution costs to dealer and to consumer, combustion and heating problems, and the possibilities for extension to new market territories. The Jeddo-Highland Coal Co. introduced a new anthracite range which is designed to interest the householder by supplying the combined attributes of a cooking range, heater for a 6-room house, air humidifier, and hot-water supply.

The estimated monthly production of bituminous coal and anthracite for the full year 1932, as compared with 1931, according to the canvass of the Bureau of Mines is shown in the accompanying table.

**ACCIDENT PREVENTION.** The Director of the Bureau of Mines, Scott Turner, in an article in *Coal Age*, expressed a decided optimism in the conservation of human life in the industry. In 1904 the available figures showed 588 lives lost for each hundred million tons of coal produced; previous to that, in every year but two back to 1870, the cost in lives was over five hundred. By 1931 the safety devices and precautions that had been introduced lowered that cost to 331 lives

**ESTIMATED MONTHLY PRODUCTION OF BITUMINOUS COAL AND ANTHRACITE, 1932-31<sup>a</sup>**  
[Net tons]

	Bituminous coal Total production		Pennsylvania anthracite Total production	
	1932	1931	1932	1931
Jan.	27,892,000	38,949,000	3,897,000	6,188,000
Feb.	28,018,000	31,737,000	4,019,000	5,400,000
Mar.	32,250,000	34,226,000	4,789,000	4,754,000
Apr.	20,800,000	28,777,000	5,629,000	5,709,000
May	18,384,000	28,618,000	3,278,000	5,018,000
June	17,749,000	29,491,000	2,550,000	4,552,000
July	17,857,000	30,103,000	3,021,000	3,960,000
Aug.	22,489,000	30,858,000	3,465,000	4,324,000
Sept.	26,314,000	32,255,000	4,108,000	4,362,000
Oct.	32,677,000	36,075,000	5,234,000	6,561,000
Nov.	30,632,000	30,426,000	4,271,000	4,149,000
Dec.	31,110,000	30,579,000	5,089,000	4,679,000
Total	305,667,000	382,089,000	49,350,000	59,646,000

<sup>a</sup> Figures of 1931 production are final. Those for 1932 are estimated.

per hundred million tons. (The preliminary figure for 1932 showed 332). On the assumption of an average of \$5000 as the cost of a fatality to a mining company and the dependents of the miner, he estimated that the safer conditions of work represent an actual annual saving of \$4,500,000.

**COAL AND LIGNITE PRODUCED IN THE PRINCIPAL COUNTRIES OF THE WORLD IN THE CALENDAR YEARS 1927-1931, IN METRIC TONS**  
[Compiled by L. M. Jones, of the Bureau of Mines]

Country	1927	1928	1929	1930	1931
<b>North America:</b>					
Canada—					
Coal .....	12,340,507	12,439,470	12,272,806	10,367,432	8,468,416
Lignite .....	3,468,798	3,494,505	3,599,720	3,132,608	2,638,880
Greenland .....	2,900	3,000	3,600	4,800	4,700
Mexico .....	1,031,308	1,022,475	1,054,196	1,294,259	922,289
United States—					
Anthracite .....	72,661,094	68,354,261	66,975,462	62,944,536	54,109,343
Bituminous and lignite ..	469,704,558	454,265,822	485,330,952	424,130,508	346,623,858
<b>South America:</b>					
Argentina .....	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )
Brazil <sup>b</sup> .....	400,000	400,000	400,000	400,000	400,000
Chile .....	1,481,511	1,375,616	1,507,866	1,441,370	1,100,382
Colombia .....	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )
Peru .....	158,601	177,513	219,654	200,014	179,000
Venezuela .....	16,104 <sup>c</sup>	15,812 <sup>c</sup>	16,859 <sup>c</sup>	9,443	2,801
<b>Europe:</b>					
Albania—Lignite ..	3,115	2,985	4,117	4,283	3,159
Austria—					
Coal .....	175,601	202,098	208,020	215,888	228,144
Lignite .....	3,064,068	3,262,570	3,524,792	3,062,981	2,982,076
Belgium .....	27,550,960	27,578,300	26,939,930	27,414,730	27,088,000
Bulgaria—					
Coal .....	69,192	69,536	78,855	70,652	85,629
Lignite .....	1,168,454	1,860,790	1,572,964	1,522,389	1,486,911
Czechoslovakia—					
Coal .....	14,016,800	14,560,305	16,521,457	14,435,002	13,102,712
Lignite .....	19,620,637	20,451,421	22,560,796	19,193,669	17,931,635
France—					
Coal .....	51,791,821	51,865,247	53,779,780	53,884,035	50,022,775
Lignite .....	1,083,041	1,074,627	1,197,220	1,142,733	1,040,017
Germany <sup>d</sup> —					
Coal .....	153,599,355	150,860,599	163,440,632	142,698,728	118,624,232
Lignite .....	150,503,914	165,888,097	174,455,946	146,010,044	133,221,971
Saar <sup>e</sup> .....	13,595,824	13,106,718	13,579,348	13,285,771	11,367,011
Greece—Lignite .....	143,346	120,639	156,526	129,623	( <sup>a</sup> )
Hungary—					
Coal .....	785,922	788,279	826,270	811,548	776,412
Lignite .....	6,244,275	6,510,070	7,043,920	6,176,484	6,197,055
Irish Free State .....	( <sup>a</sup> )	( <sup>a</sup> )	86,554	( <sup>a</sup> )	( <sup>a</sup> )
Italy—					
Coal .....	168,528	127,932	223,348	231,126	235,693
Lignite .....	912,458	697,033	782,045	576,860	864,487
Netherlands—					
Coal .....	9,488,412	10,920,054	11,581,202	12,211,084	12,901,891
Lignite .....	201,382	196,696	156,568	144,150	122,199
Poland—					
Coal .....	38,084,086	40,616,384	46,236,037	37,505,649	38,265,010
Lignite .....	78,464	73,560	74,321	54,962	39,400
Portugal—					
Coal .....	178,554	201,848	196,901	212,199	201,225
Lignite .....	25,713	26,450	29,348	34,474	25,836
Rumania—					
Coal .....	373,457	397,564	370,947	298,825	307,900
Lignite .....	2,850,011	2,629,676	2,675,080	2,071,057	1,724,910

**COAL AND LIGNITE PRODUCED IN THE PRINCIPAL COUNTRIES OF THE WORLD IN THE CALENDAR YEARS 1927-1931, IN METRIC TONS—(Continued)**

Country	1927	1928	1929	1930	1931
Russia f—					
Coal .....	25,944,341	28,827,819	} 86,884,000	89,952,000	50,400,000
Lignite .....	1,768,196	1,978,570			
Spain—					
Coal .....	6,562,986	6,370,508	7,108,316	7,119,807	7,185,856
Lignite .....	429,602	422,504	438,951	388,032	352,530
Svalbard (Spitzbergen) .....	803,000 <sup>a</sup>	275,019	251,185	188,419	248,107
Sweden .....	398,298	258,518	394,975	397,960	343,197
Switzerland <sup>b</sup> .....	7,000	7,000	7,000	4,000	4,000
Turkey—Lignite .....	4,000	( <sup>c</sup> )	312	800	.....
United Kingdom—					
Great Britain .....	255,264,615	241,283,355	262,046,206	247,796,127	222,981,267
Northern Ireland—Lignite .....	510	650	827	.....	.....
Yugoslavia—					
Coal .....	287,728	457,472	408,611	366,203	427,893
Lignite .....	4,458,491	4,694,408	5,242,527	4,909,679	4,584,726
Asia:					
British Borneo .....	80,466	79,721	73,100	74,345	47,953
China .....	24,172,009	25,091,760	( <sup>c</sup> )	( <sup>c</sup> )	( <sup>c</sup> )
Chosen .....	709,578	815,817	937,902	884,138	( <sup>c</sup> )
Federated Malay States .....	470,432	565,523	672,131	574,650	408,818
India, British .....	22,436,757	22,904,685	23,794,605	24,185,087	( <sup>c</sup> )
Indo-China—					
Coal .....	1,482,900	1,954,098	1,941,310	1,987,000	1,704,000
Lignite .....	7,000	15,472	30,713	29,000	22,500
Japan—					
Japan proper—					
Coal .....	33,387,160	33,694,298	34,100,000	31,200,000	25,741,000
Lignite .....	178,618	121,928	139,031	128,624	( <sup>c</sup> )
Karafuto .....	362,777	548,140	645,715	655,326	( <sup>c</sup> )
Taiwan .....	1,857,257	1,583,598	1,530,025	1,598,728	( <sup>c</sup> )
Netherlands East Indies .....	1,620,205	1,703,526	1,888,665	1,870,823	1,399,931
Philippine Islands .....	28,410	27,857	17,321	20,751	18,968
Russia f—					
Coal .....	3,907,499 <sup>a</sup>	3,916,129 <sup>a</sup>			
Lignite .....	869,262	903,758	6,489,000	6,504,000	8,200,000
Sakhalin—Coal .....	46,274	126,551			
Turkey—					
Coal .....	1,323,833	1,250,639	1,421,008	1,595,159	1,115,877
Lignite .....	6,555	5,169	7,659	7,372	7,774
Africa:					
Algeria .....	21,269	16,631	16,130	17,193	25,592
Belgian Congo—					
Coal .....	86,950	97,780	114,450	133,800	( <sup>c</sup> )
Lignite .....	.....	.....	2,800	.....	.....
Madagascar .....	5	33	26	.....	.....
Morocco, French .....	.....	.....	.....	1,000	5,663
Nigeria .....	363,643	365,083	350,473	353,425	277,584
Portuguese East Africa .....	15,834	8,455	( <sup>c</sup> )	( <sup>c</sup> )	( <sup>c</sup> )
Southern Rhodesia .....	908,744	1,094,843	1,036,816	938,736	587,255
Union of South Africa .....	12,580,314	12,606,576	13,018,328	12,222,501	10,880,906
Oceania:					
Australia—					
New South Wales .....	11,304,688	9,599,841	7,740,000	7,206,899	6,535,622
Queensland .....	1,116,680	1,093,615	1,390,713	1,112,246	854,811
Tasmania .....	113,854	130,562	132,382	140,942	125,815
Victoria—					
Coal .....	695,227	668,889	715,124	( <sup>c</sup> )	( <sup>c</sup> )
Lignite .....	1,478,842	1,617,407	1,769,122	( <sup>c</sup> )	( <sup>c</sup> )
Western Australia .....	509,554	536,901	553,462	509,473	439,840
New Caledonia .....	9,000	16,565	21,000	9,670	( <sup>c</sup> )
New Zealand—					
Coal .....	1,311,247	1,370,379	1,389,107	1,403,873	995,359
Lignite .....	1,093,484	1,105,483	1,187,458	1,179,019	1,197,029
Total, all grades .....	1,477,000,000	1,465,000,000	1,560,000,000	1,412,000,000	1,255,000,000
Lignite (total of items shown above) .....	200,000,000	216,000,000	230,000,000	195,000,000	180,000,000
Bituminous and anthracite (by subtraction) .....	1,277,000,000	1,249,000,000	1,330,000,000	1,217,000,000	1,075,000,000

<sup>a</sup> Estimate included in total.

<sup>b</sup> Approximate production.

<sup>c</sup> Exclusive of output of State of Falcón (about 8,000 tons), for which estimate is included in total.

<sup>d</sup> Exclusive of mines in the Saar under French control.

<sup>e</sup> Mines under French control.

<sup>f</sup> 1927 to 1930, inclusive, figures for fiscal year ended Sept. 30, 1931, figures for calendar year.

<sup>g</sup> Production less consumption at mines, for which data are not available.

<sup>h</sup> Exclusive of Sakhalin.

**COBB, NATHAN AUGUSTUS.** An American agricultural chemist, died in Baltimore, Md., June 4, 1932. He was born at Spencer, Mass., June 30, 1859, and was graduated from the Worcester Polytechnic Institute in 1881 and, with the Ph.D. degree, from the University of Jena in 1888. He taught chemistry and natural science for several years at the Williston (Mass.) Seminary. In 1890 he went to Australia as professor of

biology at Sydney University, and the following year was appointed pathologist in the department of agriculture for New South Wales. He also served three years (1898-1901) as agricultural commissioner for New South Wales to the United States and Europe. In 1904 he went to Hawaii as director of the division of physiology and pathology for the Hawaiian Sugar Planters' Experiment Station in Honolulu. On

his return to the United States in 1907 he was made agricultural technologist for the U. S. Department of Agriculture, and also in 1911 became acting assistant chief of the Bureau of Plant Industry. He discovered and described a large number of new species of plants and animals, mostly nematoda. As an inventor he patented several photographic and microscopic devices. He published: *Elements of Chemistry* (1885); *Seed Wheat* (1903); *University Nomenclature of Wheat* (1905); *Methods of Using the Microscope, Camera-Lucida, and Solar Projector for Purposes of Examination and the Production of Illustrations* (1905); *Fungus Maladies of the Sugar Cane* (3d ed., 1909).

**COCHIN-CHINA**, kô'chîn-Chî'na. The southernmost colony in French Indo-China. The territory is ruled directly by a governor and a colonial council of 24 members; it is represented in the French Parliament by one deputy. Governor in 1932, J. F. Krautheimer, appointed in 1929. See FRENCH INDO-CHINA.

**COCOS or KEELING ISLANDS**. See STRAITS SETTLEMENTS.

**CODDLING MOTH**. See ENTOMOLOGY, ECONOMIC.

**COFFEE**. See BRAZIL; COLOMBIA; COSTA RICA.

**COFFER DAMS**. See FOUNDATIONS.

**COFFMAN**, VICE ADMIRAL DE WITT, U. S. N., RET. An American naval officer, died in Jamestown, R. I., June 27, 1932. He was born in Shenandoah Co., Va., Nov. 28, 1854, and was graduated from the U. S. Naval Academy in 1876. During the Spanish-American War he served on the *Terror* and was appointed lieutenant commander in 1899. He became a commander in 1905, captain in 1909, and rear admiral in 1914. During the latter year he was successively commandant of the Boston navy yard and of the Naval War College at Newport. On assuming command of the sixth division of the Atlantic fleet in June, 1916, he was made vice admiral. From August to October, 1917, he commanded the entire Atlantic fleet, and previous to his retirement in November, 1918, he successively commanded the second battleship force and the fifth Naval District and Naval Operating Base at Hampton Roads, Va. He was a member of the board of awards, medals, and honors of the Navy Department until 1919.

**COGHLAN**, ROSE. A British-American actress, died in Harrison, N. Y., Apr. 4, 1932. She was born in Peterborough, England, Mar. 18, 1850, and at the age of 15 made her first appearance on the stage at the Theatre Royal, Greenock, Scotland, as one of the witches in *Macbeth*. Three years later she made her London début in *Linda of Chamouni*, and subsequently appeared in *The Life Chase*, *Wat Tyler*, *M. P.*, *Nell Gwynne*, and *Dotheboys Hall*. She was induced to come to America by E. A. Sothern in 1871, and appeared with him in *Our American Cousin*, *Brother Sam*, and *Dundrarcy Married and Settled*. She returned to England in 1873, where she was leading lady for a time with Charles Mathews and Barry Sullivan and supported Joseph Jefferson in *Rip Van Winkle*. Her more successful vehicles were *Twelfth Night*, *East Lynne*, *All for Her*, and *Lost in London*. In 1877 she reappeared in New York, scoring a success as Mrs. Constant Tiffe in *Marriage*, Countess Zicka in the first American presentation of *Diplomacy*, Clarissa in *Clarissa Harlowe*, and Stephanie in *Forget-Me-*

*Not*. She remained with Wallack's stock company most of the time until 1888, her repertoire there including a wide range from Shakespeare to society comedies and Victorian melodrama. Among the plays in which she appeared were: *As You Like It*; *Camille*; *The Silver King*; *The Queen's Shilling*; *Masks and Faces*; *Moths*; *Lady Clare*; *London Assurance*; *Impulse*; *Our Joan*; *Oaste*; *Town and Country*. For more than two decades afterward she was a favorite Broadway star, being seen in *Jocelyn* (1889); *Nance Oldfield* (1891); *A Woman of No Importance* (1893); *Peg Woffington* (1894); *For the Crown* (1896); *The White Heather* (1897); *The Sporting Duchess* (1897); *The Great Ruby* (1900); *The Second Mrs. Tanqueray* (1903); *Alice of Old Vincennes* (1903); *The Ace of Trumps* (1904); and *The Duke of Killcrankie* (1905). In 1907 she toured the United States in *Mrs. Warren's Profession*, and in 1909 joined the company of the New Theatre in New York, appearing in *The School for Scandal*, *The Winter's Tale*, *The Merry Wives of Windsor*, and *Vanity Fair*. In 1911, after appearing in a revival of *Forget-Me-Not*, she played in *The First Lady in the Land*, in 1913 in *Fine Feathers*, in 1915 in *Tribby*, and in 1917 in *Our Betters*, *The Deserter*, and *The Lady of the Camelias*. Her last appearance was as Mme. Rabouin in *Deburau* in 1920. She was twice married, first to Clinton J. Edgesly, a Boston lawyer, and second, to John T. Sullivan, an actor, both of whom she divorced.

**COINS, VALUE OF FOREIGN**. The legal estimates of the value of foreign coins on Jan. 1, 1933, as issued by the U. S. Secretary of the Treasury are given in the table on page 196.

**COKE**. The production of coke in 1932, according to estimates of the U. S. Bureau of Mines, was 21,939,413 net tons, a decrease of 34.5 per cent when compared with 1931, and lower than the production for any year in the past thirty years. The chief cause of the decrease in coke production was the continued reduced activity of blast furnaces, the output of pig iron for 1932 decreasing 52.5 per cent below the level of 1931, or a decline from 18,271,000 gross tons in 1931, to 8,686,000 gross tons in 1932. The production of beehive coke dropped to 772,500 net tons in 1932, or a decline of 31 per cent from 1,128,337 tons in 1931, and of 72 per cent from 2,776,300 tons in 1930. It was but 3.5 per cent of the total. By-product coke dropped to 21,167,000 tons as against 32,355,000 in 1931, a decline of 35 per cent.

TABLE I—PRODUCTION OF BY-PRODUCT AND BEEHIVE COKE AND PIG IRON IN THE UNITED STATES, 1928-32

Year	Coke—Net tons produced		Total	Pig iron
	By-product	Beehive		gross tons
1928 . .	48,313,025	4,492,803	52,805,828	38,515,714
1929 . .	53,411,826	6,472,019	59,883,845	42,613,983
1930 . .	45,195,705	2,776,316	47,972,021	31,399,105
1931 . .	32,355,549	1,128,337	33,483,886	18,275,165
1932 * .	21,166,913	772,500	21,939,413	8,686,443

\* Preliminary figures.

Production, as will be seen in Table II, declined in every State except Washington, where there was a slight increase. Pennsylvania, the largest producer, showed a decline from 7,524,722 net tons in 1931 to 4,105,599 tons in 1932, a decrease of 45 per cent. The greatest comparative decrease occurred in Colorado, a drop of 80 per

## VALUES OF FOREIGN MONEYS—JAN. 1, 1933

Country	Legal standard	Monetary unit	U. S. money	Remarks
Argentina Republic . . .	Gold . . . . .	Peso . . . . .	\$0.9648	Currency convertible at 44% face value.
Austria . . . . .	Gold . . . . .	Schilling . . . . .	1.407	
Belgium . . . . .	Gold . . . . .	Belga . . . . .	1890	1 belga equals 5 Belgian paper francs.
Bolivia . . . . .	Gold . . . . .	Boliviano . . . . .	3650	18¼ bolivianos equal 1 pound sterling.
Brazil . . . . .	Gold . . . . .	Milreis . . . . .	5462	Currency: Government paper, convertible at 4.567 paper milreis to the gold milreis (\$0.1196).
British Colonies in Australasia and Africa.	Gold . . . . .	Pound sterling . . . . .	4.8665	
British Honduras . . .	Gold . . . . .	Dollar . . . . .	1.0000	
Bulgaria . . . . .	Gold . . . . .	Lev . . . . .	0.072	
Canada . . . . .	Gold . . . . .	Dollar . . . . .	1.0000	
Chile . . . . .	Gold . . . . .	Peso . . . . .	1217	
		Haikwan . . . . .	3078	A unit of account, used only for customs purposes.
		Amoy . . . . .	3020	
		Canton . . . . .	3011	
		Chefoo . . . . .	2889	
		Chin Kiang . . . . .	2950	
		Foochow . . . . .	2794	
		Hankow . . . . .	2826	
		Kiaochow . . . . .	2927	
		Nanking . . . . .	2989	
		Newchwang . . . . .	2832	
		Ningpo . . . . .	2904	
		Peiping . . . . .	2944	
		Shanghai . . . . .	2759	
		Swatow . . . . .	2790	
		Takow . . . . .	3030	
		Tientsin . . . . .	2927	
		Yuan . . . . .	1957	
		Hong Kong . . . . .	1986	
		British Mexican . . . . .	2001	
		Peso . . . . .	9733	
		Colon . . . . .	4653	
China . . . . .	Silver . . . . . (Stated values are estimated market values, in gold, of silver content of units.)	Tael (A unit of value as here used; not a coin.)		China's import duties are levied on a gold basis, the gold unit being defined as 60.1866 centigrams pure gold (equal 40 cents U. S.). China's export duties remain on a silver basis.
		Dollar		
Colombia . . . . .	Gold . . . . .	Peso . . . . .	1.0000	
Costa Rica . . . . .	Gold . . . . .	Colon . . . . .	4653	The Yuan silver dollar of 100 cents is the monetary unit minted by the Central Government of the Republic. Old Mex dollars, issued before 1918. Currency: Government paper and silver. Law establishing conversion office fixes ratio 4 colons (nongold) = \$1.
Cuba . . . . .	Gold . . . . .	Peso . . . . .	1.0000	
Czechoslovakia . . . . .	Gold . . . . .	Krone . . . . .	0296	
Denmark . . . . .	Gold . . . . .	Krone . . . . .	2680	
Dominican Republic . . .	Gold . . . . .	Dollar . . . . .	1.0000	U. S. money chief circulating medium.
Ecuador . . . . .	Gold . . . . .	Sucre . . . . .	2000	
Egypt . . . . .	Gold . . . . .	Pound (100 piasters) . . . . .	4.9431	
Estonia . . . . .	Gold . . . . .	Kroon . . . . .	2680	
Finland . . . . .	Gold . . . . .	Markka . . . . .	0252	
France . . . . .	Gold . . . . .	Franc . . . . .	0392	
Germany . . . . .	Gold . . . . .	Reichsmark . . . . .	2382	
Great Britain . . . . .	Gold . . . . .	Pound sterling . . . . .	4.8665	Obligation to sell gold at legal monetary par suspended, effective Sept. 21, 1931.
Greece . . . . .	Gold . . . . .	Drachma . . . . .	0130	
Guatemala . . . . .	Gold . . . . .	Quetzal . . . . .	1.0000	
Haiti . . . . .	Gold . . . . .	Gourde . . . . .	2000	Currency: National bank notes redeemable on demand in American dollars.
Honduras . . . . .	Gold . . . . .	Lempira . . . . .	5000	
Hungary . . . . .	Gold . . . . .	Pengo . . . . .	1749	
India (British) . . . . .	Gold . . . . .	Rupee . . . . .	3650	
Indo-China . . . . .	Gold . . . . .	Piaster . . . . .	3918	
Italy . . . . .	Gold . . . . .	Lira . . . . .	0526	
Japan . . . . .	Gold . . . . .	Yen . . . . .	4985	
Latvia . . . . .	Gold . . . . .	Lat . . . . .	1930	
Liberia . . . . .	Gold . . . . .	Dollar . . . . .	1.0000	Currency: Depreciated silver coins.
Lithuania . . . . .	Gold . . . . .	Litas . . . . .	1000	Currency: Notes of Bank of Lithuania. By law of July 25, 1931, gold has no legal tender status but it may be held as monetary reserve for use in foreign exchange operations.
Mexico . . . . .	Gold . . . . .	Peso . . . . .	4985	
Netherlands and colonies	Gold . . . . .	Guilder (florin) . . . . .	4020	
Newfoundland . . . . .	Gold . . . . .	Dollar . . . . .	1.0000	
Nicaragua . . . . .	Gold . . . . .	Cordoba . . . . .	1 0000	
Norway . . . . .	Gold . . . . .	Krone . . . . .	2680	
Panama . . . . .	Gold . . . . .	Balboa . . . . .	1.0000	
Paraguay . . . . .	Gold . . . . .	Peso (Argentine) . . . . .	9648	Currency: Depreciated Paraguayan paper currency.
Persia . . . . .	Gold . . . . .	Rial . . . . .	0487	Rial currency effective Mar. 21, 1932, with 1 rial equivalent to 1 kran of old system.
Peru . . . . .	Gold . . . . .	Sol . . . . .	2800	Established by decree of Apr. 18, 1931.
Philippine Islands . . .	Gold . . . . .	Peso . . . . .	5000	
Poland . . . . .	Gold . . . . .	Zloty . . . . .	1122	
Portugal . . . . .	Gold . . . . .	Escudo . . . . .	0442	By decree effective July 1, 1931.
Rumania . . . . .	Gold . . . . .	Leu . . . . .	0060	
Salvador . . . . .	Gold . . . . .	Colon . . . . .	5000	
Siam . . . . .	Gold . . . . .	Baht (Tical) . . . . .	4424	
Spain . . . . .	Gold . . . . .	Peseta . . . . .	1930	Valuation is for gold peseta; currency is notes of the Bank of Spain.
Straits Settlements . . .	Gold . . . . .	Dollar . . . . .	5678	
Sweden . . . . .	Gold . . . . .	Krona . . . . .	2680	
Switzerland . . . . .	Gold . . . . .	Franc . . . . .	1930	
Turkey . . . . .	Gold . . . . .	Piaster . . . . .	0440	(100 piasters equal to the Turkish L.)
Uruguay . . . . .	Gold . . . . .	Peso . . . . .	1.0342	Currency: Inconvertible paper.
U.S.S.R. (Russia) . . .	Gold . . . . .	Ruble . . . . .	5146	10 gold rubles = 1 Soviet chervonetz.
Venezuela . . . . .	Gold . . . . .	Bolivar . . . . .	1930	
Yugoslavia . . . . .	Gold . . . . .	Dinar . . . . .	0178	By law effective June 28, 1931.

cent from 225,760 tons in 1931 to 89,655 in 1932; but among the large producing States the total decreases were: Alabama, 52 per cent; Indiana, 48 per cent; Illinois, 43 per cent, and Ohio, 40 per cent.

TABLE II—PRODUCTION OF BY-PRODUCT COKE, BY STATES, IN 1932 AND 1931

[Net tons]		
State	1932 <sup>a</sup>	1931
Alabama . . . . .	1,393,853	2,943,143
Colorado . . . . .	89,655	225,760
Illinois . . . . .	1,421,753	2,478,984
Indiana . . . . .	1,434,612	2,757,135
Maryland . . . . .	499,502	817,995
Massachusetts . . . . .	1,084,860 <sup>b</sup>	1,150,270
Michigan . . . . .	2,131,417	2,436,630
Minnesota . . . . .	385,620	440,489
New Jersey . . . . .	817,028	930,912
New York . . . . .	3,040,769	3,578,311
Ohio . . . . .	2,350,061	3,932,939
Pennsylvania . . . . .	4,105,599	7,524,722
Tennessee . . . . .	67,329	83,439
Utah . . . . .	116,314	146,788
Washington . . . . .	31,973	30,104
West Virginia . . . . .	909,944	1,265,039
Connecticut, Kentucky, Missouri, Rhode Island, and Wisconsin	1,286,624	1,612,889
Total . . . . .	21,166,913	32,355,549

<sup>a</sup> From monthly reports furnished by operators.

<sup>b</sup> Includes an unknown amount of breeze

In 1932, 44 plants connected with iron furnaces produced 11,435,000 net tons of coke, or 54 per cent of the total. The remaining 42 by-product plants produced 9,732,00 tons, or 46 per cent. Preliminary estimates on the recovery of by-products from coke-oven operations in 1932, obtained by assuming that the quantity of by-products recovered during 1932 bore the same relation to the known production of coke in 1932 as in 1931, gives the following:

Tar . . . . .	gallons.	295,000,000
Gas . . . . .	M cubic feet	343,000,000
Crude light oil . . . . .	gallons.	80,000,000

The indicated consumption of coke in the United States during 1932 was 22,314,943 net tons, of which about 8,717,500 tons were consumed by blast furnaces in the manufacture of pig iron, or a drop of 53 per cent from 18,352,500 tons in 1931. The quantity consumed in other ways—manufacture of water gas, domestic heating, the smelting of non-ferrous metals, and miscellaneous industrial purposes—showed a slight rise over 1931 and a slight decrease from 1930, being 13,597,500 net tons in 1932, 13,349,200 tons in 1931, and 13,933,800 tons in 1930. For the manufacture of coke in 1932 in the coke ovens of the United States, it was estimated that 31,785,000 net tons of bituminous coal were required.

**COLGATE UNIVERSITY.** A nonsectarian institution for the higher education of men in Hamilton, N. Y., founded in 1819. In the autumn of 1932 there were 972 students enrolled. The faculty numbered 98 members. The productive funds amounted to approximately \$6,500,000, and the income for the year was approximately \$575,000. The library contained 110,000 volumes. President, George Barton Cutten, Ph.D., D.D., LL.D.

**COLLEGES.** See UNIVERSITIES AND COLLEGES; EDUCATION IN THE UNITED STATES.

**COLLINS, ARTHUR.** A British theatrical manager, died Jan. 13, 1932, in London where he was born May 10, 1863. Apprenticed with the

scenic artist, Henry Emden, at the Theatre Royal, Drury Lane, in 1881, he became stage manager at that theatre under the direction of Sir Augustus Harris, in 1887. Ten years later he obtained a lease of Drury Lane and formed a managing company with himself as director. Under his management were produced: *The White Heather* (1897); *The Great Ruby* (1898); *Hearts Are Trumps* (1899); *Ben Hur* (1902); *Dante* (1903); *The Prodigal Son* (1905); *The Bondman* (1906); *The Sins of Society* (1907); *Marriages of Mayfair* (1908); *The Whip* (1909); *Everywoman* (1912); *Scaled Orders* (1913); *The Best of Luck* (1916); *The Garden of Allah* (1920); and *Decameron Nights* (1922). A special performance of *The Pageant of Drury Lane Theatre, 1663-1918*, written by Louis N. Parker, was presented in September, 1918, to celebrate his 21 years at Drury Lane.

**COLOMBIA.** A republic of northwestern South America, third in population and fifth in size among the countries of that continent; touching boundaries with Panama, Venezuela, Brazil, Peru, and Ecuador. Capital, Bogotá.

**AREA AND POPULATION.** The area of Colombia is variously estimated at from 444,200 to 447,536 square miles. The population according to the census of December, 1928, was 7,851,000, as compared with 5,855,077 in 1918. The total population was distributed as follows: Whites, 20 per cent; Negroes, 5 per cent; Indians, 7 per cent; mulattoes, 18 per cent; mestizos, 50 per cent. Bogotá, the capital, had a population of 235,421 at the 1928 census. Other leading cities, with their populations in 1928, were: Barranquilla, 139,974; Cali, 122,847; Medellín, 120,044; Cartagena, 92,494; Manizales, 81,091; Ibagué, 56,333; Cucuta, 49,279; and Bucaramanga, 44,083. For the period 1925-29, deaths averaged 101,901 annually, births 210,234; the rates per 1000 inhabitants were 137 and 28.3, respectively.

**EDUCATION.** Of the population over 10 years of age, 51.57 per cent were literate in 1928, compared with 32 per cent at the census of 1918. Education throughout the Republic is centralized under the Minister of Education, elementary education being free but not compulsory. Primary and secondary schools in 1930-31 numbered 7506, with 458,079 pupils. There were 25 industrial schools, with 1392 pupils, and 17 normal schools, with about 1000 pupils. The University of Bogotá and the School of Mines at Medellín are national institutions; the Universities of Antioquia at Medellín, of Bolívar at Cartagena, of Cauca at Popayan, and of Narino at Pasto are maintained by Departments, or Provinces.

**PRODUCTION.** Coffee is the chief factor in Colombia's primarily agricultural economy. The country ranks second to Brazil in the production of coffee; due to its mild favor, prices of the Colombian product are unaffected by overproduction in Brazil. Coffee accounted for 56 per cent of the value of all exports in 1931 and about 90 per cent of it was shipped directly or indirectly to the United States. The Ministry of Industries in 1930 estimated that 743,554 acres of land were devoted to coffee (mostly in small holdings) and that 437,058,204 coffee trees were in bearing. Coffee production in 1931 amounted to 438,297,000 pounds, as compared to 467,667,000 pounds in 1930. Bananas (exports of 5,424,000 stems in 1931) constitute the second crop of importance. Others are cacao, wheat, sugar, rice, cotton, corn, potatoes, beans, and tobacco. There

are 150,000,000 acres of valuable forests, which include rubber trees and dye and cedar woods.

Colombia is rich in minerals. Production of petroleum, the most valuable mineral product, rose from its discovery in 1921 to a peak of 20,385,000 barrels in 1929, and then dropped to 18,237,000 barrels in 1931. Petroleum exports of 16,989,073 barrels in 1931 represented 15 per cent of the value of all exports. The United States took 67 per cent of the 1931 oil exports (86 per cent in 1928). Gold, platinum, copper, lead, mercury, cinnabar, manganese, emeralds, coal, iron, and salt are also produced. Gold production in 1932 was 248,249 troy ounces, worth \$5,131,306.

COMMERCE. Colombia's foreign trade in 1931 dropped more than 20 per cent in value, as compared with 1930. Exports were valued at 98,009,000 pesos, compared with 112,709,000 pesos in 1930, while imports totaled 41,056,000 pesos, compared with 62,841,000 pesos (peso equals \$0.9733 at par). The 13 per cent decrease in the value of exports was primarily the result of low prices in the world markets for coffee and bananas and the decreased demand for petroleum. Imports fell about 35 per cent below 1930 to the approximate level of 1922. A high protective tariff helped to curtail imports.

The United States furnished only 42 per cent of Colombia's total 1931 imports, as against the normal share of about 45 per cent. Imports from the United Kingdom increased from 12 per cent in 1930 to 16 per cent in 1931, due partly to the depreciated value of the pound sterling. Germany and France maintained their relative positions in the import trade, furnishing about 12 and 5 per cent, respectively. The United States took 83 per cent of all Colombian exports (81 per cent in 1930); Canada, 4.5 per cent (4 per cent). In the 12 months ended June 30, 1932, imports from the United States totaled \$10,581,000 (\$22,449,000 in 1930-31) and exports to the United States were \$69,182,000 (\$84,306,000 in 1930-31). Coffee, petroleum, raw gold, and bananas, in the order named, were the four chief exports. Barranquilla in 1931 handled about 44 per cent of all imports and 41 per cent of the exports of the country.

FINANCE. The ordinary budget of the national government for 1932 as adopted on Dec. 24, 1931, estimated revenues at 39,610,000 pesos and expenditures at 37,610,000 pesos, indicating a surplus of 2,000,000 pesos. However, budgetary developments during the year indicated the possibility of a final deficit. Preliminary estimates for the 1932-33 budget balanced at 35,800,000 pesos. Budgetary operations in 1931 resulted in a deficit of 8,509,829 pesos, with revenues totaling 43,694,101 pesos and expenditures, including 4,634,447 pesos of unpaid obligations, 52,203,930 pesos.

The Institute of International Finance, New York, placed the external bonded debt of Colombia and its political subdivisions in June, 1932, at the equivalent of \$193,732,000, of which about \$175,000,000 represented dollar loans. Of the grand total, the Colombian government's bonded debt was about \$62,350,000; that of its departments, or states, \$61,369,000; of its municipalities, \$22,737,000; and of its mortgage banks, \$47,266,000. In 1931, the amount needed for servicing the external debt was \$16,000,000, or 32 per cent of the estimated revenues for the year. For the government's financial policies see *History*.

COMMUNICATIONS. Colombia in 1930 had 1846 miles of railway lines, divided among 15 systems (11 national and 3 British); 2480 miles were under construction. The Cundinamarca Railway from Villeta to Alban was scheduled for completion in December, 1932. Most of the lines serve as feeders to the Magdalena River, navigable for 900 miles, which is the main traffic route from the Caribbean to the interior. Graded highways in 1930 extended 19,014 miles, including 3560 miles of motor roads. Air lines connected Barranquilla with Bogotá, with Buenaventura, and with Colon, as well as with the chief cities of North and South America. Cargo handled on the Magdalena River in 1931 totaled 368,221 metric tons (444,304 tons in 1930), of which 179,796 metric tons represented upward and 188,425 tons downward traffic. Radio-telephone service between the United States and Colombia was inaugurated Dec. 22, 1932.

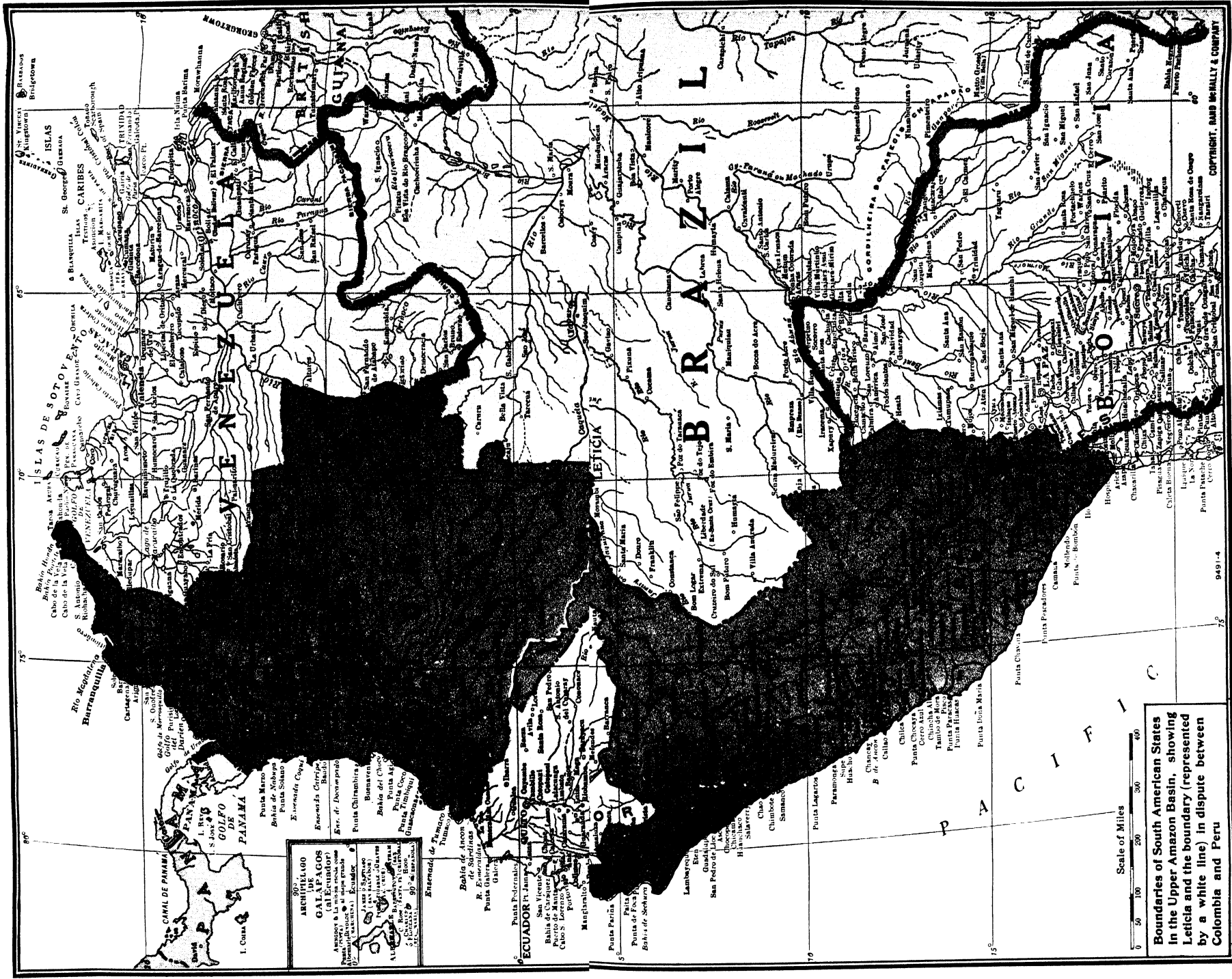
GOVERNMENT. Executive power is vested in a president elected for four years by direct popular vote, and ineligible for reelection until four years after the expiration of his term. Legislative power rests with a Congress of two Houses, the Senate and House of Representatives. Senators are elected for four years by the departmental Assemblies, under a new law promulgated Nov. 20, 1930, there being one for every 120,000 inhabitants. Deputies are elected for two years by direct suffrage in the proportion of one to every 50,000 inhabitants. Following the election of May, 1931, there were 117 members in the House of Representatives (56 Conservatives, 52 Liberals, and 9 vacancies) and, after the election of May, 1931, 56 members in the Senate (31 Conservatives and 25 Liberals). President in 1932, Dr. Enrique Olaya Herrera (Liberal), elected for the term expiring Aug. 7, 1934.

#### HISTORY

THE FINANCIAL CRISIS. Repercussions of the world financial crisis of 1931 had been particularly severe in Colombia. Many foreign commercial banks suddenly cancelled the credit which for many years they had granted to Colombian banks. The resultant panic in Colombian financial and commercial circles caused a flight of capital from the country which reduced by one-half the gold reserves of the Bank of the Republic. The loss of gold not only endangered the stability of the peso and caused a contraction of the currency, but created a great credit stringency. To meet the crisis, Congress invested President Olaya Herrera with emergency financial powers, which he exercised from Sept. 24, 1931, to July 31, 1932.

By successive decrees, the President used his extraordinary powers to bolster virtually every major economic and financial activity of the nation against the depression. Decrees were issued regulating and controlling the purchase, sale, and rate of foreign exchange; the production and export of gold; general exports (to insure return of their net value to the country); taxes and customs duties (increased, for the most part); sinking-fund payments (suspended on the entire 200,000,000 pesos of bonded foreign debt); interest payments (suspended payments of more than 8,000,000 pesos on the foreign debt); domestic debts (interest payments on all domestic debts limited and reduced, including that on domestic bonds of the national government and mortgage banks). The President











extended government aid to agriculture and business in the form of a 6 per cent bonus on coffee export drafts; a high protective customs tariff; long-term loans of government funds to banks; and a public-works programme. He also authorized debtors to pay banks in depreciated government and mortgage-bank bonds at par. As a result of government intervention, gold reserves of the Bank of the Republic rose after Mar. 7, 1932.

The foreign debt increased by 14,000,000 pesos during 1932 and the internal debt by 25,000,000 pesos. Of the increase in the foreign debt, 9,000,000 pesos represented the default of one year's service of the foreign bonds of six States and four cities and 5,000,000 pesos defaulted on foreign bonds of two private mortgage bonds. The 25,000,000 increase in the internal debt consisted of a 10,000,000 pesos defense loan, 10,940,000 long-term salt loan advances by the Bank of the Republic, 3,000,000 pesos in 6 per cent bonus bonds issued to coffee exporters, and 1,100,000 pesos of short-term advances by the Bank of the Republic. In addition, the government secured \$1,500,000 in advance banana export taxes and railway rentals from an American company and various government agencies borrowed 900,000 pesos from the Bank of the Republic.

President Olaya Herrera secured from Congress (October 27) the extension of his extraordinary powers until the middle of 1933, but only after heated debate. His emergency measures had antagonized many private groups, particularly the residents of the Atlantic coast departments, who were dissatisfied with the increased cost of foodstuffs resulting from the tariff. The western departments were incensed by the high railway rates, which had enabled the National Railways Administration to operate its lines on a balanced budget since Jan. 1, 1932.

The 1932 session of Congress adjourned on November 16 to July 20, 1933. The legislation passed included a measure for electoral reform, through which the Liberals expected to gain a majority in the Congressional elections of May, 1933; a law authorizing a wife to freely manage or alienate her own property; a law closing the courts to collection and foreclosure actions unless creditors accepted a 30 per cent reduction in principal and a lower interest rate; and a law establishing a new national system for the registration of real property titles.

**OTHER POLITICAL DEVELOPMENTS.** Other developments, not directly related to the economic and financial crisis, served to embarrass President Olaya Herrera. During the hearings before the Finance Committee of the U. S. Senate in January, 1932, on the methods of floating foreign bonds in the United States, the committee investigated charges that the U. S. State Department's successful efforts to obtain reinstatement of the Barco oil concession in Colombia were linked with the payment by the National City Company of New York of the final \$4,000,000 of a \$20,000,000 credit extended to Colombia. It was also charged that Secretary of the Treasury Mellon was financially interested in the Barco concession and that he had discussed the concession with President Olaya Herrera. Both the President and Secretary Mellon formally denied the charges, as did officials of the U. S. State Department.

The President replaced the Minister of War under dramatic circumstances on the night of

May 23, 1932, giving rise to rumors of a plot against the government. The Chief Executive's policy of continuing interest payments on the national foreign debt and on foreign bonds of the Agricultural Mortgage Bank, which were unconditionally guaranteed by the government, aroused increasing hostility. Demands for a moratorium on these remaining foreign interest payments (totaling \$3,750,000 annually) were coupled with attacks upon foreign banks doing business in Colombia.

**DISPUTE OVER LETICIA.** On Sept. 1, 1932, a group of 300 armed Peruvian civilians seized the trading town of Leticia on the Upper Amazon and hoisted the Peruvian flag. Leticia is situated in a fever-infested jungle territory long under dispute between Colombia and Peru but which was awarded to Colombia by a boundary treaty signed in 1922 and ratified in 1927. The cession, made by President Leguía of Peru in exchange for Colombian territory further west, was protested by Peruvian nationalists but the incident of September 1 aroused little concern, particularly after the Lima government gave assurances that the civilians were Communists bent upon creating difficulties for the Sánchez Cerro régime. When the Peruvians remained in control, however, the war spirit quickly rose in Colombia and troops were dispatched to recapture Leticia, despite a Peruvian request that forcible measures be avoided until Peru had an opportunity to deal with its citizens in Leticia.

In both countries war funds were raised by public and private subscription; officers' training camps were established in Colombia and Colombian students in Argentine colleges were notified to return home immediately for military service. On September 30 Peru proposed that the dispute be settled by arbitration, a proposal which Colombia rejected. The extreme difficulty of reaching the territory in dispute from either Colombia or Peru postponed a threatened military clash until mediation of the issue was undertaken by Foreign Minister Blanco of Uruguay on October 6 in his capacity as president of the permanent Inter-American commission of conciliation and arbitration.

Colombia, however, refused to consent to conciliation procedure, asserting that no controversy existed with Peru and that the suppression of the "rebellion" in Leticia was solely a matter of domestic concern in which Colombia could brook no outside interference. A Colombian defense loan of \$10,000,000 was oversubscribed on October 22, a number of transports and war vessels were purchased in the United States and France, and armed forces were dispatched to the disputed territory both overland and via the Amazon River.

Ecuador and Brazil were also drawn into the dispute. Ecuador maintained that its territorial rights in the Oriente region were inadequately safeguarded by the Salomón-Lozano boundary treaty of 1922 between Colombia and Peru and claimed an interest in the settlement of the dispute growing out of the treaty. Ecuador was thus regarded as a potential military or diplomatic ally of Colombia. Brazil, whose boundary line ran less than two miles east of Leticia, dispatched units of its military, naval, and air forces to Tabatinga, a Brazilian army post on the Amazon near Leticia, to safeguard its neutrality. It was also reported to have taken steps to close the Amazon to warships. At the end of

1932, approximately 10,000 troops, 11 warships, and 46 fighting planes were being concentrated in the vicinity of Leticia by the various nations involved and the early outbreak of undeclared war between Colombia and Peru was anticipated (see ECUADOR, BRAZIL, and PERU under *History*).

#### COLON ISLANDS. See ECUADOR.

**COLORADO. POPULATION.** According to the Fifteenth Census, the population of the State on Apr. 1, 1930, was 1,035,791, as against 939,629 in 1920. Denver, the capital, had (1930) 287,861 inhabitants.

**AGRICULTURE.** The following table gives the acreage, production, and value of the principal crops for 1932 and 1931:

<i>Crop</i>	<i>Year</i>	<i>Acreage</i>	<i>Prod. Bu.</i>	<i>Value</i>
Hay .....	1932	1,640,000	2,159,000	\$13,672,000
	1931	1,620,000	1,937,000 <sup>a</sup>	14,692,000
Wheat .....	1932	680,000	6,699,000	2,278,000
	1931	1,386,000	16,632,000	5,489,000
Sugar beets .	1932	159,000	1,790,000 <sup>a</sup>	( <sup>c</sup> )
	1931	224,000	2,532,000 <sup>a</sup>	13,786,000
Corn .....	1932	1,909,000	13,363,000	2,940,000
	1931	1,836,000	17,442,000	6,279,000
Potatoes ...	1932	100,000	11,000,000	2,750,000
	1931	101,000	9,595,000	3,166,000
Barley .....	1932	439,000	6,804,000	1,293,000
	1931	472,000	7,316,000	1,975,000
Dry beans ..	1932	178,000	3,200,000 <sup>b</sup>	477,000
	1931	342,000	838,000 <sup>b</sup>	1,079,000
Oats .....	1932	141,000	3,884,000	711,000
	1931	142,000	3,408,000	920,000

<sup>a</sup> Tons. <sup>b</sup> 100-lb. bags. <sup>c</sup> Not available

**MINERAL PRODUCTION.** Coal, which continued to furnish not far from half of the total yearly value of the State's mineral products, was mined in 1931 to the quantity of but 6,444,000 short tons, as against 8,196,910, in value \$21,485,000, for 1930. The quantity of gold mined increased to 233,299 fine ounces for 1931, from 218,539 for 1930; and to the value of \$4,822,734 (1931), from \$4,517,619 (1930). For 1932 gold production (Mint figures) was 306,668 oz.; by value, \$6,339,400. Silver production, on the contrary, declined to 2,195,194 fine ounces for 1931, from 4,382,852 for 1930; by value to \$636,815 (1931), from \$1,687,398 (1930). For 1932 silver production (Mint figures) was 1,786,701 oz.; by value, \$503,850. Of copper there were mined in 1931 9,028,517 pounds, as against 10,514,000 in 1930; by value about \$640,000 (1931), as against \$1,366,820 (1930). The production of lead was 22,130 short tons, in value \$2,213,000 for 1930; that of zinc (1930) was 36,259 short tons, in value \$3,480,864. The production of petroleum fell to 1,545,000 barrels for 1931, from 1,656,000 for 1930; and to the value of \$825,000 (1931), from \$1,480,000 (1930). The clay products of the State attained the value of \$2,485,684 for 1930; for 1929, of \$3,117,064. The total value of the mineral product of the State, duplications eliminated, was \$46,270,545 for 1930; for 1929, \$55,331,911.

**FINANCE.** State expenditures in the year ended June 30, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments, \$13,367,268 (of which \$843,770 was for local education); for interest on debt, \$441,023; for permanent improvements, \$7,275,555; total, \$21,083,846 (of which \$9,908,267 was for highways, \$3,156,658 being for maintenance and \$6,751,609 for construction). Revenues were \$22,301,199. Of these, property and special taxes furnished 29.2 per cent; departmental earnings and compensation

to the State for officers' services, 10; sale of licenses, 37.8 (in which was included a gasoline sale tax that produced \$6,112,341). Funded debt outstanding on June 30, 1931, totaled \$8,062,014, of which \$5,830,000 was for highways. Net of sinking-fund assets, the debt was \$7,037,933. On an assessed valuation of \$1,586,462,903 the State levied in the year ad-valorem taxes of \$5,695,402.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 4963.59.

**EDUCATION.** Reductions in the budgets of the bodies governing the public schools were reported as widely prevalent, but were said to have been made for the most part with regard to expert educational advice, with a view to their preserving as much of the service to pupils as the means at command would allow. For the academic year 1931-32 the number of persons of school age in the State was reported as 312,728. There were enrolled in the public schools 260,635 pupils. Of these, 181,211 were in common schools or elementary grades; in high schools, 66,803. Expenditures for education during the year totaled \$26,172,932. Salaries of teachers, by the year, averaged \$1296.

**POLITICAL AND OTHER EVENTS.** The State treasurer accepted for the State in May a gift, from a holder in New York, of \$200,000 in repudiated bonds of North Carolina dating from the reconstruction era. The reported condition of the gift was that Colorado bring suit in the Supreme Court to collect from North Carolina; a suit of this sort had long been sought, as private bondholders were unable to sue the debtor State. Governor Adams declared that he would not authorize a suit. Colorado suffered during the year from the distress prevalent among wage-earning people, and was obliged to borrow \$250,000 from the Reconstruction Finance Corporation in September, to meet expenditures for their relief. The disputed boundary line of Colorado and New Mexico was resurveyed during the summer by Federal surveyors, to correct errors made in 1868 and 1902. The Reconstruction Finance Corporation granted a loan of \$3,850,000 in September to the Denver and Rio Grande Western Railroad Company, with which to build the Dotsero Cutoff, the long-projected 175-mile line between Denver and Salt Lake City by way of the Moffatt Tunnel.

**ELECTIONS.** The popular vote on November 8 gave a strong majority for the Democratic National ticket. The totals were reported officially as Roosevelt (Dem.), 250,877; Hoover (Rep.), 189,617. Alva B. Adams, Democrat, was elected United States Senator for the ensuing full term, defeating Karl C. Schuyler, Republican. For the short Senatorial term expiring on Mar. 4, 1933, Schuyler ran almost even with Walter Walker, Democrat; the result was later decided by a count of the absentee votes, which made Schuyler the winner. Edwin C. Johnson, Democrat, was elected Governor, defeating James D. Parriott, Republican. An initiated measure to repeal the State prohibition law was adopted by popular vote. Another initiated measure, to create a State income tax, was defeated; so also was yet another, to limit State taxes on gasoline to 3 cents a gallon. A referred measure, to put an excise tax on oleomargarine, was rejected by popular ballot.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, William H. Adams;

Lieutenant-Governor, Edwin C. Johnson; Secretary of State, Charles M. Armstrong; Treasurer, John M. Jackson; Auditor, W. D. MacGinnis; Attorney-General, Clarence L. Ireland; Superintendent of Public Instruction, Inez Johnson Lewis.

*Supreme Court:* Chief Justice, John T. Adams; Associate Justices, Haslett P. Burke, John Campbell, John H. Denison, Charles C. Butler, Julian H. Moore, Benjamin C. Hilliard.

**COLORADO, UNIVERSITY OF.** A coeducational. State institution of higher learning in Boulder, Colo., founded in 1876. The number of students enrolled for the autumn of 1932 was 3092; the summer session enrollment was 2835. There were 330 faculty members, exclusive of assistants. The total income for general maintenance from State tax, fees, tuition, etc., was estimated at \$1,484,051, while \$508,366 was received for the operation of hospitals, including fees. The library contained 246,776 volumes, 20,000 pamphlets, and 3500 maps. President, George Norlin, Ph.D., LL.D.

**COLORADO RIVER PROJECT.** See AQUE-DUCTS.

**COLORÉD METHODISTS.** See METHODIST EPISCOPAL CHURCH, COLORED.

**COLUMBIA UNIVERSITY.** A nonsectarian institution for the higher education of men and women in New York City, founded as King's College in 1754. At Morningside Heights, Broadway and 116th Street, are located: Columbia College (for undergraduate men); Barnard College (for undergraduate women); Teachers College, including the departments of education and practical arts and New College; the professional schools of law, engineering, architecture, journalism, business, library service, and optometry; and the non-professional graduate faculties of political science, philosophy, and pure science. The college of physicians and surgeons and the school of dental and oral surgery are on West 168th Street, the college of pharmacy on West Sixty-eighth Street, Seth Low Junior College in Brooklyn, N. Y., St. Stephen's College at Annandale-on-Hudson, N. Y., and the New York Post-Graduate Medical School on East Twentieth Street. In addition, through university extension classes and the summer session, courses are offered for resident students at Morningside Heights; and other courses are offered at Camp Columbia, as well as at several extramural centres.

On the basis of the enrollment on Nov. 1, 1932, the total number of resident students for the year was estimated at 30,861, distributed as follows: Undergraduates, 3402, of whom 1773 were in Columbia College, 1041 in Barnard College, 281 in Seth Low Junior College, 100 in St. Stephen's College, and 207 in other schools; and graduate students, 3139. The distribution of professional students was as follows: Law, 615; medicine, 428; engineering, 286; architecture, 97; journalism, 101; business, 514; dental and oral surgery, 236; pharmacy, 431; optometry, 63; library service, 289; and Teachers College, 6510; 5544 students were enrolled in university classes and 300 were unclassified. Of the 8700 non-resident students, 6000 were registered in home-study courses and 2700 in special and extra-mural courses. There were 11,559 students registered for the summer session of 1932. The grand total is exclusive of 2653 duplicate registrations.

The faculty and officers of administration in

1932 numbered 3289, of whom all but 50 were in active service. This number was distributed as follows: Professors, 388; associate professors, 192; assistant professors, 99; associates, 222; instructors, 511; lecturers, 84; assistants, 286; curators, 4; associates, instructors, lecturers, and assistants in Teachers College, 204; instructors and lecturers in the college of pharmacy, 19; instructors in extension and home study, not included above, 489; instructors in summer session, not included above, 467; officers of administration, 65.

Among the professional appointees for the year 1932-33 were: George William Bachman, director of the school of tropical medicine; Lucy M. Crissey, assistant to the dean of the faculty of library service; Louise Hoyt Gregory, associate dean of Barnard College; Roswell Cheney McCrea, dean of the faculty of business; Wendell W. Phillips, assistant chaplain; Arthur F. Coca, medicine; Carney Landis, psychology. The visiting professors appointed for the year 1932-33 were: Georges Ascoli, the Sorbonne; Herbert J. C. Grierson, University of Edinburgh; Paul Hazard, Collège de France; Fritz Strich, University of Berne.

Among the important events of the year was the observance on March 1 of the one hundredth anniversary of the death of Goethe, distinguished by the presence of Gerhart Hauptmann who delivered the chief address. In May Mrs. Alice Pleasance Hargreaves, the original Alice in Wonderland, was the university's guest at its celebration of the one hundredth anniversary of the birth of Lewis Carroll (Charles Lutwidge Dodgson). There was celebrated at a dinner on February 11 the triple anniversaries of the birth, graduation, and inauguration of the twelfth president of Columbia University, Nicholas Murray Butler. The Institute of Educational Research, established by the trustees of Teachers College, observed its tenth anniversary. There was transferred to New York University, on recommendation of the medical faculty, the ear, nose, and throat service at Bellevue Hospital, heretofore conducted by Columbia University, and there was established at the medical school the Valentine Mott professorship in honor of the distinguished service of Dr. Mott. Important changes were made in the entrance requirements of the medical school and of the school of journalism. A new form of certification was adopted for librarians. Important discoveries in chromium plating and electroplating were made by Prof. Colin G. Fink. There were established the Kellett Fellowships for graduate study in the humanities at either Oxford or Cambridge Universities.

The capital endowment in 1932, excluding value of plant (including Barnard College, Teachers College, college of pharmacy, St. Stephen's College, and the New York Post-Graduate Medical School), was \$86,113,328; the estimated total resources as of June 30, 1932, were \$151,114,541; the annual budget for 1932-33 was \$17,006,566.

During 1931-32 the university received gifts in money representing a total of \$2,873,182. The chief additions to special endowments were \$528,500 from Edward S. Harkness toward the construction and equipment of South Hall, \$475,000 from Edward S. Harkness toward the construction and equipment of Bard Hall, \$183,250 from the estate of Euretta Jane Schlegel for the

Kellett Fellowship Fund, \$173,880 from the estate of Lizzie Dennett Lockwood for the Dennett Scholarship Fund, \$87,000 from the estate of Henry R. Seager for the Seager Endowment Fund, \$62,200 from the estate of Harriet S. Phillips for the Phillips Fund for Barnard College, \$50,000 from the estate of Dwight W. Morrow for the Morrow Fund for the School of Law, and substantial gifts from many donors for various research projects. Gifts to income totaled \$1,198,797. The library contained 1,358,359 volumes. President, Nicholas Murray Butler, Ph.D., Hon. D., LL.D., Litt.D.

**COLVOCORESSES, REAR ADMIRAL GEORGE PARTRIDGE**, U. S. N., RET. An American naval officer, died in Litchfield, Conn., Sept. 11, 1932. He was born in Norwich, Vt., Apr. 3, 1847. After serving two years during the Civil War on the ships *Supply* and *Saratoga* he attended the U. S. Naval Academy, from which he was graduated in 1869. Commissioned an ensign in the Navy in 1870, he was promoted through the various grades, becoming lieutenant commander in 1897, commander in 1900, and captain in 1905. He retired as rear admiral in 1907. During the Spanish-American War he was executive officer of the cruiser *Concord*, a unit of Admiral Dewey's squadron, and took part in the battle of Manila Bay, being advanced five numbers in grade "for eminent and conspicuous conduct." He was instructor at the U. S. Naval Academy during 1886-90 and again during 1893-96, and was commandant of midshipmen during 1905-07. He served also as commander of the U.S.S. *Lancaster*, *Yankee*, and *Newark* and of the Naval Station at Key West, Fla.

**COMETS.** See **ASTRONOMY**.

**COMFORT, WILL LEVINGTON.** An American novelist, died in Los Angeles, Calif., Nov. 2, 1932. He was born in Kalamazoo, Mich., Jan. 17, 1878, and attended Albion (Mich.) College. After serving with the 5th U. S. Cavalry during the Spanish-American War he became war correspondent in the Philippines and China for the Detroit *Journal Newspaper Syndicate* and, in 1904, in Japan and Russia for the Pittsburgh *Dispatch Newspaper Syndicate*. His outstanding novel was *Routledge Rides Alone* (1910), in which he gave such a realistic portrayal of the horrors of war that it was used for propaganda purposes by peace societies. In addition to numerous short stories in magazines he wrote *Fate Knocks at the Door* (1912); *Down among Men* (1913); *Midstream* (autobiographical, 1914); *Red Fleece* (1915); *Lot & Company* (1915); *Child and Country* (1916); *The Hive* (1918); *The Shielding Wing* (1918); *Son of Power* (1920); *This Man's World* (1921); *The Public Square* (1923); *Somewhere South in Sonora* (1925); *Samadhi* (1927); and *Apache* (1931).

**COMMERCIAL AND INDUSTRIAL BUILDINGS.** See **ARCHITECTURE**.

**COMMISSION PLAN.** See **MUNICIPAL GOVERNMENT**.

**COMMODITY PRICES.** See **BUSINESS REVIEW; FINANCIAL REVIEW**.

**COMMONWEALTH FUND.** See **UNIVERSITIES AND COLLEGES**.

**COMMUNISM.** More than three years of unparalleled world depression had produced up to the end of 1932 no important growth of the Communist movement in any of the leading capitalist nations except Germany. In Germany, the voting strength of the Communist party rose to 5,973,000

out of 35,410,000 ballots cast in the Reichstag elections of Nov. 6, 1932, from 4,587,000 in the 1930 elections and 3,263,000 in those of 1928. At the beginning of 1933, Germany was the focal point of the developing world struggle between capitalism and socialism, with the outcome primarily dependent upon the future course of the Fascist movement under Adolf Hitler. If Hitler gained supreme power in the Reich, it was regarded as certain that he would enter upon a life and death struggle with German communism, which might threaten the existence of the Bolshevik régime in the Soviet Union itself. On the other hand, Communists welcomed the signs of schism within Hitler's ranks, believing that the radical wing of the Nazis would eventually join forces with them.

Confronted by the danger of a new anti-Soviet campaign, headed by Hitler in Germany, and facing widespread peasant discontent at home, the Russian Communist party broke into open dissension over the policies of Josef Stalin, its dominant figure. The campaign against Stalin assumed a world-wide aspect, partly through the efforts of Leon Trotsky to unite all former Communist opposition groups under his banner. From his place of exile at Prinkipo, near Istanbul, Turkey, Trotsky attacked the foreign and domestic policies of Stalin. He asserted that the fate of the Soviet régime was dependent upon a world Communist revolution, a thesis rejected by Stalin. Trotsky urged a union of Social-Democrats and Communists in Germany to fight Fascism. Stalin followed a "hands-off" policy, curbing the international revolutionary activities of the Third International in view of necessity for peace and for foreign technical and financial aid in laying the foundations of a socialist state in Russia.

Within the Russian Communist party, both Right and Left wings united in demanding the ousting of Stalin. In September, according to the *New York Times* of Oct. 13, 1932, 18 dissident leaders sent a memorandum to the Central Executive Committee of the party, assailing his policies. The memorandum charged Stalin with responsibility for the alleged failure of the Five-Year Plan and for the establishment of a personal dictatorship in the Soviet Union. He was accused of silencing the Third International and of robbing that organization of its leadership of revolutionary masses throughout the world.

The so-called "new opposition" to Stalin was crushed with the same efficiency as had been former combinations against him. On October 11, the party expelled 20 oppositionists, including Gregory Zinoviev, Leo Kamenev, Nicolay Uglanov, as "traitors" and counter-revolutionaries. A month later, the Stalin adherents took steps to eliminate complaints regarding breakdowns in grain collections, sowing, and other items in the Five-Year Plan by purging the Communist party in the North Caucasus region. On December 20, it was announced that the party cleansing would be extended to the entire Union early in 1933. Of more than 3,000,000, members of the party, it was expected that between 30 and 50 per cent would be eliminated as waverers and backsliders. There was no change in Stalin's international policy. Shortly before the anniversary of the Bolshevik revolution (November 7), the official party organ *Pravda* reiterated the doctrine that a successful Soviet state could be established in Russia, regardless of what happened abroad.

In pursuance of this policy, the Soviet Government resumed diplomatic relations with the Nationalist Government of China, which was seeking to crush a semi-communistic peasant revolt by wholesale executions and extensive military campaigns. Moscow not only followed an unprovocative policy toward the governments of Germany and of Spain, but according to Trotsky's followers restrained German Communists from precipitating a revolutionary uprising (see *UNION OF SOVIET SOCIALIST REPUBLICS under History*).

THE THIRD INTERNATIONAL. Despite the restraint placed upon it, the Third International (Comintern) continued its activities in various parts of the world where vital Soviet interests were not likely to be imperiled. Its agents were reported active in various countries in Latin America, in Central and Eastern Europe, in various Asiatic colonies, and in the Belgian Congo, where Communist propaganda stirred the natives to a point requiring repressive action by government forces. A resolution of the executive committee of the Comintern, voted early in September, declared that revolution was imminent in Germany, Poland, and Spain. Its instructions to the Communist party in the United States were quoted in the *New York Times* (October 12) as follows.

"Mobilize the masses in a struggle for social insurance, for immediate aid for the unemployed, against wage cuts, for help for the ruined farmers, for equal rights for Negroes and for self-determination in the black belt, and for protection of the Chinese people and the Soviet Union."

Documents captured in anti-Communist raids in such widely separated points as Hungary, China, Japan, Bulgaria, Finland, and Cuba were presented as evidence of the direct link between Communist activities there and the Red International at Moscow.

COMMUNISM IN THE UNITED STATES. The vote cast for William Z. Foster, twice candidate of the Workers' (Communist) party for President, increased from 48,770 in 1928 to 102,785 in 1932. Almost half of the total 1932 vote was cast in the cities of New York and Chicago, the count by States showing 27,956 votes cast in New York and 15,582 in Illinois. Other State votes included: Michigan (9318), Ohio (7231), Minnesota (6101), Pennsylvania (5658), and Massachusetts (4821). (See *SOCIALISM*.) The party platform, adopted at the national convention in Chicago on May 29, contained the same appeals to "the industrial workers, the persecuted Negroes, and the toiling farmers," as were embodied in the instructions of the Third International, quoted above. Mr. Foster, after traveling some 17,000 miles and making over 70 speeches in various parts of the country, ended his campaign tour on September 15 on grounds of ill health. In some quarters his withdrawal was attributed to orders from Moscow, which was eager for the resumption of diplomatic relations with the United States.

Despite its lack of popular support, communism was much in the public eye during 1932. Attorney General Mitchell, in his report of September 9 on the activities of the so-called bonus army ejected from Washington by Federal troops, said: "There is irrefutable proof that a very large body of Communists and radicals, some ex-service men and some not, were in the city as part of the bonus army, circulating

among them and working diligently to incite them to disorder." This charge had been made by President Hoover on July 28 and the Communist party on July 30 claimed responsibility for the disorders in the capital. However, Maj. Pelham D. Glassford, Superintendent of the Washington Metropolitan Police, replied to Attorney General Mitchell on September 12 that the largest group of bonus advocates mustered in Washington under Communist leadership was 210.

Communists in the United States and other countries achieved notoriety also through their agitation against the death sentences passed on seven Negro youths at Scottsboro, Ala., following their conviction on charges of assaulting two white girls. The U. S. Supreme Court at Washington on November 7 ordered a new trial for the prisoners, while Communist demonstrators outside were dispersed by the police. "Hunger marchers" from various parts of the country arrived in Washington early in December under Communist leadership. Kept under strict supervision by the Washington police, they were forced to leave the city after a committee had presented demands for federal relief to Speaker Garner of the House and Vice-President Curtis, as presiding officer of the Senate.

In a number of the larger cities, Communists led rent strikes and anti-eviction demonstrations, organized demonstrations for unemployment relief, and were charged with fomenting bank runs. They protested before the Japanese embassy in Washington against Japanese aggression in China (March 26). Many of these demonstrations led to clashes with the police. Eight rioters were wounded by police machine-gun fire during a disturbance at Melrose Park, Ill., on May 6. In St. Louis, four demonstrators were shot and many injured on July 11. On February 1 at Tampa, Fla., court imposed jail sentences aggregating 53 years on 14 persons, including two women. They were convicted in connection with the shooting of one policeman and the beating of others during a Communist demonstration in November, 1931. The U. S. Circuit Court of Appeals at Chicago on October 19 ruled that membership in the Communist party or any of its affiliated organizations was sufficient grounds for the deportation of an alien. Many such aliens were deported during the year. During the presidential campaign, Mr. Foster was arrested at Los Angeles, Calif., and in Massachusetts for attempting to speak.

In June, 1932, the Amana Community, one of the most successful groups of religious communists in the United States, voted to abandon some of its communistic practices and to organize for pecuniary profit under a stock corporation plan. The group of some 1300 persons, occupying seven villages in Iowa, was established in 1855 by German Protestant Christians.

COMMUNISM IN EUROPE. In the countries of Northwestern Europe, Communism made slight gains during 1932. In France, the parliamentary elections of May returned 19 Communists to the Chamber of Deputies, which has 615 members, as compared with 12 in the 1928 elections. However, 9 of the Communist Deputies elected in 1932 represented the Unité Ouvrière, a dissident Communist group, while 10 were members of the orthodox group affiliated with the Third International. In Britain, where the Communists secured but 75,000 votes and no seats in the 1931 general election, they played a leading rôle in

several "hunger marches" and the demonstrations of the unemployed in London toward the end of 1932 (see GREAT BRITAIN under *History*). W. A. L. Hannington, leader of a contingent of "hunger marchers," was sentenced to three months in prison on November 8 on a charge of inciting to mutiny. In the British municipal elections of November 2, the Communists failed to win a single seat, although entering candidates in many boroughs. In Belgium, many Communists were arrested during July while leading a large-scale strike of coal miners (see BELGIUM under *History*).

The Netherland Communist party was reported to have made considerable gains and clashes between Communists and newly organized Fascist groups were becoming more frequent toward the end of the year (see NETHERLANDS, THE, under *History*). In Finland, Spain, and some of the countries of Eastern and Central Europe, where Communism appeared to be making more important gains, it was repressed with greater severity. Several hundred Communists were arrested in Finland and many were convicted of treason. The Finnish Communist party was outlawed in 1931 (see FINLAND under *History*). The Spanish Republican government shipped 109 Communist leaders from Barcelona to exile in Spanish Guinea on February 10 for their part in a Communist insurrection. Nevertheless, Communist strikes and disorders occurred in various parts of the country during the remainder of the year (see SPAIN under *History*).

At the close of 1932 Bulgaria appeared on the verge of a Fascist dictatorship, as a result of striking Communist gains at the municipal elections of October, the intransigence of the Communist deputies in Parliament, and the widespread unrest among the peasants (see BULGARIA under *History*). In Hungary, E. Sallay and A. Fuerst, alleged agents of the Third International, were executed on July 29, following their arrest in a raid on the secret Communist headquarters in Budapest. On January 23, an Italian court sentenced 8 Communist organizers to serve from 3 to 17 years in prison. There were clashes between Greek student Communists and the police in December and all Communist papers in Athens were confiscated.

COMMUNISM IN THE FAR EAST In the Far East, the Communist movement was making greatest headway in Central China. The Lytton Report described Communism as "an actual rival of the National Government," possessing "its own law, army, and government, and its own territorial sphere of action." It reported that Communist governments had been established in Kiangsi and Fukien Provinces and that large parts of many other Provinces were completely sovietized. Shanghai remained a centre of Communist propaganda, despite the government's severe measures. Chinese authorities arrested a number of prominent Communists there during the year, including Chen Tu-hsiu, Secretary General of the Chinese Communist party. For the third successive year, Nationalist armies campaigned against the Communists with but indifferent success. In September, Dr. Hu Shih, China's foremost philosopher, warned the Government that China faced complete chaos unless it recognized the redistribution of land made in provinces under Communist control and made provision for a similar redistribution in other areas (see CHINA under *History*).

The extent of the Communist movement in Japan was revealed during the trial of 199 Communists arrested by the police in 1928 and 1929. On October 29, the court sentenced 17 of them to terms of from nine years to life. The trial judge declared a connection between the movement in Japan and the Third International had been established. In the Philippines, the Supreme Court upheld sentences imposed on 30 alleged Communists for sedition. The Communist-controlled régime in Outer Mongolia (see MONGOLIA) was reported by unconfirmed Japanese sources late in 1932 to have been overthrown. (See JAPAN under *History*.)

COMMUNISM IN LATIN AMERICA. Most of the Latin American nations during 1932 were in a state of active social ferment favorable to the spread of radical doctrines. Authorities disagreed as to the actual strength of the Communist movement. Government officials habitually pinned the Communist label upon all their opponents. On the other hand, the Committee on Inter-American Relations, New York, in cooperation with the National Foreign Trade Council, on Sept. 6, 1932, issued a report asserting that there was no evidence of any organized Communist or radical Socialist movement in Latin America. However, there appeared to be authoritative evidence of Communist leadership in the insurrection in Salvador in January, which was put down by the government after severe fighting (see SALVADOR, EL, under *History*). In Chile, the Communist movement headed by Col. Marmaduke Grove played a leading rôle in the political disorders of the year. The growing possibility of the establishment of a Communist government induced the Conservative elements to support their former radical but non-Communist opponent, Arturo Alessandri, in the Presidential election of October 30 (see CHILE under *History*).

In Argentina and Uruguay also, there were indications of authentic Communist movements. The Argentine Government in February deported 140 Communists to Europe. Deportations and arrests failed to eradicate Communist propaganda. In July, it was reported that harvesting in the Province of Santa Fé had been paralyzed by Communist agitators. In Uruguay in February there was an active Communist campaign, accompanied by several abortive risings in the northern districts. On February 8, President Terra asked the National Administrative Council for extraordinary powers to cope with the alleged Communist plots. On March 6, the Chief of Police of Asunción, Paraguay, announced that a Communist project to make the city headquarters for South America had been frustrated by the deportation of Brazilian and Chilean radicals.

The Government of Sánchez Cerro in Peru continued to deport radicals and "Communists" to unhealthy tropical jungles. In May, it proposed a conference of the South American governments to make common cause against Communist agitators. While coolly received in Argentina, the proposal won the support of leading Chilean newspapers. In Bolivia, radical agitation among Indians and peons led Congress in January to enact a social defense bill granting the government large powers to check "Communist" propaganda. In Ecuador, where Communists elected two members of Congress, and in Bolivia a number of Indian outbreaks and raids were attributed to Communist agitation.

The Mexican Government on May 30 ordered



the cessation of Communist activities in three States; on August 30, it sentenced 51 alleged Communists to a penal island. The Guatemalan Government on February 20 executed J. P. Wainwright, who was accused of participating in a Communist plot against it. See UNEMPLOYMENT; COSTA RICA under *History*.

Consult William Z. Foster, *Towards Soviet America* (New York, 1932); Joseph Wood Krutch, "Communism and the Old Pagan," *Harper's Magazine*, October, 1932; Thomas N. Carver, "Capitalism Survives," *Current History*, April, 1932; Louis Fischer, "Trotzky's World Revolution," *Current History*, September, 1932.

**COMORO ISLANDS.** See MAYOTTE AND COMORO ISLANDS.

**COMPARATIVE LAW.** INTERNATIONAL CONGRESS OF. See LAW IN 1932; INTERNATIONAL LAW.

**COMPENSATION LAWS.** See WORKMEN'S COMPENSATION.

**CONCERTS.** See MUSIC.

**CONCRETE BRIDGES.** See BRIDGES.

**CONGO, BELGIAN.** A Belgian colony in Central Africa, formerly the Congo Free State, which was annexed to Belgium in 1908. Area, estimated at 918,000 square miles; the native (Bantu) population in 1930 was 9,584,936. On Jan. 1, 1930, the white population numbered 25,679, including 17,676 Belgians, 1008 English, 1582 Portuguese, 1490 Italians, 544 Americans, and 717 French. The chief city and former capital is Boma; by a royal decree of 1923, the capital was transferred to Leopoldville (population, 39,330). Other important towns are Elizabethville (25,595), Stanleyville, and Coquilhatville. The elementary schools were attended by about 254,035 children in 1931.

Primitive agriculture is developing under government supervision. Palm nuts, palm oil, white copal (resin), rubber, coffee, and cacao are the principal products. Cattle thrive in the highlands of Katanga, Ituri, and Kivu. The Katanga district is also one of the world's most important sources of copper, the production in 1930 reaching 146,700 tons. Gold, diamonds, radium, cobalt, coal, and tin also are mined and iron, platinum, palladium, vanadium, zinc, and bauxite are known to exist. Important helium supplies were discovered in 1930. Imports in 1930 were valued at 1,581,000,000 francs (1,943,000,000 francs in 1929) and exports at 1,512,000,000 francs (1,444,000,000 francs in 1929). One Belgian franc equals \$0.0278 U. S. Due to the fall in prices of colonial products, the 1930 budget showed a final deficit equivalent to \$2,000,000. Estimated revenues and expenses were 690,810,000 and 690,732,121 francs, respectively.

**COMMUNICATIONS.** The 335-mile railway to link up the Benguela Railway at Luao with the Katanga Railways at Tenke was opened July 1, 1931. In 1931, railways in the Belgian Congo extended 2422 miles, highways 21,180 miles, telegraph lines, 4190 miles, telephone lines, 4000 miles. Steamers provide means of transport along the navigable stretches of the Congo and its branches. Steamships numbering 584 with a tonnage of 2,154,633 entered the three ports—Boma, Banana, Matadi—and 558, with a tonnage of 2,166,019, cleared in 1930. The chief administrative centres are connected by air lines. A Belgian air company was scheduled to open a service between Antwerp, Brussels, and the Congo, to start on Oct. 1, 1932.

**GOVERNMENT.** A governor-general and several vice governor-generals administered the colony on behalf of the Belgian King and the budget is voted by the lower house of the Belgian Parliament. The colony is divided into four Provinces which are in turn divided into 22 administrative districts. There is a military force of 14,300 natives officered by 431 Europeans and a territorial police of 5800 men. Governor-General in 1932, Lieutenant-General Tilkens, appointed in 1927.

**RUANDA-URUNDI.** The districts of Ruanda and Urundi, formerly in German East Africa, were turned over to Belgium as mandatory of the League of Nations and in 1925 were united administratively with the Belgian Congo. Area about 20,550 square miles; the capital is Usumbura.

**CONGO, FRENCH.** See FRENCH EQUATORIAL AFRICA.

**CONGO FREE STATE.** See CONGO, BELGIAN.

**CONGREGATIONAL AND CHRISTIAN CHURCHES.** THE GENERAL COUNCIL OF THE. The General Council of the Congregational and Christian Churches was instituted at Seattle, Wash., June 26, 1931, when the National Council of the Congregational Churches in the United States and the General Convention of the Christian Church merged their activities in this new organization. The formal existence of the former organizations, however, was continued for the time being against possible legal necessities. The general council was to carry on the administrative affairs of the united churches but with no ecclesiastical authority, as the plan of union provides for local autonomy in the individual church and in groups of churches associated together. Its next biennial meeting was to be held in Cleveland, Ohio, May 24-31, 1933.

Congregationalism was founded in the United States by the Pilgrims in Plymouth, Mass., in 1620 under the leadership of Brewster, Bradford, and Winslow. The origin of this movement lay in the Separatist activity in England. The Puritans of Massachusetts Bay followed a similar tendency and, as a result, the essential elements of Separatism and Puritanism were combined in Congregationalism. In this denomination each church holds the right to frame its own statement of belief, and the policy of the denomination as a whole, represents adaptation to conditions rather than accord with a theory of church government.

The Christian Church originated in three religious movements: that of the Rev. James O'Kelly of Virginia, who in 1792 withdrew from the Methodist Episcopal Church; that of Abner Jones, who, withdrawing from the Baptist denomination, organized a separate church in Lyndon, Vt., in 1801; and that of a group of Kentucky Presbyterian ministers who formed a new denomination in 1804. These groups eventually united, all holding that minor differences in opinion should be subordinated to Christian brotherhood.

Statistics for the Congregational and Christian churches as of Jan. 1, 1932, showed 6434 churches, 5946 ministers, and a church membership of 1,048,205. There were 3498 young people's societies, with a membership of 179,267. The Sunday school enrollment was 784,730. The total raised for all benevolences was \$3,457,433, and the home expenses of the churches were \$19,195,468.

The American Board of Commissioners for Foreign Missions is the oldest foreign missionary

society in the United States, having been organized June 29, 1810. On Jan. 1, 1932, there were 17 missions under 12 different flags; the stations connected with these missions numbered 97 and the outstations 1916. The missionaries holding life appointments numbered 623 and included 142 ordained men, 73 unordained men, 205 wives, and 203 single women. There were also 71 associates serving for shorter periods, bringing the total number of missionaries up to 694, while native workers numbered 5317. Religious services were conducted in 2078 places. The organized churches numbered 705, with 101,959 communicants. The total church constituency numbered 297,398; Sunday schools, 1297; theological seminaries and training schools, 29, with an attendance of 1634 students; colleges, 10, with 3797 students; secondary schools, 75, and primary and elementary schools, 1347, with a total enrollment of 88,640. There were 32 hospitals and 57 dispensaries, with a staff of 44 physicians and 30 foreign nurses. Total expenditures of the board for the year ending Aug. 31, 1932, were \$1,851,938.

Another tested agency is the American Missionary Association, which began its major work following the Civil War in the field of education among Negroes, opening such schools as Hampton Institute, Atlanta, and Fisk Universities, and Talladega, Straight, Tougaloo, and Tillotson Colleges, some of which have since become independent. In similar ways, through school and church, it has served the mountaineers of the South, the Indians of the West and Southwest, and the Puerto Ricans. In 1931 the association reported direct connections with 23 schools and colleges, enrolling 5151 students, and 221 churches with 9893 members. Expenditures for the same year were \$1,110,609. The association holds properties and trust funds amounting to \$14,000,000.

A wide range of home missionary activities is carried on by the Congregational Church Extension Boards, including the Congregational Home Missionary Society, the Congregational Church Building Society, and the Congregational Sunday School Extension Society. They organize churches, establish church schools, aid needy congregations in the support of their ministers, give specialized service to foreign-speaking groups and to Negroes in the North, and assist in church and parsonage building. The more strictly home missionary service covers two-thirds of the territory of the United States, containing one-third of its population. In the remainder of the country similar work is done by independent State conferences. In 1931 these societies helped to maintain 643 churches and preaching stations, having a total membership of 33,945, and received 3193 persons into church membership. There were enrolled 485 workers, including students employed for short-term summer service. Expenditures for church and parsonage aid amounted to \$392,504; total expenditures, including payments from revolving funds, amounted to \$936,241.

Comprising the Congregational pension boards are three societies: the Congregational Board of Ministerial Relief; the Annuity Fund for Congregational Ministers; and the Retirement Fund for Lay Workers. The Congregational Board of Ministerial Relief, which makes free grants to needy aged and disabled Congregational ministers, disburses annually approximately \$250,000. The Annuity Fund for Congregational Ministers,

endowed by the Pilgrim Memorial Fund of \$5,000,000, disburses to its 2665 members approximately \$300,000 in annuities. The Retirement Fund for Lay Workers is a plan under which lay workers in Congregational organizations may provide retirement annuities for themselves with the aid of their employing agencies.

Among the theological seminaries with which the Congregational and Christian denominations are affiliated are the Chicago Theological Seminary, Divinity School of Yale University, Hartford Seminary, Oberlin Graduate School of Theology, Atlanta Theological Seminary Foundation (Nashville, Tenn.), Union Theological College (Chicago), and the Pacific School of Religion. In addition there are 41 colleges which have had some historical relation to Congregationalism, although a number of them are now undenominational. The Christian denomination has affiliation with Elon and Defiance Colleges.

The accompanying table, reprinted from the *Congregational Year Book*, 1931, gives statistics of international Congregationalism:

INTERNATIONAL CONGREGATIONALISM

Countries	Churches, Chapels, and Stations	Members of Churches	Members of Sunday Schools
Africa *	1,796	57,645	35,986
Argentina .....	27	2,200	.....
Australia and New Zealand .....	512	21,983	34,909
Brazil .....	185	4,097	4,230
British Guiana .....	46	5,561	3,563
Bulgaria * .....	35	1,184	1,948
Canada * .....	7,628 <sup>b</sup>	662,253 <sup>b</sup>	640,383 <sup>b</sup>
China * .....	897	29,883	7,906
Czechoslovakia * .....	172	3,819	800
England and Wales .....	3,505	311,625	454,417
India and Ceylon * .....	928	43,555	55,195
Ireland .....	53	2,231	4,152
Jamaica .....	48	3,155	2,949
Japan * .....	286	31,167	18,370
Madagascar .....	924	45,942	40,645
Mexico * .....	32	685	818
Micronesia * .....	76	3,137	6,066
Newfoundland .....	3	400	341
Papua * .....	94	4,125	7,186
Philippines * .....	48	3,498	3,653
Scotland .....	162	38,688	20,124
South Seas .....	202	20,571	17,543
Spain * .....	9	320	300
Turkey, Greece, and Syria * .....	81	4,119	7,056
United States .....	5,335	944,114	709,299
Total .....	23,172	2,245,957	2,077,839

\* Includes reports of London Missionary Society and American Board.

<sup>b</sup> United Church. Comprises the former Presbyterian, Methodist, and Congregational churches.

The headquarters of the General Council of the Congregational and Christian Churches are at 287 Fourth Avenue, New York City, with a regional office in the Christian Publishing Association Building in Dayton, Ohio. The Congregational Publishing Society maintains branches at 14 Beacon Street, Boston, and at 418 South Market Street, Chicago. The officers of the general council for 1931-1933 were: moderators, the Rev. Carl S. Patton, Los Angeles, Calif., and the Rev. Frank G. Coffin, Columbus, Ohio; secretary, the Rev. Charles E. Burton, New York City; associate secretary, the Rev. Frederick L. Fagley, New York City; assistant secretary, the Rev. Warren H. Denison, Dayton, Ohio; treasurer, William T. Boulton, New York City.

**CONGRESS, UNITED STATES.** See UNITED STATES.

**CONNECTICUT. POPULATION.** According to the Fifteenth Census, the population of the State on Apr. 1, 1930, was 1,606,903, as against 1,380,631 in 1920. Hartford, the capital, had (1930) 164,072 inhabitants.

**AGRICULTURE.** The following table gives the acreage, production, and value of the principal crops for 1932 and 1931:

<i>Crop</i>	<i>Year</i>	<i>Acreage</i>	<i>Prod. Bu.</i>	<i>Value</i>
Hay .....	1932	253,000	313,000 <sup>a</sup>	\$5,171,000
	1931	254,000	327,000 <sup>a</sup>	5,535,000
	1932	14,700	20,257,000 <sup>b</sup>	4,092,000
Tobacco . . .	1931	22,500	29,250,000 <sup>b</sup>	6,669,000
	1932	54,000	2,268,000	1,225,000
Corn .....	1931	51,000	2,142,000	1,285,000
	1932	12,000	1,980,000	1,228,000
Potatoes ...	1931	12,000	1,920,000	1,844,000
	1932	.....	1,386,000	1,150,000
Apples ....	1931	.....	615,000	787,000

<sup>a</sup> Tons. <sup>b</sup> Pounds.

**MINERAL PRODUCTION.** The State's production of minerals, normally secondary among its industries, was diminished in virtually all branches in 1930, the latest year for which the tables of the Federal Bureau of Mines were available. The most considerable item of the mineral total, production of stone, fell to 2,436,520 short tons, sandstone included, for 1930, from 2,621,260 short tons, sandstone not included, for 1929; and in value, to \$3,187,815 for the above total of 1930, from \$3,490,520 for that of 1929. The clay products of 1930, pottery included, attained the value of \$1,547,524, as against a total of \$2,038,539, excluding pottery, for 1929. Sand and gravel were produced to the value of \$446,973 (1930); lime, to the value of \$282,521 (1930), was the only other native mineral to yield a total of any importance. A considerable production of coke from coal brought into the State furnished a great part of the total of \$2,803,576 representing miscellaneous mineral production of 1930. The total value of the mineral production of the State was \$5,485,120 for 1930; for 1929, \$7,053,468.

**FINANCE.** State expenditures in the year ended June 30, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments \$22,525,600 (of which \$1,681,858 was for local education); for interest on debt, \$656,865; for permanent improvements, \$15,685,042; total, \$38,879,037 (of which \$13,569,468 was for highways, \$2,887,978 being for maintenance and \$10,681,490 for construction). Revenues were \$41,919,003. Of these, property and special taxes furnished 27.8 per cent; departmental earnings and compensation to the State for officers' services, 6.3; sale of licenses, 53.2 (in which was included a gasoline sale tax that produced \$4,464,119). Funded debt outstanding on June 30, 1931, totaled \$16,291,100. Net of sinking-fund assets, the debt was \$605,387. On an assessed valuation of \$3,150,407,629 the State levied in the year ad-valorem taxes of \$1,677,159.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 973.37.

**EDUCATION.** In the face of economic adversity the educational and financial groups concerned with the public schools were reported to have maintained general harmony and persistent effort to keep up the schools' standards during the year. The number of persons of school age in the State, as reported at the end of 1932, was 374,735. There were enrolled in the public schools, in the

academic year 1931-1932, 321,732 pupils. Of these, 241,719 were in common schools or elementary grades; in junior high schools, 17,036; in other high schools, 62,977. The year's expenditures for public-school education totaled \$35,416,117. Yearly salaries of teachers averaged \$1611 for elementary positions, \$1937 in junior high schools, and \$2216 in other high schools.

**CHARITIES AND CORRECTIONS.** Under the system in force in 1932 the institutions maintained by the State for the care and custody of persons were managed by appointed boards and were supervised by the Department of Public Welfare. This department was composed of a board of five five-year appointees and of two executive heads. Of the latter, one was secretary of the department (William W. T. Squire) and had direct charge of a bureau of adult welfare; the other was commissioner of the bureau of child welfare. There were eight major State institutions concerned with welfare. The State contained also 10 private hospitals for mental cases, 10 county jails, 54 almshouses, 33 State-aided hospitals, and 42 homes for the aged. State institutions, with their populations of June 30, 1932, were: Connecticut State Prison, at Wethersfield, and prison farm, 655 and 83 respectively; State Farm for Women (prisoners), Niantic, 225; Connecticut School for Girls, Middletown, 252; Connecticut School for Boys, Meriden, 350; Connecticut Reformatory, Cheshire, 444; Connecticut State Hospital, Middletown, 3312; Norwich State Hospital, Norwich, 2700; Mansfield State Training School and Hospital (epileptics and the feeble-minded), 1070; Mystic Oral School (for the deaf), Mystic, 121.

**ELECTIONS.** The popular vote of November 8 gave a slight plurality for the Republican National ticket. The Hoover (Rep.) vote was 287,720; the Roosevelt (Dem.) vote, 281,193. For United States Senator, Augustus Lonergan, Democrat, of Hartford, defeated Senator Hiram Bingham, Republican, running for reelection. Wilbur L. Cross, Democrat, was reelected Governor, defeating ex-Governor John H. Trumbull, Republican. The lower branch of the General Assembly remained Republican, but the Democrats elected a majority of one in the upper house. To the Federal House of Representatives were elected 2 Democrats and 4 Republicans, of whom one (Rep.) was elected as Representative-at-Large; the pluralities of two of the Republicans were trifling, however, and uncertain to stand in case of contest. A referred proposal that the General Assembly petition Congress to repeal the Eighteenth Amendment was approved by popular vote.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, Wilbur L. Cross; Lieutenant-Governor, Samuel R. Spencer; Secretary of State, William L. Higgins; Treasurer, Roy C. Wilcox; Comptroller, F. M. Salmon; Attorney-General, Warren B. Burrows.

**Supreme Court of Errors:** Chief Justice, W. M. Maltbie; Associate Judges, F. D. Haines, G. E. Hinman, John W. Banks, Christopher L. Avery.

**CONNECTICUT COLLEGE.** A liberal college of arts and sciences for the higher education of women in New London, Conn., chartered in 1911 by the State of Connecticut. The enrollment for the autumn of 1932 was 583. The faculty numbered 65 members. The productive funds amounted to \$1,305,659 and the budget for the year, not including building operations, was more

than \$539,651. There were 48,916 volumes in the library. In 1931 the college received approximately \$36,000 in miscellaneous gifts. President, Katharine Blunt, Ph.D.

**CONSERVATION.** See FORESTRY.

**CONSTITUTIONAL AND PUBLIC LAW.**

See LAW in 1932.

**CONSTRUCTION.** See BUILDING; ARCHITECTURE.

**CONSUMERS' SOCIETIES.** See COÖPERATION.

**CONTRACT BRIDGE.** The game of Contract Bridge soared to even greater heights in 1932, much of its popularity, of course, being due to the depression which kept people away from costly amusements and sent them to the bridge table in droves. More newspaper bridge columns, syndicated and unsyndicated, written by experts and non-experts alike, theses, books, and pamphlets appeared. And as usual numerous tournaments were held. No official ranking of the bridge players of the world is ever made, but at the end of the year it became apparent that Hal Sims of New York had the greatest following. This was due to his amazing continued success in tournament play and to the widespread circulation of his book "Money Contract" which appeared during the year. Sims won three important tournaments in 1932, taking first place with Willard Karn in the national pairs tournament in the winter, and then winning the Vanderbilt Cup in the fall with his team composed of himself, Karn, Vladimir Von Zedtwitz, and Harold S. Vanderbilt, donor of the cup. With Sidney Burnstine, Karn, and Howard Schenken he won the Eastern fours championship in February. That was after the famous "Four Horsemen" team had been dismembered when Oswald Jacoby had been ousted to make way for Schenken.

Jacoby was on the Crockford's Club team of four that took the American Bridge League championship at Atlantic City in the summer when he played with Louis Watson, Theodore Lightner, and Michael Gottlieb. The Knickerbocker Whist Club four won the winter championship. This team was composed of George Reith, B. J. Becker, Von Zedtwitz, and S. G. Churchill. Sidney Lenz, whose long drawn out battle with Ely Culbertson, stretching over the latter part of 1931 and the early weeks of 1932, marked the height of bridge ballyhoo, won the Eastern and the Goldman pairs championships, two of the most valued honors. His partner in each case was Com. Winfield Liggett, Jr.

The contract bridge rules were changed and recoded in the fall and were promulgated November 1, for immediate adoption. In these new rules there was a general simplification of the playing code and a distinct merging of the English and American rules. The no trump count was changed so that now over tricks are valued as follows: each odd trick thirty points and each even trick forty. There was also a slight raising of the non-vulnerable double penalties and a consequent lowering of vulnerable double penalties.

**COOLIDGE, CALVIN.** See RAILWAYS; UNITED STATES under National Election.

**COÖPERATION.** A study made by the Federal Bureau of Labor Statistics of the advance of the cooperative movement throughout the world indicated that in the thirty-seven countries surveyed there existed more than 400,000 societies of all types. Of these 37 per cent were credit societies, 35 per cent were agricultural societies,

and 10 per cent were consumers' societies. Membership figures were available for twenty-one countries and these showed that there were some 70,000,000 persons who were members of one kind or another of the cooperative groups. Almost 5,000,000 of the coöperators belong to the consumers' organizations. In twenty-four countries for which data were available the consumers' societies did an annual business of nearly \$11,000,000,000, four-fifths of which was done by the Russian organizations.

At this point it may be indicated that in Soviet Russia membership in a consumers' society is practically compulsory in that in many places the coöperative store is actually the only distributing agency existing for food supplies, clothing and other family wants. If Russia is excluded, the largest coöperative activity was to be found in Great Britain where the consumers' organizations did \$952,000,000 worth of business in 1931. The sales of coöperative wholesale societies in twenty-three countries in 1931 totaled nearly \$900,000,000. As readers of these columns are aware, many consumers' societies through their wholesale branches engage in manufacturing activities; the value of products coöperatively made in 1931 in the seven countries of Finland, Germany, England, Norway, Poland, Scotland and Sweden amounted to \$187,000,000. Table I on page 209 shows the distribution of the coöperative societies in the thirty-seven countries covered by the Bureau of Labor Statistics' study.

Membership in the more important nations in which cooperation is a significant activity was as follows for the years indicated: Soviet Russia (1930), 59,414,300; Great Britain (1930), 6,702,277; India (1929-30), 4,176,675; United States (1929), 3,553,954; France (1930), 2,305,946; Czechoslovakia (1929), 2,220,509; Italy (1930), 1,817,248; Rumania (1930), 1,579,089; Denmark (1929), 1,383,971. The consumers' cooperative movement is particularly strong in Czechoslovakia, Finland, France, Great Britain, Italy and Soviet Russia. It is interesting to note the relation of consumers' coöperation in proportion to the population in various countries. In Czechoslovakia the percentage of the total population belonging to consumers' societies was 63.56; in Soviet Russia 42.86 per cent of the total population of the country belonged to consumers' societies; in Great Britain the percentage was 14.79; in Finland it was 13.13 per cent; in Switzerland it was 9.84 per cent; in Denmark it was 9.34 per cent; in Hungary it was 8.32 per cent; in Iceland it was 7.43 per cent; in Sweden it was 7.84 per cent. The smallest degree of development was found in Canada, Portugal, South Africa, United States, and Yugoslavia, in which less than 1 per cent of the population belonged to consumers' cooperative societies. As has been pointed out, the societies surveyed did nearly an annual business of \$11,000,000,000, about four-fifths of which constituted the transactions of the Russian organizations. The following figures present the activities of the more important countries for the latest years available which, in most instances, were 1930 and 1931: Russia, \$8,446,000,000; Great Britain, \$952,718,000; Denmark, \$419,948,000; Germany (societies belonging to the Central Union only), \$273,795,000; France, \$149,409,000; Belgium, \$166,484,000. The total business transacted in the United States by the

TABLE I.—NUMBER OF COÖPERATIVE SOCIETIES OF VARIOUS TYPES IN SPECIFIED COUNTRIES

Country	Year	Con- sumers' societies	Credit societies	Agricul- tural societies	Workers' productive and labor societies	Housing and con- struction societies	Other types	Total
Argentina	1928-29	86	16	189	....	2	29	222
Australia	1929	166	....	249 <sup>a</sup>	....	....	....	415
Austria	1930	302	2,308	1,672	....	300	790	5,372
Belgium	1927-28	378	1,042	1,658	88	114	1,625	4,905
British Malaya	1929	....	105	....	33	....	....	188
Bulgaria	1929	815	2,248	532	384	235	1,670	5,882
Canada	1930	825	183	498	....	....	260	1,266
China	1929	....	818	....	....	....	....	818
Czechoslovakia	1930	1,840	6,057 <sup>b</sup>	4,848	828	1,590	608	15,269
Denmark	1929	1,936	....	6,445	....	....	5	8,386
Estonia	1929	250	210	790	....	....	1,250 <sup>c</sup>	2,500 <sup>c</sup>
Finland	1929	803 <sup>a</sup>	1,556	818	....	....	2,825	6,002
France	1930	3,325 <sup>c</sup>	....	....	564	....	....	3,889
Germany	1931 <sup>d</sup>	1,703	21,653	18,362	788	4,539	4,987	52,032
Great Britain	1930	1,248	....	1,418	78	283	128	3,155
Greece	1928	115	3,801	1,187	....	341	799	6,243
Iceland	1929	39	....	....	....	....	54	93
India	1929-30	....	87,668	3,662	....	....	15,577	106,907
Irish Free State	1930	....	114	299 <sup>b</sup>	....	....	....	413
Italy	1930	3,329	....	3,742	1,146	....	120	8,337
Japan	1930	425	12,104 <sup>e</sup>	....	....	....	1,553	14,082
Latvia	1930	295	352	450	....	....	424	1,521
Lithuania	1930	320	460	632	8	2	29	1,451
Netherlands	1929	460	897	1,280	28	146	304	3,115
Norway	1929	410	....	2,821 <sup>f</sup>	....	....	....	3,231
Palestine	1930	....	52	89	27	84	21	173 <sup>g</sup>
Poland	1930 <sup>h</sup>	6,128	6,169	2,516	....	864	1,124	16,801
Portugal	1929	150	....	....	....	....	121	271
Rumania	1930	2,122	4,757	2,447	....	....	950	10,276
Siam	1929-30	....	128	....	....	....	....	128
South Africa	1930	13	....	429	....	....	....	442
Soviet Russia	1930	9,779	....	78,064 <sup>i</sup>	18,363	....	....	106,206
Straits Settlements	1929	....	29	....	....	....	....	29
Sweden	1930	1,609	361	3,857	175	5,295	3,357	14,654
Switzerland	1930	1,164	3,526	2,920	203	260	3,803	11,876
United States	1929	1,529	974	11,950	20	45	3	14,521
Yugoslavia	1930	( <sup>j</sup> )	4,418	2,026 <sup>k</sup>	92	81	460	7,077

<sup>a</sup> Includes a few societies of other types.<sup>b</sup> Year 1929.<sup>c</sup> Approximate.<sup>d</sup> Jan. 1, 1932.<sup>e</sup> Including 9655 societies which have other activities as well.<sup>f</sup> Including fishery societies.<sup>g</sup> Actually in operation; there were 249 societies registered.<sup>h</sup> Jan. 1, 1931.<sup>i</sup> Year 1928.<sup>j</sup> Included with agricultural societies.<sup>k</sup> Includes the consumers' societies also.

TABLE II.—BUSINESS DONE BY COÖPERATIVE WHOLESALE SOCIETIES IN 1931

[Conversions into United States currency on basis of average exchange rate for year]

Country	Number of affiliated societies	Amount of business	Country	Number of affiliated societies	Amount of business
Australia: New South Wales	( <sup>a</sup> )	\$ 2,788,924	Great Britain:		
Austria	143 <sup>b</sup>	12,541,555	English wholesale	1,084	\$369,594,491
Belgium			Scottish wholesale	251 <sup>b</sup>	75,064,898
Fédération des Sociétés coop- ératives belges	( <sup>c</sup> )	26,484,400	Hungary: Hangya	1,647 <sup>b</sup>	10,178,164
Société coopérative fédérale Belgique	49 <sup>b</sup>	8,260,598	Iceland	39 <sup>f</sup>	4,278,620 <sup>f</sup>
Bulgaria "Napred"	( <sup>c</sup> )	3,070,340	Italy	( <sup>a</sup> )	5,002,058
Canada			Latvia "Konsumis"	212 <sup>b</sup>	232,732
Manitoba Cooperative Whole- sale	52	274,321	Lithuania:		
Saskatchewan Cooperative Wholesale	85	488,174	L. K. B. S. <sup>c</sup>	236 <sup>d</sup>	1,198,000
Czechoslovakia:			L. Z. U. K. S. <sup>c</sup>	41 <sup>b</sup>	2,311,000
V. D. P. <sup>c</sup>	347 <sup>d</sup>	14,128,604	Netherlands	( <sup>a</sup> )	7,088,120
G. K. C. <sup>c</sup>	175 <sup>b</sup>	9,427,588	Norway	454	7,530,117
Ustredné Družstvo	( <sup>a</sup> )	2,186,780	Poland "Spolem"	925 <sup>b</sup>	9,212,345
Denmark: F. D. B. <sup>c</sup>	1,791 <sup>b</sup>	32,881,000	Sweden	802	37,453,216
Ringkobing	( <sup>a</sup> )	816,125	Switzerland:		
Estonia: E. T. K. <sup>c</sup>	238 <sup>b</sup>	4,034,543	V. S. K. <sup>c</sup>	527	32,376,338
Finland:			V. o. l. G. <sup>c</sup>	( <sup>a</sup> )	7,424,983
O. T. K. <sup>c</sup>	112 <sup>b</sup>	13,560,000	Concordia	54 <sup>b</sup>	779,316
S. O. K. <sup>c</sup>	423 <sup>b</sup>	20,724,000	United States:		
France	1,423 <sup>e</sup>	29,250,000	Central Cooperative Whole- sale	99	1,509,752
Germany:			Eastern Cooperative Whole- sale	10	268,044
G. E. G. <sup>c</sup>	920	101,107,097	Farmers' Union State Ex- change (Nebraska)	165 <sup>b</sup>	1,571,028
"Gepag"	277	16,745,792	Scandinavian Cooperative Whole- sale	5	7,526,961

<sup>a</sup> No data.<sup>b</sup> Data are for 1930. [known by these initials.<sup>c</sup> Initials of name of wholesale; latter is commonly<sup>d</sup> Data are for 1929.<sup>e</sup> Data are for 1928.<sup>f</sup> Data are for 1929-30.

local consumers' societies in 1929 was \$64,655,000.

Table II shows the business done by the wholesales of the various countries in 1931. The combined wholesale business of all the countries studied was nearly nine-tenths of a billion dollars, with Great Britain and Germany between them accounting for more than one-half of the total. It will be noted that Belgium, Denmark, Finland, France, Sweden, and Switzerland also had sizable wholesale businesses. In some twenty countries workers were participating in producers' coöperatives which were either departments of coöperative wholesale societies or, as in the case of Belgium, made up an independent central organization. In Germany, England, Finland, and Czechoslovakia these producers' coöperatives have made considerable progress in furnishing the commodities which the consumers' organizations distribute among their membership. Apparently the manufacture of soap, shoes, flour, and candy and the fabrication of clothing and hosiery and the roasting of coffee are the industries which most frequently occur. The survey points out that England is the only country whose coöperative movement mines coal and builds motor cars. Also, the wholesale societies of England and Scotland operate, through the English and Scottish Joint Coöperative Society, large tea plantations in Ceylon and India. The following commodities are among the more important produced in the countries indicated by their consumers' coöperative organizations:

*Austria*, clothing, confectionery, edible paste, shoes, textiles, and underwear; *France*, candy, clothing, coffee roasting, eau de Cologne, fruit (canned), sardines (canned), shoes, vegetables (canned); *Norway*, bakery goods, cheese, clothing, coffee roasting, flour, leather, margarine, meat products, polish (shoe), shoes, soap, and tobacco; *Denmark*, bicycles, candy, chemicals, cigars, clothing, coffee roasting, flour, harness, hosiery, leather, margarine, mustard, paper, rope, shoes, shoes (wooden), soap, spices, tobacco, and wine; *Netherlands*, cheese, jam, and soap; *Scotland*, blankets, brushes, clothing, corn meal, flour, furniture, paper, preserves, rope and twine, shoes, soap, and tobacco; *Soviet Russia*, candy, coffee roasting, corn meal, feather down, fruit (canned), leather, meat products, molasses, nails, shoes, soap, spices, starch, tea blending, tobacco, vegetable oils, and wire; *Sweden*, chemicals, corn meal, electric-light bulbs, flour, margarine, matches, meat products, overshoes, phosphates, rubber tires, shoes, and soap; *Czechoslovakia*, bakery goods, baking powder, brooms, butter, cheese, chemicals, chicory, chocolate, coffee roasting, confectionery, cosmetics, edible paste, fish products, flour, fruit (preserved), hosiery, jam, meat products, mustard, pickles, polish (metal), polish (shoe), ribbon, sauerkraut, shoes, spices, suspenders, trousers, underwear, vanilla, vinegar, and wine (fruit); *Germany*, boxes (wooden), brushes, candy, cheese, chocolate, chemicals, cigars, clothing, coffee (malt), edible paste, fish (cured), flour, fruit (canned), furniture, lumber, matches, meat products, mustard, polish (shoe), soap, textiles, tobacco and vegetables (canned), cigars, coffee roasting, printing, sausage, and soap; *England*, bacon, bedding, bicycles, biscuits, brushes, butter, canned goods, cheese, chemicals, cigars, chocolate, clothing, coal mining, cocoa, coffee roasting, confectionery, corsets, cutlery, drugs, farming, flour, furniture, glass bottles, hardware, harness, hosiery, jewelry, lard, leather, lumber, margarine, motor cars, motor cycles, paints, picture framing, pottery, preserves, rope and twine, scales, shoes, soap, tea blending, textiles, tin plate, tobacco, trunks, bags, etc., umbrellas, underwear, vinegar, and yeast.

COÖPERATIVE LEAGUE IN 1930. The 1932 YEAR BOOK of the Coöperative League of the United States indicated that at the end of the year 1930 it had 137 societies affiliated with it with a total membership of 126,977 and total business for the year of \$18,687,782. Retail distributing societies made up the larger proportion of the total

number of affiliates, there being 116 in this group. There were also five coöperative housing organizations affiliated, four wholesale consumers' societies, five insurance societies, and seven credit and banking societies. The four wholesale societies did a combined business of \$2,800,902, the most important being the Coöperative Central Exchange whose business was \$1,767,760. The other three wholesale coöperative societies were the Grange Coöperative Wholesale, the Eastern Coöperative Wholesale and the Midland Oil Association. In 1930 the average membership of the retail affiliated societies (of which there were 107 in all) was 259 as compared with 344 in 1928. The share capital per society was \$24,574 and the average business per society was \$145,197.

COÖPERATIVE CREDIT SOCIETIES. A careful study made by the Federal Bureau of Labor Statistics reaching some twenty States, showed that in all but two of these there was a combined membership of nearly 270,000 persons in coöperative credit societies in the country in 1931. The combined share capital in nineteen States was over \$15,000,000 and the total resources amounted to more than \$33,000,000. Massachusetts, which led all the States in the union in this type of activity, showed existing 302 credit unions with 109,592 members, a share capital of \$8,363,604, and total resources of \$13,874,270. In New York there were 113 credit unions with 58,585 members, a total share capital of \$1,051,035, and combined total resources of \$9,251,835. In Illinois the figures were 92 unions, 19,423 members, a share capital of \$1,079,155, and combined total resources of \$1,198,173. Eleven States reported a total of \$19,000,000 in loans made during the year; while the loans outstanding in 19 States at the end of 1931 aggregated more than \$26,000,000. The leaders in lending operations were the following: Illinois, \$1,701,108 worth of loans made during the year and \$1,004,590 worth of loans outstanding at the end of the year; Massachusetts, \$14,526,730 in loans and \$11,043,189 in loans outstanding; New Hampshire, \$259,014 in loans and \$1,487,103 in loans outstanding; New York, total loans not reported and \$6,880,491 in loans outstanding; Rhode Island, \$585,526 in loans and \$1,791,786 in loans outstanding. It is interesting to note that between 1929 and 1931 the number of societies had increased 34.6 per cent in those States for which 1931 data were reported above. The greatest progress as regards number of societies took place in Illinois where 51 new organizations were formed; Iowa showed a gain of 26 societies, Minnesota, a gain of 32, Wisconsin, a gain of 38, and Missouri, a gain of 39. New York was the only State reporting in which there were fewer credit unions in 1931 than in 1929.

FARMERS' COÖPERATIVE ASSOCIATIONS 1930-32. According to the Federal Farm Board there existed in 1931-32, 11,900 farmers' coöperative societies in the United States which had an estimated membership of 3,200,000 and which did an estimated total business of \$1,925,000,000. It is to be noted that for the most part American agricultural coöperative activity consists of marketing operations. The table on page 211 indicates the distribution of these agricultural coöperatives by types of organization, comparing 1930-31 with 1931-32.

## ESTIMATED MEMBERSHIP AND BUSINESS OF FARMERS' COÖPERATIVE ASSOCIATIONS IN THE UNITED STATES, 1900-31 AND 1931-32

Type of organization	Number of associations		Estimated membership		Estimated business	
	1930-31	1931-32	1930-31	1931-32	1930-31	1931-32
Marketing associations handling—						
Cotton and cotton products . . . . .	261	267	190,000	240,000	\$130,000,000	\$ 89,000,000
Dairy products . . . . .	2,391	2,392	725,000	740,000	620,000,000	520,000,000
Forage crops . . . . .	8	31	1,000	7,500	1,200,000	1,750,000
Fruits and vegetables . . . . .	1,886	1,847	182,000	180,000	319,000,000	283,000,000
Grain . . . . .	3,448	3,500	775,000	705,000	621,000,000	450,000,000
Livestock . . . . .	2,014	1,885	400,000	450,000	300,000,000	260,000,000
Nuts . . . . .	71	70	17,000	18,000	13,000,000	8,600,000
Poultry and poultry products . . . . .	160	172	82,000	88,000	86,000,000	72,000,000
Tobacco . . . . .	13	21	40,000	54,000	7,000,000	10,000,000
Wool and mohair . . . . .	136	134	64,000	62,000	26,000,000	21,000,000
Miscellaneous . . . . .	474	436	132,000	122,500	61,800,000	48,650,000
Miscellaneous purchasing associations	1,588	1,645	392,000	533,000	215,000,000	181,000,000
Total . . . . .	11,950	11,900	3,000,000	3,200,000	2,400,000,000	1,925,000,000

BUILDING AND LOAN ASSOCIATIONS IN 1931. It was inevitable that the depression should hit the building and loan associations of the United States with the result that the figures for 1931 as compared with 1930 showed a falling off in number of societies, combined membership and total resources. The following are the comparative figures: the number of associations decreased from 11,767 in 1930 to 11,442 in 1931;

the Labor National Bank of Three Forks, Montana, closed their doors; however, the first named was able, before the end of 1932, to reorganize its affairs and once again open for business. The accompanying table shows the condition of the seven labor banks in operation as of June 30, 1932. The data were collected by the Industrial Relations Section of Princeton University.

Name and location of bank	Capital	Surplus and undivided profits	Deposits	Total resources
Telegraphers' National Bank, St. Louis, Mo. . . . .	\$500,000	\$197,486	\$5,265,238	\$6,482,523
Labor National Bank, Paterson, N. J. . . . .	300,000	163,692	4,351,018	5,708,400
Amalgamated Bank of New York, N. Y. . . . .	650,000	577	4,691,389	5,587,168
Mount Vernon Savings Bank, Washington, D. C. . . . .	400,000	157,917	3,576,986	4,356,459
Union National Bank, Newark N. J. . . . .	375,000	212,447	2,502,608	3,612,306
Amalgamated Trust & Savings Bank, Chicago, Ill. . . . .	200,000	151,277	1,989,226	2,396,892
United Labor Bank & Trust Co., Indianapolis, Ind. . . . .	112,500	22,500	286,049	421,049
Total . . . . .	2,537,500	905,896	22,662,514	28,564,797

the combined membership decreased from 12,336,754 to 11,338,701; the total resources declined from \$8,824,119,159 to \$8,417,375,005. The following figures give the total assets for a selected group of States in which the activities of building and loan associations have been significant: California, \$453,007,351; Illinois, \$466,600,631; Indiana, \$288,584,111; Maryland, \$210,000,000; Massachusetts, \$560,103,042; Michigan, \$165,269,540; Missouri, \$206,364,643; New Jersey, \$1,201,973,615; New York, \$443,252,364; Ohio, \$1,158,281,871; Pennsylvania, \$1,250,692,072; Wisconsin, \$281,233,267.

POSTAL CREDIT UNIONS IN THE UNITED STATES. These columns before have recorded the progress of the credit unions of the United States Postal Employees. Figures for 1931 showed that these credit unions increased 12.2 per cent, the membership increased 20.9 per cent, and the assets rose 52.1 per cent comparing 1931 with 1930. At the end of 1931 there were 275 societies with 49,037 members and \$5,078,874 in assets. The number of cumulative loans was 172,437 and the total amount loaned during the period of activity of these societies was \$21,042,432. The dividend rate for 1931 averaged 6.69 per cent while the total operating cost was 1.18 per cent of the loans granted.

LABOR BANKS. At the end of June 30, 1932 there were only seven labor banks in the country in operation, which marked the decrease of four banks over the preceding year. During 1931-32 the Federal Bank and Trust Company of New York City, the Labor National Bank of Jersey City, the American Bank of Toledo, and

AMALGAMATED CLOTHING WORKERS' COÖPERATIVE APARTMENTS. The Amalgamated Clothing Workers' Union in New York City in 1932 completed a new block of houses containing 115 apartments and having 426 rooms, located in the Borough of the Bronx. In 1927 and 1929 this organization erected two groups, also in the Bronx, containing 2007 rooms and providing quarters for 511 families. On the East Side in Manhattan this organization in 1930 had also built dwellings for 231 families containing 912 rooms. Thus, over the period 1927-32 the Union's housing activities had provided living quarters for 857 families. The latest venture cost \$550,000 and the buildings were equipped with mechanical refrigerators, elevator service and garbage incinerators. The tenants subscribed for stock in the building association, this amounting to \$425 per room, one-half of which was paid in cash and the remainder was to be paid over a period of five years. It is interesting to note that in the original development the Amalgamated has followed a policy of rent reductions, the average rental now being \$9.65 per room as compared with \$11 per room, the amount which was originally charged.

COÖPERATION IN GREAT BRITAIN. The figures compiled by the Chief Registrar of Friendly Societies in Great Britain showed that despite the business depression the coöperative movement in the country was indicating considerable progress in membership and working capital. While sales fell off, largely due to the fall in commodity prices, the retail consumers' societies succeeded in doing a larger gross business in



1930 than in previous years. Particularly significant was the increase in membership in the retail consumers' societies, 239,000 new members having been added in the year. London, which, according to the *Monthly Labor Review* had heretofore been considered hopeless from the point of view of consumers' coöperation, was by the end of 1931 boasting one of the largest organizations in the world. In 1925 this society had a membership of 141,236; at the end of 1931 its membership was 429,421 and its sales for the year amounted to almost \$48,000,000. In 1930 the consumers' retail societies did a total business of \$1,052,757,000; the wholesale societies did a total business of \$501,285,000; and the workers' productive societies did a total business of \$17,699,000.

**GERMAN COÖPERATIVE MOVEMENT.** Along with other business activity in Germany the coöperative movement apparently has been suffering seriously from continued depressed conditions. Data collected by the German Coöperative Union showed that from 1913 to 1929 there were only two years, 1926 and 1927, in which the number of new societies formed exceeded the number of dissolutions. But in 1930 the number of societies exceeded the newly formed ones by 56 and in 1931 the excess was 476. Agricultural credit associations apparently seemed to have been particularly hard hit. The accompanying table shows the development of certain of the more important types of societies in Germany in 1931.

DEVELOPMENT OF SPECIFIED TYPES OF CO-OPERATIVE SOCIETIES IN GERMANY

Type of society	Number of societies, Jan. 1, 1931	Number of societies, Jan. 1, 1932
Credit societies .....	22,160	21,880
Craft societies <sup>a</sup> .....	1,770	1,726
Workers' productive associations	722	722
Dealers' purchasing associations <sup>b</sup>	1,274	1,296
Consumers' societies .....	1,727	1,695
Housing societies .....	4,065	3,939
Agricultural associations .....	18,736	18,800

<sup>a</sup> Raw materials, warehousing, service, delivery.

<sup>b</sup> Associations of private retailers for cooperative purchase of goods sold in their business.

**COÖPERATIVE MARKETING IN PALESTINE.** Since 1920, when the passage of the coöperative law permitted the formation of coöperative societies in Palestine, this country has seen the appearance of 249 societies, of which 49 were agricultural organizations, 82 land purchase and building societies, and 55 credit groups. By 1931 the agricultural organizations were playing a very significant part in the farming life in the country, since practically all of the almond and wine grape crop, about 80 per cent of the milk, eggs, poultry and vegetables and 40 per cent of all the oranges raised in the country were being marketed through coöperative organizations. The annual value of the Jewish agricultural products disposed of in this fashion was over \$2,175,000, of which about \$1,500,000 worth was being exported.

**COÖPERATIVE SOCIETIES.** See COÖPERATION.

**COPPER.** Preliminary statistics of copper output, stocks, and other trade factors in 1932 showed a far greater depression in the industry than the already depressed condition of the previous year. According to the U. S. Bureau of Mines, the smelter output of copper from ores of

domestic origin in 1932 was about one-half that of 1931 and refinery production from domestic and foreign sources was 54 per cent lower than in 1931. The severe cut in production showed the efforts made by producers to bring production into balance with consumption. The consumption of copper continued to decline rapidly in 1932, however, and stocks of refined copper were higher at the end of the year than at its beginning. On June 21 a tariff on copper of 4 cents a pound was put into effect and resulted in a large decrease in imports. Exports dropped materially and were smaller for the year than imports. During the last months of the year, however, exports were at a higher rate than imports.

The quoted price of copper (electrolytic, New York refinery equivalent) was 7.025 cents a pound at the beginning of the year. The high weekly average price, 7.171 cents a pound, was reached in the week of January 16, from which level a decline started that continued, with only one important variation, until the end of the year. An upward swing in prices, that began early in August, carried the average from 5.025 cents to 6.025 cents in September and early October. The price dropped to 4.775 cents for the week ending December 17, a new low level for all time.

The smelter production of copper from domestic ores in 1932, as estimated by the Bureau of Mines, was 528,000,000 lbs., compared with 1,043,000,000 lbs. in 1931. The 1932 production was thus about one-half that of 1931; it was the smallest production recorded since 1921, exceeding the output of the latter year by only 4 per cent. The production of new refined copper from domestic sources was about 443,000,000 lbs., compared with 1,075,000,000 lbs. in 1931. The output of new refined copper from domestic and foreign sources in 1932 amounted to about 688,000,000 lbs., compared with 1,502,000,000 lbs. in 1931—a decrease of 814,000,000 lbs. or 54 per cent. The production of secondary copper by primary refineries dropped from 156,000,000 lbs. in 1931 to about 120,000,000 lbs. in 1932. Thus the total primary and secondary output of copper by the refineries in 1932 was 51 per cent below the preceding year—a production of about 808,000,000 lbs. being reported for 1932 as compared with 1,658,000,000 lbs. in 1931.

The imports of unmanufactured copper during the first 11 months of 1932, according to the Bureau of Foreign and Domestic Commerce, amounted to 371,089,938 lbs., or at a monthly rate of nearly 34,000,000 lbs. This compares with total imports of 585,892,098 lbs. for the entire year 1931, or at a monthly rate of 49,000,000 lbs. The total imports for 1932, according to the estimate, showed a decrease of approximately 208,000,000 lbs. for the year, or a drop of about 35 per cent.

The exports of metallic copper during the first 11 months of 1932 amounted to 305,177,405 lbs. as compared with 557,574,235 lbs. exported during the year 1931. The estimated total for 1932 was about 320,000,000 lbs. In the first 11 months of 1932, 236,890,703 lbs. of refined copper in ingots, bars, and other forms, and 25,742,550 lbs. of rods were exported. Of the total quantity, the United Kingdom received 67,951,907 lbs., the largest amount; France was next with 61,549,678 lbs.; Germany was third with 28,556,074 lbs.; and Italy fourth with 26,643,306 lbs.



In the entire year 1931 the United Kingdom received the largest quantity, 116,107,042 lbs.; France was next with 112,194,531 lbs.; Germany was third with 58,765,926 lbs.; and Italy fourth with 42,925,187 lbs.

Refineries reported that at the end of 1932 approximately 980,000,000 lbs. of refined copper would be in stock, a 6 per cent increase over the reserve of 924,600,000 lbs. at the end of 1931. It is estimated that stocks of blister copper at the smelters, in transit to refineries, and at refineries, and materials in process of refining, would be about 388,000,000 lbs. on December 31, compared with 348,000,000 lbs. at the end of 1931, an increase of 40,000,000 lbs. or 11 per cent. Total smelter and refinery stocks at the end of 1932 were 1,368,000,000 lbs., representing an increase of 95,400,000 lbs., or 7 per cent, over the previous record stocks at the end of 1931. The quantity of new refined copper withdrawn on domestic account during the year was about 527,000,000 lbs., compared with 902,000,000 lbs. in 1931, a decrease of 375,000,000 lbs., or 42 per cent. The method of calculating domestic withdrawals is shown as follows:

NEW REFINED COPPER WITHDRAWN FROM  
TOTAL YEAR'S SUPPLY ON DOMESTIC  
ACCOUNT, 1931-1932, IN POUNDS  
[U. S. Bureau of Mines estimates]

	1931	1932
Refinery production of new copper from domestic sources .....	1,075,000,000	443,000,000
Refinery production of new copper from foreign sources .....	427,000,000	245,000,000
Imports of refined copper (December, 1931, estimated) .....	174,000,000	167,000,000
Stocks of new refined copper on January 1 .....	615,000,000	924,600,000
Total .....	2,291,000,000	1,779,600,000
Exports of refined copper (ingots, bars, rods, or other forms) (December, 1931, estimated) .....	464,000,000	273,000,000
Stocks December 31 .....	924,600,000	980,000,000
Total .....	1,888,600,000	1,253,000,000
Total withdrawn on domestic account .....	902,000,000	527,000,000

**COPYRIGHT.** Registrations for the fiscal year, 1931-32, according to the report of the U. S. Register of Copyrights, numbered 151,735, as compared with 164,642 for the preceding year. Of these, 57,065 were classed as books, but included pamphlets, leaflets, and contributions to periodicals, those printed in the United States numbering 50,944, those printed abroad in a foreign language, 4784, while the remainder, 1337, were English books registered for *ad interim* copyright. The chief classes of the remaining registrations, in the order of numerical importance, were: Periodicals, 39,177 numbers; musical compositions, 29,264; prints and pictorial illustrations, 3354; photographs, 2570; dramatic or dramatic-musical compositions, 6296; works of art, including models or designs, 2590; maps, 1774; drawings or plastic works of a scientific or technical character, 1697; motion-picture photoplays, 800; and motion pictures not photoplays, 739. The renewals numbered 5888, as compared with 5998 in the preceding year. The fees applied during the year amounted to \$280,964. The total number of articles deposited

during the fiscal year ended June 30, 1932, was 242,689.

The gross receipts of the Register's office for the fiscal year were \$284,719; the total expenditure for salaries, \$247,440, and for supplies, \$1225. The year's business was not quite so large as that of the previous year, due no doubt to the general depression affecting all lines of business. One new copyright proclamation was issued extending to nationals of Greece the privilege of securing copyright in the United States in exchange for a like privilege accorded to American authors by that country. See LAW IN 1932.

**CORAL REEFS.** See GEOLOGY.

**CORN.** As reported by the International Institute of Agriculture the estimated production of corn in 1932 of 17 countries, not including France, the Soviet Republics, Manchuria, and countries south of the equator, amounted to 3,614,128 bushels, an increase of 414,842,000 bushels over 1931 when 3,169,737 bushels were produced. The total production of the 17 countries reporting was 14 per cent above the yield of the preceding year and 15.9 per cent above the annual average for the five years 1926-1930. These countries reported a corn area in 1932 of 136,697,000 acres which was 2.3 per cent greater than the area in 1931 and 7.9 per cent above the average annual acreage for the five-year period given.

Exclusive of the United States the production of the leading corn producing countries for the year was estimated as follows: Rumania 213,771,000 bushels, Yugoslavia 177,940 bushels, Italy 10,546,000 bushels, Hungary 95,894,000 bushels and Bulgaria 41,511,000 bushels. Italy plants a crop in the spring and another, known as *cinquantino*, later in the summer. The yield of this latter crop which averages about 4,000,000 bushels annually is not included in the above estimate. The 1932 yields of Bulgaria, Hungary, and Yugoslavia were about 50 per cent above the annual average of the five years 1926-1930. For this five-year period the average annual yield of the Soviet Republics was estimated at 124,325,000 bushels produced on 8,483,000 acres, and the area planted in 1932 was reported as 9,084,000 acres or 6.7 per cent below the acreage of 1931 but 7.1 per cent above the five-year average. The crop of Argentina in 1931-1932 was estimated at about 325,000,000 bushels. The Canadian crop of 1932 was reported as 5,231,000 bushels on 137,000 acres, a reduction of over 13 per cent below the five-year average.

The 1932 corn crop of the United States according to estimates reported by the Department of Agriculture was 2,908,045,000 bushels or 13 per cent above the crop of 1931 and 41 per cent larger than the short crop of 1930. The amount harvested for grain was 2,508,920,000 bushels. The remainder of the crop used for silage, fodder, hogging down, and grazing was included in the total production as grain equivalent. The acreage of corn for all purposes, 107,729,000 acres, was about 2.3 per cent larger than in 1931. The average yield of 27 bushels per acre was the same as the annual average for the ten years 1919-1928. All Corn Belt States except Ohio and Nebraska reported average or higher yields. High yields and increased acreages made the harvest of the North Central States reach 76 per cent of the country's total production. In the Western Plains States the yields were much below the average.

The yields of the leading corn producing States covering corn grown for all purposes were reported as follows: Iowa 539,872,000 bushels, Illinois 387,043,000 bushels, Nebraska 268,293,000 bushels, Missouri 186,721,000 bushels, Minnesota, 176,916,000 bushels, and Indiana 173,962,000 bushels. These States produced approximately 60 per cent of the total crop recorded for the 48 States. The average yield per acre ranged from 25.3 bushels in Nebraska to 46 bushels in Iowa, and in the remainder of the States from 7 bushels in Colorado to 42 bushels in Connecticut and New Jersey. In acreage Iowa stood first with 11,732,000 acres, Nebraska second with 10,644,000 acres, and Illinois third with 9,001,000 acres. The reserves of old corn held on farms as of Nov. 1, 1932, were estimated at 7 per cent of the crop harvested for grain in 1931, or 154,974,000 bushels as compared with 78,951,000 bushels on farms a year ago and 61,063,000 bushels on Nov. 1, 1930.

During the fiscal year ended June 30, 1932 the United States exported 3,344,000 bushels of corn valued at \$1,607,000 while 2,529,000 bushels shipped abroad the preceding year represented a value of \$2,316,000. Corn products sold to foreign countries included 156,000 barrels of corn meal, 1,772,000 pounds of corn breakfast foods, 9,606,000 pounds of hominy and grits, and 774,000 pounds of corn oil. The imports for the year amounted to 386,000 bushels, or less than one-fourth the quantity imported during the preceding fiscal period.

The results of a study by the Department of Agriculture indicated that for several thousand farms reporting the cost of producing an acre of corn varied from \$18.22 in 1931 to \$23.21 in 1927 and the cost per bushel from 61 cents in 1931 to 89 cents in 1930, the yield per acre being the principal factor determining the cost. The ninth National Corn Husking Contest was held Nov. 10, 1932, near Galva, Illinois, and Carl Seiler of Illinois won the national championship by husking 36.91 bushels in the allotted 80 minutes which also constituted a world record.

**CORN BORER.** See ENTOMOLOGY, ECONOMIC.

**CORNELL UNIVERSITY.** A nonsectarian institution for the higher education of men and women in Ithaca, N. Y., founded in 1865. There were 5859 students enrolled in the autumn session of 1932, distributed as follows: graduate school, 857; law school, 150; medical college, the main division of which is in New York City, 254; arts and sciences, 1872; architecture, landscape architecture, and fine arts, 163; engineering, 907; veterinary medicine, 170; agriculture, 923; and home economics, 607, including 182 enrolled in a four-year course in hotel administration. Of these students 1353 were women. The registration for the 1932 summer session was 1951.

The faculty, composed of 1248 members, had 312 professors, 206 assistant professors, 15 lecturers, 393 instructors, and 322 assistants. Cornelius Betten, director of resident instruction in the colleges of agriculture and home economics, was appointed dean of the university faculty; William A. Hagan, professor of veterinary pathology and bacteriology, was appointed dean of the veterinary college; Carl E. Ladd, formerly director of extension, was made dean of the colleges of agriculture and home economics. Additions to the staff of professors included Edwin A. Burt, professor of philosophy; Henry H. Dukes, professor of veterinary physiology; and the fol-

lowing professors in the New York division of the medical college: Eugene F. Pool, clinical surgery; Henricus J. Stander, obstetrics and gynecology; George J. Heuer, surgery; Eugene L. Opie, pathology; James M. Neill, bacteriology and immunology; Herbert S. Gasser, physiology; George S. Amsden, psychiatry; Nathan C. Foot, surgical pathology; Joseph C. Roper, clinical medicine; and William R. Williams, clinical medicine. The faculty lost by death Adam C. Gill, professor of mineralogy and petrography, emeritus; George S. Moler, professor of physics, emeritus; Graham Lusk, professor of physiology; and Martha van Rensselaer, professor of home economics; and by retirement, Clarence A. Martin, professor of architecture; Louis M. Dennis, professor of inorganic chemistry; Nathaniel Schmidt, professor of Semetic languages and literatures and oriental history; Charles L. Dana, professor of clinical medicine, department of neurology; Charles L. Gibson, professor of surgery; and William L. Russell, professor of psychiatry. The visiting lecturer in chemistry on the George Fisher Baker foundation was Prof. Alfred Stock of the Technische Hochschule, Karlsruhe, Germany. The Messenger lectures on the evolution of civilization were given by Prof. Frank Jewett Mather, Jr., of Princeton.

Buildings completed and occupied during the year were the large group on York Avenue, New York City, erected for the New York Hospital-Cornell Medical College Association; Myron Taylor Hall, a gift of Myron C. Taylor of New York City for the law school; and Mennen Hall, a dormitory unit given by William G. Mennen and his sister Mrs. Elma Mennen Williams of Newark, N. J., in memory of their parents.

The productive funds on June 30, 1932, were \$25,039,469. The income applicable to current expenses of the fiscal year 1931-32 was approximately \$8,000,000, including \$3,171,077 of State and \$459,110 of Federal appropriations. Gifts amounting to \$573,252 were received during the fiscal year. The land and buildings were valued at \$13,807,965, and the equipment at \$9,535,917. The library contained 850,000 volumes. President, Livingston Farrand, M.D., L.H.D., LL.D.

**CORSICA.** An island in the Mediterranean, situated about 100 miles southeast of the French coast at Nice, constituting a department of France. Area 3367 square miles; population 297,235 in 1931. Chief city Ajaccio, population 23,392.

**COSACH.** See CHILE under *Production and History*.

**COSMIC RAYS.** See PHYSICS.

**COSMOLOGY.** See ASTRONOMY.

**COSTA RICA**, cō'stā rē'ka. A republic of Central America lying between Nicaragua and Panama, and bounded by the Caribbean Sea on the east and the Pacific Ocean on the west. Capital, San José.

**AREA AND POPULATION.** With an area estimated at 23,000 square miles (about the same as West Virginia), Costa Rica had a population of 471,525 at the census of May, 1927. The estimated population on Jan. 1, 1931, was 516,031. About three-fourths of the population is of European descent, 10 per cent mestizo, 10 per cent Negro (mostly British West Indians on the banana plantations of the East coast), and 5 per cent Indian. The chief cities, with their estimated populations in 1930, are: San José, 54,705; Alajuela, 8339; Heredia, 8091; Cartago,

7425; and Limón, 7604. For the five-year period 1926-30, births averaged 22,780 annually and deaths 11,175; the average rates per 1000 inhabitants were 46.2 and 22.7, respectively.

**EDUCATION AND RELIGION.** Elementary education is free and compulsory. In 1931, there were 516 elementary schools, with 51,668 pupils, and three secondary institutions, with 1796 students. There are colleges at Cartago and Alajuela. Roman Catholicism is the state religion.

**PRODUCTION.** Agriculture is the principal industry, the chief crops being coffee, bananas, cacao, corn, rice, sugar cane, tobacco, vegetables, and fruits. Coffee and bananas account for about nine-tenths of all exports. Production of coffee in 1930 was 51,880,000 pounds (valued at \$10,419,000); bananas, 5,834,000 stems (\$4,376,000); cacao, 7318 metric tons (\$966,000). Livestock in 1929 included 399,000 cattle, 83,000 swine, 85,000 horses, and 8000 mules. Gold mining has declined in importance. In 1929 there were 6532 industrial establishments, including dairy and farm industries such as the processing of coffee, sugar cane, and cacao. The 1931 coffee crop was 50,738,000 pounds, valued at about \$10,116,000; sugar, about 9,000,000 pounds; bananas (exports), 5,080,000 bunches; cacao, 6600 metric tons, valued at \$669,000.

**COMMERCE.** Costa Rica's imports during 1931 were valued at \$8,690,000, as compared with \$10,847,000 in 1930, and exports at \$14,280,000, as against \$16,331,000 in 1930, according to preliminary figures. Of the total 1931 imports, the United States furnished 51.8 per cent, the United Kingdom 11.5 per cent; and Germany 10.45 per cent. The United States took 25.15 per cent of the exports, the United Kingdom 58.55 per cent, and Germany 10.58 per cent. The chief export items in 1931 were coffee, bananas, cacao, and wood. Leading import items were machinery and tools, iron and steel, cotton fabrics, and chemicals.

**FINANCE.** The budget estimates for the calendar year 1931 placed revenue at 26,906,000 colones and expenditure at 24,078,084 colones (colon equals \$0.25 at par). In 1930, actual receipts amounted to 27,468,498 colones and expenditure to 32,513,818 colones, excluding provision for amortizing the public debt. Public instruction, internal development, and finance are the principal items of expenditure. Preliminary 1932 returns showed ordinary revenues of \$6,187,616 and expenditures of \$7,128,407.

The public debt on Jan. 1, 1931, amounted to 94,095,000 colones (\$23,524,000), as against 79,191,000 colones (\$19,798,000) at the beginning of 1930. The 1931 figure included \$7,447,500 of American debt, £1,564,000 of British debt, and \$1,800,000 in bonds held abroad for the electrification of the Pacific Railway. In December, 1932, the internal debt was reported at \$6,854,286 and the external debt at \$18,601,523, or a total of \$25,455,809.

**COMMUNICATIONS.** Railways in 1930 extended 413 miles, of which 81 miles (the Pacific Railway) were government owned. There were about 161 miles of motor highways. Air-mail service between San José and Puntarenas was established in 1930; at Puntarenas connection is made with the Pan-American Airways system.

**GOVERNMENT.** The executive power is vested in the President who is elected for four years and legislative power in a chamber of representatives, called the Constitutional Congress, with 43 depu-

ties, elected for four years, one-half retiring every two years. Voting for President, deputies, and municipal officers is secret, direct, and free. President at the beginning of 1932, Don Cleto González Víquez, who was succeeded on May 8, 1932, by Dr. Ricardo Jiménez Oreamuno.

**HISTORY.** The presidential election held in Costa Rica Feb. 14, 1932, failed to give any candidate the necessary majority. Of the three leading candidates, Ricardo Jiménez Oreamuno received 35,343 votes; Manuel Castro Quesada, former Minister to Washington, 22,029; and Carlos María Jiménez Ortiz, 17,302. The Costa Rican law provided that when no candidate received a majority a run-off election should be held between the two candidates receiving the largest votes. On the day following the election, however, Castro Quesada led an attempted *coup d'état*, which government troops suppressed after four days of severe fighting. Under the terms of the truce, arranged through United States Minister Eberhardt on February 18, Castro Quesada and his chief aide, General Volio, were allowed to leave the country. Before leaving, however, Quesada Castro resigned his candidacy and the anti-Jiménez group controlling Congress thereupon declined to hold a second election.

Forceful action to place Don Ricardo Jiménez in the presidency was threatened by his adherents. The delicate situation thus created was ended May 1, when the new Congress met and, in accordance with the Constitution, elected three Vice Presidents, the first of whom was to assume office as President. The election of Don Ricardo as First Vice President automatically made him President and he was formally inaugurated on May 8. It was the new incumbent's third term as President. Long an outstanding figure in Costa Rican politics, he was the only man ever to have held the three highest offices in the country—those of President of Congress, Chief Justice, and President of the Republic.

Part of the opposition to the new President was due to his reputation for friendship toward American economic interests in Costa Rica. Many of his opponents in Congress were won over to his support when on July 8 he submitted, and later signed, a bill for a moratorium on the payment of service charges on the national foreign debt. The bill was passed with only three opposing votes. It authorized the suspension of interest and amortization charges on American bonds of 1926 and 1931 and the British bonds of 1911 for three years, beginning in November, 1932, and January, 1933, respectively. The funds thus retained, amounting to \$3,306,420 for the three years, were to be applied to the payment of existing government internal obligations. The government hoped in this way to reduce by one-half its internal debt and balance its budget. On August 29, the government announced, through its fiscal agents J. and W. Seligman & Co. in New York, that in exchange for interest coupons on each \$1000 bond held abroad, up to and including that payable on Nov. 1, 1935, it would give \$23 in cash and funding bonds of \$222 principal amount, bearing 5 per cent interest, payable semi-annually and maturing in 1951.

In November President Jiménez announced that Costa Rica would denounce the Central American treaties signed at Washington in 1923, the most important of which was the general treaty designed to promote peace in that region by denying recognition to governments

established by other than constitutional means. Foreign Minister Leonidas Pacheco in the same month commenced a tour of the Central American countries (excepting Salvador) in an effort to secure their denunciation of the non-recognition treaty. Denunciation by three countries would cause the pact to lapse automatically for all five signatories. Since the treaty was sponsored and adhered to by the United States, Costa Rica's action was regarded as a blow at the U. S. State Department's Central American policy. The move was attributed to the desire of President Jiménez to recognize the revolutionary régime of President Martínez in Salvador, recognition of which was withheld by the United States (see SALVADOR). Failing to win the approval of President Ubico of Guatemala and informed of the negative attitude of President Moncada of Nicaragua, Señor Pacheco ended his tour at Guatemala City. Nevertheless, President Jiménez on December 24 signed a decree denouncing the Central American peace pacts, effective in January, 1934.

Conservative elements were alarmed during the year by the reported rapid spread of communism. In the municipal elections of December 4, the Communist party secured more than 1300 votes out of 6300 cast in San José and made equally striking gains in other municipalities. See COMMUNISM.

**COST OF LIVING.** See STATISTICS.

**COTTON.** The estimate of the Crop Reporting Board of the U. S. Department of Agriculture, on Dec. 8, 1932, was that the cotton crop of the United States for 1932 would amount to 12,727,000 bales of 500 pounds, compared with 17,096,000 in 1931, and 13,932,000 in 1930. The estimated crop approximated that of 1927 which totaled 12,956,000 bales. The yield of lint per acre was estimated to average 162.1 pounds as compared with 201.2 pounds in 1931, and 151.4 pounds, the average for the period 1921-1930. Of 38,227,000 acres in cultivation July 1, 1.7 per cent were abandoned and 37,589,000 left for harvest.

The world carry-over of American cotton on Aug. 1, 1932, 3,600,000 bales larger than the previous record carry-over in 1921, amounted to 12,982,000 running bales compared with 8,868,000 bales in 1931 and 6,287,000 in 1930. The carry-over in the United States was approximately 9,585,000 bales. There were 2,109,000 bales of Indian cotton, 908,000 of Egyptian, and 1,113,000 bales of sundries, totaling 17,112,000 compared with 13,905,000 in 1931. The New York Cotton Exchange estimated the carry-over of all cotton at 17,295,000 bales and production in 1932 at 21,700,000 bales. The world supply of American cotton for 1932-33 was estimated at the end of the year by the U. S. Department of Agriculture at 25,700,000 bales, 300,000 bales below the record for 1931-32 but 2,200,000 bales above the large supply of 1926-27, and considerably greater than the total world consumption of American cotton for the past two years combined.

In important cotton growing countries, the areas planted to cotton in 1932 amounted to 78,100,000 acres versus 82,400,000 acres in 1931. Production in 1932 in the countries (reporting) was estimated to be, for the United States 12,727,000; India, 3,542,000; U.S.S.R. (Russia), 1,900,000 to 2,000,000; China, 2,300,000; Egypt, 870,000; Brazil, 364,000; Mexico, 95,000, and Chosen (Korea), 127,000 bales. The total world

production was estimated at the close of 1932 at 24,000,000 bales.

The world's production of commercial cotton in 1931 was estimated by the U. S. Bureau of the Census to be 26,329,000 bales, of which the United States produced 16,629,000 (running) bales; India, 3,375,000; U.S.S.R. (Russia), 1,850,000; Egypt, 1,288,000; China, 1,100,000; Brazil, 525,000; Peru, 205,000; Mexico, 207,000, and all other countries, 1,150,000 bales. The International Institute of Agriculture reported the 1931 crops of important cotton-growing countries to be, for the United States, 17,096,000; India, 3,401,000; Egypt, 1,287,000; U.S.S.R. (Russia), 1,843,000; Mexico, 207,000; Chosen, 101,000, and Uganda, 163,000. Estimates were that Anglo-Egyptian Sudan produced 206,000 bales from 336,000 acres.

The cotton crop of the United States for 1931, as reported by the Bureau of the Census, the estimated crop for 1932, and the quantity reported ginned to Dec. 13, 1932, are shown in the accompanying table:

UNITED STATES COTTON CROP, 1931-32

States	Crop, 1931 500-lb bales	Estimated crop, 1932 500-lb. bales	Reported ginned Dec 13, 1932 Running bales
United States . . .	17,095,594	12,727,000	12,085,648
Alabama . . . . .	1,419,689	980,000	916,893
Arizona . . . . .	115,061	82,000	51,170
Arkansas . . . . .	1,906,736	1,260,000	1,217,195
California . . . .	176,560	126,000	112,168
Florida . . . . .	43,164	15,000	15,880
Georgia . . . . .	1,392,665	845,000	839,654
Louisiana . . . . .	899,922	610,000	595,277
Mississippi . . . .	1,761,203	1,150,000	1,131,131
Missouri . . . . .	288,991	285,000	276,174
New Mexico . . . .	98,124	76,000	57,546
North Carolina . .	756,294	640,000	644,563
Oklahoma . . . . .	1,261,123	1,080,000	1,026,616
South Carolina . .	1,004,730	695,000	691,274
Tennessee . . . . .	594,512	450,000	425,746
Texas . . . . .	5,322,453	4,445,000	4,044,459
Virginia . . . . .	42,423	28,000	28,455
All others . . . . .	11,944	10,000	11,547

The accompanying table includes for 1932, under the ginning report 622,125 round bales counted as half bales and also 6677 bales of American-Egyptian cotton, practically all grown in Arizona. The 1932 crop of Arizona was estimated to include 12,000 bales of American-Egyptian cotton. The crop of Lower California, usually marketed through California, was estimated at 13,000 bales, not included in the totals.

Oil mills in the United States, during the cotton year ended July 31, 1932, crushed 5,328,014 tons of cottonseed. The products of the seed included 875,677 bales of linters, 1,510,874 tons of hulls, 2,401,202 tons of cake and meal, and 1,694,122,987 pounds of oil.

Exports of cotton and linters for the year ended July 31, 1932, amounted to 8,707,548 running bales of cotton and 116,319 bales of linters or a total of 8,823,867. Mills in the United States consumed in this period 4,866,016 bales, versus 5,262,974 in the previous year. The principal exports of cotton were to Germany, 1,570,312; United Kingdom, 1,344,385; France, 463,092; Italy, 649,059; Spain, 305,567; other European countries, 531,686; and Japan, 2,293,831. The United States during the same period, imported from Egypt 81,091 bales; Peru, 3528; China, 7191; Mexico, 20,641; British India, 17,513; and from other countries, 1605 bales.

Consumption of all cottons in the United States

fell nearly 400,000 bales in 1931-32, or to 4,866,016 bales compared with 7,091,000 bales in the high year 1928-29. Most of the cotton used by American mills was consumed in the cotton-growing States, 4,033,351 bales versus 677,462 in New England, and 155,203 in other States. Of 31,442,174 spindles in place Dec. 31, 1932, 23,775,136 were active during December, of which 16,831,244 were located in Cotton States, 6,271,728 in New England, and 672,164 in other States. The number of active spindle hours averaged in Cotton States 261, in New England 112, and elsewhere 119.

The world's consumption of cotton (exclusive of linters in the United States) for the year ended July 31, 1932, according to the U. S. Bureau of the Census, was about 22,896,000 bales. Reports of the International Federation of Master Cotton Spinners' and Manufacturers' Associations indicated it to be 22,323,000 bales compared with 22,488,000 in the previous year. The world consumption of all growths in 1931-32 remained practically unchanged from the low level of 1930-31. World consumption of American cotton increased 1,400,000 bales in 1931-32, but except for 1930-31 the total consumed, amounting to 12,319,000 bales, was the lowest since 1923-24. The increase in consumption of American cotton in 1931-32 was evidently made at the expense of foreign grown cottons. The consumption of Egyptian cotton, 980,000 bales, increased more than 150,000 bales, whereas consumption of Indian cotton, 4,789,000 bales fell nearly 900,000 bales, and consumption of sundries dropped to 4,235,000 bales from 4,864,000 in 1930-31. The unsatisfactory world demand conditions prevailing throughout 1931-32 were held to account for the continued low world consumption of all cottons. Increased consumption of American cotton reflected the small supplies and relatively high prices of Indian and Chinese cottons.

The price of middling  $\frac{7}{8}$  inch cotton at the 10 spot markets averaged 5.89 cents per pound during the year ended July 31, 1932, compared with 9.61 in 1930-31 and 15.79 cents in 1929-30. The decline in prices from 1930-31 to 1931-32 was greater both in cents per pound and percentages for the longer than for the shorter staple cotton. The prices of American cotton in domestic markets declined in early June to the lowest levels in years, spots in New York on June 9 going to 5 cents, 0.31 cents under the low of 1898; in New Orleans 4.95 cents, 0.20 above the low of 1898, and the 10 spot markets averaged 4.76 cents compared with 7.62 cents on June 9, 1931. Cotton prices rose from June to September, 1932, as financial conditions improved and when it became known that the crop was greatly reduced. Much of the advance was lost by the end of October. The price in August, 1932 averaged 7.08 cents, September 7.40, October 6.37, November 5.9, closing on December 30 at 6.10 New York, 5.95, New Orleans, and 5.90 at Galveston. The average price received by producers at local farm markets on Dec. 15, 1932, was estimated at 5.4 cents per pound for lint and \$8.87 per ton for cottonseed compared with 5.5 cents and \$11.01 respectively on Dec. 15, 1931. The decline was attributed to several factors including the fall in prices of industrial stocks; the recognition that although activity in textiles had improved, the recovery in the heavy industries was slight; and the fact that the large carry-over of Amer-

ican cotton gave the second largest supply on record despite the small crop.

The condition of the crop in the United States on August 1 approximated 65.6 per cent of normal compared with 74.9 in 1931, and boll weevils were present in greater numbers than in any season since 1928, especially in the Delta lands along the Mississippi. Showery weather favored the multiplication of weevils in many places, although the cotton was generally blooming and fruiting fairly well. The amount of fertilizer applied to cotton in 1932, totaling 894,863 tons in the United States, was much less than for several years past, and in many places the plants were smaller than usual. This was one of the factors causing the relatively low condition of the crop. During August, prospects declined in practically all States in the eastern and central portions of the Cotton Belt, where weevils had been quite active and weather conditions were mostly unfavorable to the crop. Moisture conditions were favorable in the western portions of Oklahoma and Texas. In most parts of the Belt the crop was mature and a large proportion of the bolls were open by October 1. Picking progressed somewhat slower than might be expected, because most growers were using the labor available on their own farms, rather than hiring additional help. Weather conditions early in November were mostly favorable for picking and ginning in sections where appreciable quantities remained to be harvested, and while there was some lowering of grades by rains, the loss in yield from this cause was small.

The boll weevil continued to be the most important pest of the cotton from middle Texas eastward. The largest carry-over recorded in 17 years followed the very mild winter of 1931-32, and seasonal conditions and other factors were such that except in western Texas and western Oklahoma, most of the weevil damage for the year fell on squares and bolls developing during July and early August. The pink bollworm menaced the crop in the valley of the upper Rio Grande in Texas and New Mexico, where infestation was heavier than ever before. Infestations in the Salt River Valley of Arizona and certain adjoining sections of that State and New Mexico, and certain areas in western Texas were very largely suppressed as a result of eradication measures and the quarantines were modified. Rather wide infestation disclosed in southern Florida was confined to non-commercial plantings and wild cotton. Discovery of pink bollworm in cotton in Columbia and Alachua countries, Florida, led to the restriction of the shipments of cotton and cotton products from those and four adjoining counties to prevent the spread of the pest. The U. S. Department of Agriculture, the cotton States, and cooperating agencies continued to study measures for the control of these pests and for *Thurberia* weevil, cotton flea hopper, cotton leaf perforator, bollworm, and miscellaneous insects attacking cotton. See ENTOMOLOGY, ECONOMIC.

Cotton of the 1932 crop ginned up to Dec. 1, 1932, was considerably lower in grade but averaged only slightly different in staple from that ginned up to Dec. 1, 1931, according to a report based on the 11,630,731 bales of American upland cotton reported by the Census Bureau as ginned prior to that date. Estimates were that 29 per cent was white strict middling or better, about 15 per cent white strict low middling and

below, and 14 per cent spotted and yellow tinged cotton. There was no radical change in the relative proportions of the various staple lengths from that ginned to Dec. 1, 1931. Practically no change was noted in the proportion of cotton shorter than  $\frac{7}{8}$  inch but there was a larger proportion of  $\frac{15}{16}$ ,  $\frac{1}{8}$ , and  $\frac{1}{4}$  inch, with smaller proportions of  $\frac{3}{4}$ , 1,  $\frac{1}{16}$  inch and longer. Slightly more than 93 per cent of the cotton ginned up to Dec. 1, was tenderable.

Standard grades for cottonseed, the results of demand from the cottonseed industry and extensive research by G. S. Meloy of the U. S. Department of Agriculture, were approved by Secretary Hyde and made effective as permissive official standards as of June 1, 1932. In two years' tests by the industry, the grades were applied successfully to more than 2,000,000 tons of seed.

In the principal producing countries in the British Empire, excluding India, the cotton crops in 1930-31 were estimated to be for Anglo-Egyptian Sudan, 106,471 bales; Uganda, 158,000; Nigeria, 15,063; Tanganyika, 19,360; Union of South Africa, 6798; Australia, 9500; West Indies, 5000; Iraq, 2625; Nyasaland, 7806; and Cyprus, 3999. In India 3,401,000 bales were reported for 1931-32, and 4,372,000 for 1930-31, and the total area planted in 1931-32 was estimated to be 19,654,000 acres. The crop expected from the acreage planted and conditions on Dec. 1, 1932, was forecasted at 3,542,000 bales.

The estimated production for 1930-31 in other political divisions of the world, besides the major cotton countries, was for Paraguay, 18,449; Spain, 7431; Algeria, 5161; Dahomey, 5848; French Sudan, 12,637; Italian Somaliland, 3459; Syria and Lebanon, 12,397, and French Indo-China, 5782.

Egypt produced in 1931-32 a crop estimated at 1,287,000 bales, compared with 1,715,000 in 1930-31. Of about 1,215,340 bales of the 1931-32 crop, reported by the International Institute of Agriculture as ginned by Apr. 1, 1932, around 236,890 bales was Sakellarides. The 1932-33 crop was estimated at 870,000 bales, with 18 per cent less of Sakellarides and 36 per cent less of other varieties. The acreage restriction law, largely responsible for the small acreage this crop year, was virtually removed. A new decree was to restrict the Sakellarides acreage to 40 per cent of the cultivated land of each proprietor, whereas, the acreage in 1932-33 was restricted to 30 per cent. The restriction on other varieties was raised from 25 to 50 per cent.

Russia, according to late estimates, produced from 1,900,000 to 2,000,000 bales in 1932 as compared with 1,851,000 in 1931. The area was reported at from 5,400,000 to 5,800,000 acres compared with 5,346,000 in 1931, an increase from 1 to 8.5 per cent. Up to November 25, only 68.5 per cent of the raw cotton producing plan was delivered, i.e., about 1,375,000 to 1,500,000 bales of the 2,000,000 to 2,200,000 bales called for by the plan. Picking in November was said to have been hampered by unfavorable weather conditions, dissatisfaction among the peasants, and poor organization of labor. Considerable losses were indicated at the time of picking and during transportation.

The Chinese crop was expected to approximate 2,300,000 bales, about 35 per cent more than the 1,700,000 bales of 1931, and compared with a 5-year average production of about 2,081,000

bales. The short crop of 1931 was due to reduced yields caused by flood damage. The yield per acre in 1931 was 169 pounds, versus 206 pounds in 1930-31, and was the lowest in a decade.

Consult also *Cotton Literature*, *World Cotton Prospects*, and *Agricultural Outlook for the Southern States, 1932-33* (all U. S. Department of Agriculture); *Cotton Production and Distribution, Season of 1931-32* (U. S. Department of Commerce); *Third Annual Report of the Federal Farm Board for the Year Ending June 30, 1932*; *New York Cotton Exchange-Cotton Yearbook, 1932*; *Indian Cotton Review for the Season 1931-32* (Bombay, 1932); A. H. Abu Steit, *La Politique Cotonnière de l'Égypte* (Paris, 1932); M. D. C. Crawford, *The Heritage of Cotton*, (New York, 1932); L. Robert, *La Culture du Coton en Afrique Occidentale Française* (Paris, 1932); W. Schröder, *Die Baumwolle* (Greifswald, 1932); M. K. Thornton, *Cottonseed Products* (Wharton, Texas, 1932); J. A. Todd, *The World and Cotton—An Annual Review* (New York, 1932); *Empire Cotton Growing Review* (London); *Coton et Culture Cotonnière* (Paris).

**COUNCIL-MANAGER PLAN.** See MUNICIPAL GOVERNMENT.

**COUNTRY LIFE.** See AGRICULTURE.

**COURT GAMES.** RACQUETS. Clarence C. Pell, veteran from Tuxedo, continued supreme in this difficult court game in 1932, winning the national championship in February for the thirteenth time since 1915. In the tournament held in Boston the perennial titleholder suppressed all opposition and stifled the best shots of Herbert N. Rawlins, former national squash racquets champion, in the final. The remarkable veteran was merely carrying on his campaign and a week before the national tournament he captured the famed Gold Racquet in the annual tournament at Tuxedo, N. Y. Pell had bowed in this fixture to Stanley G. Mortimer in 1931, but defeated George R. Fearing of Boston handily in the 1932 final. Pell was defeated in the national doubles when he and his partner, Mortimer, defending champions, succumbed to the sterling play of W. C. Wright and Stanley W. Pearson in the semi-final. Wright and Pearson, Philadelphians, took the crown by defeating W. Palmer Dixon and Alan L. Corey of New York in the final match. Charles Williams of Chicago retained his title of world's open champion by the simple expedient of not being called upon to defend it. Sir John Child won the Canadian amateur championship at Ottawa in February.

**COURT TENNIS.** William C. Wright of Philadelphia also maintained his supremacy in that highly intricate sport of court tennis in 1932, successfully defending his national singles crown by beating Frank P. Frazier of Boston in the final round. Frazier had beaten Wright 10 days before in the final for the classic Gold Racquet. Wright and his famous partner, Jay Gould, who has been a topnotcher in the sport for the past 20 years, again won the doubles crown. J. C. Bell and Edward M. Edwards, of Philadelphia, 1930 winners and also finalists in 1931, were beaten by Wright and Gould in the final. Pierre Etchebaster, wonderful Basque who holds all the professional titles of the game, was not called into action, no professional tournaments being held.

**SQUASH RACQUETS.** Beekman Pool, of Harvard University, dominated the squash racquets season of 1932, succeeding his brother, J. Lawrence Pool, as national champion, and also winning

the Canadian national honors as well as the intercollegiate title. To win the national he was forced to his best play to down T. E. Jensen of Boston in the final. W. Jay Iselin of New York was the finalist in the Canadian fixture and Donald Strachan of Princeton reached the final round of the intercollegiate. Just to keep his hand in and to keep the name prominent, J. Lawrence Pool won the Metropolitan championship.

Harvard University again won the national team championship and the Harvard University Club team in New York toppled the Racquet and Tennis Club for the Metropolitan honors. One of the surprises of the season was the unexpected defeat of Beekman Pool, 1931 winner, in the final of the Rockaway Hunting Club's annual Gold Racquet tournament in December. Pool succumbed to Neil Sullivan of the Germantown Cricket Club in five gruelling games. The United States team retrieved the Lapham Trophy from Canada in the matches at the Hartford Golf Club, eight matches to none. Philadelphia took the Lockett Trophy in the team matches with Boston and New York in December.

Mrs. William F. Howe, Jr., of Boston was another titleholder to recapture her throne after the lapse of a year. She defeated Miss Ruth Hall, of Philadelphia, 1931 winner, in the final. The women of the East took up the game seriously during the year and in the fall new leagues in New York, New Jersey, and Westchester were formed, round-robin matches, and league matches played weekly.

Jack Summers, coach at Massachusetts Institute of Technology, was again superb in professional ranks, experiencing little trouble in retaining his grip on the championship.

**SQUASH TENNIS.** Harry Francis Wolf, New York Athletic Club representative and former Williams College tennis player, again clearly asserted his superiority over all amateur squash tennis players. The national champion retained his title easily and continued unbeaten in three years of tournament competition. Wolf trounced Rowland B. Haines, champion before Wolf came into prominence, in the national final and in the Harvard Club invitation. Also he won the Princeton Club invitation in December, proving absolutely unbeatable as he threaded his way through the brilliant field. In the final he crushed Philip T. Moore, fifth ranking player in the country. Wolf thus gained every honor available, the Princeton invitation of the previous year going to Edward McLaughlin, ranked No. 3 in the country, when Wolf did not enter.

William G. Hall of the Crescent Athletic Club carried off Class B honors and the national veteran's championship went to William P. Hoffman of the Bayside Tennis Club, thereby breaking the monopoly on the latter title held for five years by Dr. Harold R. Mixsell of the Princeton Club. With Wolf as the mainstay, the New York Athletic Club captured Metropolitan team laurels, class B honors going to the Crescent A.C., and the Yale Club taking the title in class C.

Frank Ward, professional at the City Athletic Club, continued his reign as open champion, successfully defending his crown in the open championship without any trouble.

**COURTS.** See LAW IN 1932.

**COURT TENNIS.** See COURT GAMES.

**COVENT GARDEN SYNDICATE.** See MUSIC.

**COWS.** See DAIRYING.

**CRABBE, GEORGE, CENTENARY OF DEATH.** See CELEBRATIONS.

**CRANSTON, EARL.** An American Methodist Episcopal bishop, died near New Richmond, O., Aug. 18, 1932. He was born in Athens, O., June 27, 1840. On graduating from Ohio University in 1861, he entered the Ohio infantry and served in it and the West Virginia cavalry throughout the Civil War, being advanced to the rank of captain. He was ordained to the ministry in 1867 and held various charges in Marietta, Portsmouth, Columbus, and Cincinnati, O.; Winona, Minn.; Jacksonville, Ill.; Evansville, Ind.; and Denver, Colo. He was presiding elder during 1880-84 and publishing agent of the Methodist Episcopal Church during 1884-96. Following his election as bishop in 1896, he spent two years 1898-1900) touring the Orient as episcopal visitor, and in 1907 was appointed commissioner for the Methodist Episcopal Church on the union of Methodism in Japan. Also he was chairman of the Commission for Unification of Methodism which sought to reunite the Methodist Episcopal Church and the Methodist Episcopal Church, South. In 1904 he became resident bishop of Washington, which post he held until his retirement in 1916.

**CREAM.** See DAIRYING.

**CREDIT.** See BANKS AND BANKING.

**CRESSON, WILLIAM PENN.** An American author and diplomat, died in Stockbridge, Mass., May 12, 1932. He was born in Claymont, Del., Sept. 17, 1873, and attended the University of Pennsylvania and the École des Beaux Arts in Paris. The Ph.D. degree was conferred on him by Columbia University in 1922. After practicing architecture in Washington during 1905-07, and engaging in ranching in Nevada during the next two years, he was appointed in 1909 secretary to the American Legation at Lima, Peru. In 1912 he was transferred to London as second secretary to the American Embassy. Other appointments included secretary to the American Legations at Quito, Ecuador (1913-14), Panama (1914-15), Petrograd, Russia (1915-17), and Lisbon, Portugal (1917). During the World War he was chief of the American military mission at the Belgian General Headquarters. He was assistant professor of international law at Princeton University during 1920-21, lecturer on diplomatic history at Georgetown University during 1924-27, and Fletcher professor of international law and diplomacy at Tufts College during 1927-29. Also he served as diplomatic secretary at the Conference on the Limitation of Armament in Washington in 1921. His works include: *Persia—The Awakening East* (1908); *The Cossacks—Their History and Country* (1919); *The Holy Alliance—The European Background of the Monroe Doctrine* (1922); *Diplomatic Portraits* (1923); and *Francis Dana—A Puritan Diplomat at the Court of Catherine the Great* (1931).

**CRETE, krēt.** Fourth in size among the islands of the Mediterranean and the site of an ancient civilization, Crete was ceded to Greece by Turkey, May 30, 1913. It lies 150 miles southeast of Greece. Area, 3195 square miles, population (census of 1928), 386,427. The capital, Khania (Canea), had 26,604 inhabitants (1928); Irakleion (Candia), the largest city, 33,404. The chief products are currants, grapes, wine, olives, citrus fruits, some cereals, and garden products. The island is an intermediate station on the



London-India air-mail line. Crete is administered as a department of Greece. See GREECE.

**CRICKET.** The cricket followers of the United States were catered to in 1932 by the visit of a team of Australian cricketers, headed by the world famous batsman—Don Bradman. The players from "down under" were exceptionally skilled and played matches in most of the large cities of the North American continent. Fifty-one matches were played, and the Antipodeans won forty-four, drew six, and lost one (to Vancouver). Bradman was easily first in batting, playing in 51 innings, being not out 14 times for an amazing total of 2782 runs and an average of 102.16. This set a new batting record for Canada and the United States. His best effort was at Guelph, Ont., where he batted 260 runs. A. F. Kippax, S. J. McCabe, A. N. Nutt, E. K. Tolhurst, V. Y. Richardson, L. C. Fleetwood-Smith and A. A. Mailey were others who sparked on the tour.

The annual cup competition of the United States Cricket Association was won by the Paterson (N. J.) Cricket Club, which defeated the Ardmore eleven of Philadelphia in the final game. The championship of the Metropolitan District Cricket League was again taken by the Westchester County Cricket Club, and that of the New York and New Jersey Cricket Association went to the Brooklyn Cricket Club.

**CRIME.** Writing for the *Journal of Criminal Law and Criminology*, Mr. H. B. Chamberlin declares that organized crime exists on such a large scale in the United States because it is tolerated by society. According to him protection is the keynote of criminal success and hence there is to be found a direct connection between organized vice and political organizations. Mr. Chamberlin says:

The bootlegger, the panderer, the fixer, and the racketeer perform services for which there is a demand.

One of the great troubles is that many criminals draw profits for services performed for conventionally respectable members of society.

To illustrate—take the supplying of liquor. Beer is an industry engaging the direct services of perhaps a million people. The Prohibition department at Washington says that the annual business has a gross value approaching two billion dollars. This business is controlled by organized criminals. Its products are consumed by the respectable men and women of America. It is outlawed by our statutes. It is patronized by our citizens. As the business is outlawed, it can not be regulated by law. For that reason it has provided its own substitutes for law and order, and these substitutes involve more breaches of our recognized law and order.

The "booze racket" has not only broken down the Prohibition law, but the tariff law and the revenue law, and it breaks down officers of the law by bribery. It settles its own disputes by coercion and murder. It succeeds, as do the gambling and vice rings, by profitably contributing to sinful satisfaction.

According to Mr. Chamberlin, organized crime is successful also because of the continuance of public apathy. The suppression of crime is spasmodic, law enforcement is lax, and commercialized vice has vitality and survives because it is a valuable political adjunct. Mr. Chamberlin thinks that organized crime will never be eliminated but it can be controlled when public sentiment is sufficiently aroused and wisely directed. He, therefore, recommends the organization of fact finding groups to furnish the public "with information concerning the efficiency and integrity of its law enforcing agencies in connection with the activities of criminals."

Striking somewhat the same note, later in the

year, was a group of speakers appearing before the American Bar Association's annual convention in Washington in October. Mr. H. S. Perry, of Adrian, Michigan, a newspaper publisher and director of the Associated Press, charged that the domination of American law machinery by political influence was responsible for the crime ratio and the inefficiency of law enforcement. However, Attorney General Mitchell, at the same meeting, insisted that reforms in Federal criminal procedure were succeeding in coping with the rising tide of crime. A number of improvements were recorded by the Attorney General, particularly the following: the transfer to the Department of Justice of the prohibition unit; legislation authorizing the Attorney General to forego prosecution of juvenile delinquents and return them to their home communities, and the development of a probation system in connection with Federal courts. Nevertheless, the Federal judiciary was still confronted by problems of an overwhelming nature. As illustrative of this situation the Attorney General cited the fact that in the fiscal year 1931-32, 92,000 criminal cases were begun in the Federal courts as compared with 82,000 in the previous year, and 96,000 criminal cases were disposed of as against 91,000 in the previous year; from the beginning of the Hoover administration the number of Federal prisoners rose from 25,000 to 53,000.

It was apparent during the year that, while crime news did not figure as sensationally in the public press as it had in previous years, the future was regarded with considerable misgiving by serious students of the problem. The possibility of the repeal of prohibition, it was agreed, was no doubt likely to introduce various factors into the crime situation whose force and numbers it was not possible to chart as the year closed. Into what channels of activity would organized crime, particularly that large group whose activities had been centred in the illicit liquor traffic, be directed with the modification of the Volstead Act and the very probable legalization of the manufacture and distribution of beer? To a number of observers it seemed that such illegal forces would make an even greater effort to play an important part in the functioning of legitimate business, particularly in retail and distributive trades. In other words, to many students there was a danger of a growth rather than a diminution of racketeering as a result of changes in the country's prohibition law. Racketeering is already playing a significant part in various commercial activities in some of our larger American cities. Created usually as a device to strengthen the hands of either employer or employee groups, usually in industrial conflicts, racketeering, apparently in the last few years, has become an independent enterprise with the criminal openly forcing his way either into commercial organizations or labor unions to gain domination over them in order to perpetuate himself. It has been estimated that racketeering costs the citizens of Chicago annually more than \$145,000,000. The cost of racketeering is felt by the American citizen in a variety of indirect forms, particularly in increased insurance rates on window glass breakage, burglary, trucking of goods, and incendiary fires, and increased costs of services because of the presence of racketeering groups in many retail and distributive trades. In Chicago, for instance, it has been



apparently established that racketeering has been existing in the following industries, either as a result of its introduction by business men or trade union leaders: ice, coal, general teaming, van drivers, machinery moving, ice-cream, lumber, florists, baggage transfer, excavating, grocery and marketing, building materials, commission drivers, cleaning and dyeing, laundry.

According to Mr. G. L. Hostetter, writing in the *New York Times Magazine* of Oct. 30, 1932, the racket theory is simple and works somewhat as follows: "Control the forms of service and you control industry. Extending this theory into practice, attempts have been made and are continuing in various cities to 'organize' retail hardware, beauty shops, garages, sausage manufacturers, automobile painters, stock exchange clerks, bakers, barbers, fish dealers, ladies' garment workers, metal polishers, tile setters, sheet metal, carbonated beverages, kosher butchers, power laundries, hand laundries and news deal-

convictions totaled 30. There was a slight decrease in arrests for burglary during the year and also for felonious assaults. Assault and robbery cases increased by 23 per cent and the number of arrests for hold-ups with a gun rose from 1079 to 1612. There were more than 12,000 automobile thefts during the year of which 60 per cent were stolen by minors between the ages of 16 and 20. Commissioner Mulrooney's report again pointed to an increase in youthful criminals. Of the 477,324 arrests made during the year, 6327 were of children under 16, 38,959 were persons between 16 and 21, 97,990 were between 21 and 25, and 114,175 were between 26 and 30. A total of 400,476 convictions was obtained which marked an increase of 10 per cent over 1930. As in the recent past about three-fourths of all the convictions were for infractions of the traffic laws and other local ordinances. The accompanying table analyzes arrests by ages and groups in the City of New York during 1931.

TOTAL NUMBER OF ARRESTS BY AGES, BY GROUP, FOR THE ENTIRE YEAR OF 1931

<i>Criminal group</i>	<i>16-20 years</i>	<i>21-25 years</i>	<i>26-30 years</i>	<i>31-35 years</i>	<i>36-40 years</i>	<i>41-50 years</i>	<i>51-60 years</i>	<i>Over 60 years</i>	<i>Total arrests</i>
Offenses against—									
The person . . . . .	878	1,746	1,946	1,652	1,273	1,243	406	132	9,281
Chastity . . . . .	486	900	668	382	237	201	60	20	2,954
Family and child . . . . .	152	669	1,182	1,295	1,308	1,452	423	88	6,569
Public health, etc. . . . .	27,040	82,845	99,141	76,845	54,478	40,576	9,278	962	391,165
Admin. of gov't . . . . .	73	143	204	153	91	65	25	8	762
Property rights—									
a Miscellaneous . . . . .	52	90	135	107	102	88	32	11	617
b Unauthorized use of property . . . . .	61	32	26	17	9	5	2	1	153
c Destruction of property . . . . .	134	159	120	100	80	79	27	16	715
d Frauds, swindles, breaches of trust . . . . .	408	623	806	738	624	588	239	66	4,092
e Extortion . . . . .	26	40	70	61	28	20	7		252
f Robbery . . . . .	1,002	868	449	206	101	53	12	2	2,693
g Larceny from the person by stealth . . . . .	127	115	145	100	79	55	27	3	651
h Larceny from highway, vehicles, etc. . . . .	1,869	839	494	305	160	154	42	15	3,878
i Burglary . . . . .	1,202	559	389	202	113	104	25	6	2,600
j Sneaks from buildings . . . . .	553	484	441	325	245	208	80	18	2,354
General criminality . . . . .	4,853	7,823	7,910	6,104	5,469	6,299	2,677	908	42,043
Witnesses, lunatics, etc. . . . .	43	45	49	31	25	25	3	2	223
Total . . . . .	38,959	97,980	114,175	88,623	64,422	51,215	13,365	2,258	477,324

ers." Arson and bombing have become characteristic weapons of the trade in Chicago. For example, in this city, from the beginning of 1928 until Oct. 1, 1932, there was a record of 509 bombs which caused a total damage of \$1,081,069. There can be no question that racketeering to-day is a national problem, and coping with it demands not only honest and conscientious law enforcement machinery but the mobilization of active public opinion to force reappearance of decent standards in the business and labor worlds.

NEW YORK CITY. During 1931, according to the annual report of the New York Police Commissioner Edward P. Mulrooney, 489 murder and manslaughter cases occurred in the city as compared with 421 killings in 1930, 357 in 1929, and 339 in 1928. Of the total of 489 killings in 1931, the Commissioner attributed 56 to disputes and revenge among gangsters, 14 to rows among gamblers, 13 to unpeaceful pursuits in the bootlegging business. *Crimes passionnels* accounted for 40 violent deaths and family disputes accounted for 72. According to the Commissioner proportionately fewer murderers escaped conviction than in previous years. While the number of cases was increasing 16.1 per cent, convictions increased by 77 per cent over 1930. In the earlier year seven persons were convicted of first degree murder; in 1931, the

In addition to the above there were five arrests of persons under sixteen years for offenses against the person and 6322 arrests of persons of the same age for juvenile delinquency, making a total of 6327, which figures are included in the total of 477,324.

GREAT BRITAIN. Apparently Great Britain, which until recently seems to have been immune from crime waves, is beginning to report a history of crime with which America has been only too familiar for a long time. Reporting on the crime record for 1930, the latest year for which records are available, the Home Office pointed out that there was an increase in serious crimes known to the police from 134,581 to 147,031. As in America the larger number of crimes are apparently being committed by young people. Two-thirds of those found guilty in 1930 were under 30 years and two-fifths were under 21 years of age. The Home Office's official explanation for the growth of crime was: first, the lawless and adventurous character of many of the generation who were without parental control in the war; and, second, the industrial depression, the severity of which in the North particularly tempted many of the young people to the less serious forms of robbery. While the number of murders has not significantly changed since 1913 (there were 111 in that year and 109 in 1931), indictable offenses as a whole have in-

parts and the rule of Italy fell to the Emperor Maximian. The Milan of this epoch is depicted as the cross-roads of the great Empire, the capital of Italy. Here was indeed a city of economic bustle, of intense life, and activity. This was the throbbing Milan, the *Mayland* of the Gauls six centuries B.C., and the *Mediolanum* of the Romans! Specifically the novel deals with Christianity already firmly rooted notwithstanding all the imperialistic persecutions, not excluding Diocletian's. In one part of the story the splendor of all Milan is revealed assembled in the Gabinio Theatre, Maximian, and Diocletian, also spectators. Here the novel attains the heights of emotion and pathos when the comic actor, Genesio, Roman born, repeatedly cries out in defiance, "'Tis true I am a Christian!" For this bold manifestation he was decapitated; but not in vain, for the fervor was caught by others of the troupe. And so, like the drama evolved in this little theatre, the Christian drama of the whole Romanic Empire shows that the persecution of one man will account for the conversion of hundreds of other fellow-creatures. As a whole, the novel sustains the historic mood, though the narrative vein is well-timed to offset the tediousness usually present in novels of this type. While it is true that finely worked out detail is essential to the historic novel, it may be pointed out that the author might have condensed his work with advantage without jeopardizing its historic setting. The author has created a praiseworthy nostalgic atmosphere of a distant epoch which he not only presented splendidly but with pathos and dignity.

Bruno Cicognani's *Villa Beatrice* (Treves-Treccani-Tumminelli, Milan) which bears the imprint of a novel written along broad lines and on a solid basis, failed to gain that support which would have won for it the merit and distinction. The story lacked sustained interest and forceful characters. The characters lacked the necessary psychological focus that would render them lifelike and convincing. Cicognani's *Beatrice*, for all her antipathy to conjugal life, to parturition, etc., never fully wins sympathy, yet the novel was fairly well received. Cicognani's short stories of recent date, *Strada facendo* are to be preferred. Where Cicognani fell short in character delineation, Sibilla Aleramo sketched more sympathetically "a life," *Caris di Rosia*, in her latest novel, *Frustino* (*The Whip*; Mondadori, Milan). If in his novel, Cicognani had architectonic structure, Aleramo has none at all. Her work could be called a series of sketches of the love affairs of a woman musician. The author imparted a poetic touch to the idiom which does much to cover the otherwise objectionable melodramatic note that permeates the work. Achille Campanile, who yearly furnished a screamingly funny novel, produced on schedule his *Battista al giro d'Italia* (Treves, Milan). In this Battista (or, our servant, "James") makes a tour of Italy on a bicycle. Jest and cynicism mark the dominant notes of his observations. Better still, may we be permitted to reduce Campanile's symbolic language to the subtle excoiation of the writers who make much ado about thin themes and their arid imaginations? Here attention may be called to the English version of Alberto Moravia's sensational novel, *Gli indifferenti*, (*The Indifferent Ones*; E. P. Dutton & Co., New York) translated by Aida Mastrangelo.

SHORT STORY. Bianca Gerin, little known

among the Italian women writers, made a valuable contribution to short stories in *Aprire la porta* (*Open the Door*; Ceschina, Milan). At most the stories are based on provincial themes, through which, however, gentility and humanity pervade like a delicate perfume. A finely worked-in idiom adds a touch of poetry. A finer contribution than this will hardly be furnished in several seasons. Two other women furnished collections of short stories. In *La propria sorte* (*One's Own Fate*; Marsano, Genoa), Piera Delfina Sessa portrayed a galaxy of characters from an analytical point of view. The "internal struggle" and psychological strokes throw them into high relief. They have pulse and command attention. The author's language is terse and distinctive. A few of her themes have Germanic settings and characters. Lina Pietravalle, better known than either of the afore, discussed authors, gave us sketches of a regional type in *Marcia nuziale* (*Nuptial March*; Bompiani, Milan). Sketched before us are rugged landscapes, strong men, and sturdy women. The work developed in cursory style, makes pleasant reading punctuated with comic episodes. Nino Savaresi based his stories and fantasies, *Storie e fantasie* (Ceschina, Milan), on rustic themes. They are composed with a light touch of philosophy that imparts an undertone of seriousness to the work. *Pane e vino* (*Bread and Wine*) is little short of being a masterpiece. It is perhaps the best story in the collection. Sea stories and legends were collected by E. Bavetta in *Inferni e paradisi del mare* (Agneselli, Milan), and attractively told and pleasingly arranged. The legends are annotated. A group of twelve short stories, *Horse in the Moon* (E. P. Dutton, New York), drawn from Luigi Pirandello's *Novelle per un anno*, and translated masterfully from the Italian by Samuel Putnam, appeared within the year.

THEATRE. The season, which seemed to lack enterprise to hold its own fell below par, notwithstanding the new hope of the project of establishing a National Institute of Drama on the plans submitted by Signor D'Amico. Of the scanty plays, the first worthy of mention was Giovacchino Forzano's *Villafranca* (Barbèra, Florence). Making use of the historic motive, specifically, that of Italy's struggle for independence in the feverish days of 1859, the author has brought into focus a trio that figures portentously in that not remote year—Cavour, Victor Emanuel II, and Napoleon III. In this type of drama the author has had most success. Here it suffices to say that *Villafranca* is good drama and contains red-blooded characters. It is free from pomposity and slow movement. Like plays often have these pitfalls. This play met with public favor in its run at the Teatro Argentina in Rome.

Giorgio Umani composed a dramatic poem in five scenes in *Prometeo* (*Prometheus*; Eroica, Milan). The composition has more value as poetry than as drama. The author must have sensed the futility of stage production of his topic, and yet, could he be excused for minimizing the dramatic moment of his composition? Had the author taken greater care in developing the dialogue interest and the dramatic effect, the work would have reached a far wider public. Considering Giulio Mariani's *La veggente di Betania* (*Mary Magdalen*; Eroica, Milan), the dramatic motives are over-developed, and the poetic values negligible. The stage production of this play

## CRUISERS

the first to serve in that capacity. On his retirement in 1927, he practiced law in Chicago until 1931.

**CRUISERS, NAVAL.** See NAVAL PROGRESS.

**CRUSTACEA.** See ZOOLOGY.

**CUBA.** A republic of the West Indies consisting of the large island of the same name, the Isle of Pines, and small adjacent islands. Capital, Havana (Habana).

**AREA AND POPULATION.** The area is 44,164 square miles of which 41,634 are for the island of Cuba, 1180 for the Isle of Pines, and 2350 for the other islands. The population census taken September–November, 1931, showed a total of 3,962,344 inhabitants, compared with 2,889,004 at the census of 1919. The population was distributed among the several Provinces as follows:

POPULATION OF CUBA, BY PROVINCES

Province	Area in sq. miles	1919 census	1931 census
Pinar del Rio .....	5,206	261,198	349,480
Havana .....	8,170	697,589	985,500
Matanzas .....	8,256	312,704	337,119
Santa Clara .....	8,257	657,697	815,412
Camagney .....	10,064	228,918	408,076
Oriente .....	14,211	780,909	1,072,757
Total .....	44,164	2,889,004	3,962,344

About 72 per cent of the population is white, the remainder being chiefly Negro and mulatto. The enforced registration of foreigners in the island in 1932 revealed that approximately one-tenth of the population were aliens.

**EDUCATION.** Elementary education is free and compulsory. According to the President's message to Congress of Apr. 4, 1932, public primary schools in 1930–31 numbered 3767, with 434,219 enrolled pupils and 7572 teachers; private schools, 457, with 26,622 pupils; night schools, 94, with 7393 pupils; upper primary schools, 31, with 7236 pupils. There is a special government Institute for advanced education in each Province. The University of Havana had 4795 students in 1929–30.

**PRODUCTION.** Cuba is the world's largest producer of sugar, and cane-growing dominates the economy of this primarily agricultural island. As a result of world over-production, a drastic price decline, and the raising of the United States tariff on Cuban sugar to 2½ cents a pound in 1931, sugar in 1931 and 1932 was produced at a loss and the industry was facing disaster. The decline of the Cuban sugar industry is shown in the accompanying table from the U. S. *Commerce Yearbook*.

CUBAN SUGAR PRODUCTION

Year	Mills grinding Number	Sugar pro- duction 1,000 long tons	Average price per pound Cents	Total value \$1,000
1921–22 to 1925– 26, average ...	182	4,888	3.26	808,424
1926–27 .....	177	4,509	2.64	266,621
1927–28 .....	172	4,038	2.20	197,175
1928–29 .....	163	5,156	1.72	198,661
1929–30 .....	157	4,671	1.23	128,702
1930–31 .....	140	3,121	1.09	76,197

The Chadbourne Agreement of Dec. 8, 1930, provided for the segregation of 1,500,000 tons of surplus sugar and the marketing for five years of no more than 3,400,000 tons annually, plus 20 per cent of the surplus. The 1931–32 produc-

tion was fixed at 2,700,000 tons by a decree issued Mar. 26, 1932, and the 1932–33 crop at 2,000,000 tons by a decree of Nov. 2, 1932. Tobacco, coffee, cacao, cereals, potatoes, and fruits are other leading crops. The 1931 tobacco crop was 80,707,000 pounds (82,152,000 in 1930). In 1932, tobacco exports were valued at \$12,926,270, or 43 per cent below the 1931 figure. The 1931–32 sugar crop totaled 2,602,336 tons.

The extensive forests contain valuable cabinet and dye-woods, fibres, gums, resins, and oils. The island has large iron-ore and manganese deposits, worked principally by American interests, as well as copper, gold, and salt. Since 1925, there has been a steady growth of secondary manufacturing industries behind a protective tariff, principally in the canning, clothing, footwear, furniture, textile, paint, paper, glass, and cement industries. Iron ore exports in 1931 were 116,126 metric tons (190,270 in 1930); copper output, 13,291 metric tons (16,693).

**COMMERCE.** Cuba's foreign trade in 1931 continued the phenomenal decline of 1930, but imports fell more sharply than exports. The trade balance was favorable by \$4,958,401 in 1930 and by \$38,753,553 in 1931. Exports in 1931 totaled \$118,865,553 (\$167,410,669 in 1930) and imports were \$80,112,000 (\$162,452,268 in 1930). The value of the leading exports in 1931, with 1930 figures in parentheses, was: Raw sugar, \$64,918,344 (\$92,471,106); refined sugar, \$13,654,735 (\$12,732,364); leaf tobacco, \$16,635,366 (\$25,101,872); tobacco products, \$6,296,779 (\$8,477,309); molasses, \$4,859,984 (\$11,407,494); fruits, \$2,991,281 (\$4,226,252). Sugar exports declined 20 per cent in volume and 29.8 per cent in value, compared with the previous year. The principal import classes in 1931 and 1930 were valued as follows: Food products and comestibles, \$29,734,000 (\$60,976,000 in 1930); stones, earth, ores, glass, and clay products, \$8,194,000 (\$15,962,000); machinery, instruments, etc., \$5,950,000 (\$14,085,000); chemicals, etc., \$7,797,000 (\$13,543,000); cotton and cotton manufactures, \$8,094,000 (\$13,445,000).

While the total drop in 1931 export values was 29 per cent, shipments to the United States declined only 23.3 per cent; almost 75 per cent of all exports went to the United States (about 69 per cent in 1930). The United States supplied 57.3 per cent of all Cuban imports, as against 56.6 per cent in 1930. The value of imports from the United States in 1931 was \$45,940,000, compared with \$91,872,000 in 1930 and about \$500,000,000 in 1920, when Cuban prosperity reached its peak.

**FINANCE.** In budget estimates for the fiscal year ended June 30, 1932, both revenue and expenditure balanced at \$52,000,000, as compared with estimates of \$69,500,000 for 1930–31 and \$85,450,000 for 1929–30. Actual preliminary returns for the 1931–32 budget operations showed a deficit of about \$10,000,000. In order to meet interest and amortization payments totaling \$9,500,000 due June 30, 1932, on the public-works debt, the government secured an additional credit of \$2,278,125 from American bankers. In the 1932–33 budget, estimated revenues were placed at \$51,700,000 and expenditures at \$51,475,214. In September, 1932, however, steadily declining income forced a further reduction in expenditure. The Cuban Government had not published the net result of budget operations since the figures covering operations in 1928–29.

Monthly figures published in the *Gaceta Oficial* indicated a deficit of \$8,306,240 in the ordinary account for 1930-31 and a deficit of \$3,955,646, in 1929-30. The 1930-31 ordinary revenues totaled \$59,580,764 and expenditures \$67,887,004.

American investments in Cuba as of Jan. 1, 1931, were estimated by the U. S. Department of Commerce at \$1,138,957,000, of which \$544,012,000 were invested in sugar. British investments were estimated at £36,556,369, including £29,269,613 in railways. According to figures released by the Cuban Treasury in August, 1932, the funded debt totaled \$153,754,000, exclusive of some \$42,000,000 of sugar segregation bonds. Public-works bonds outstanding were reported to total \$87,500,000; external indebtedness, \$58,388,000. The floating debt on Dec. 31, 1932, was estimated at from \$35,000,000 to \$50,000,000.

**COMMUNICATIONS.** Cuba in 1930 had 3064 miles of railway line, of which the United Railways of Havana (1393 miles) and the Cuba Railway (778 miles) were the chief systems. Government highways extended 1990 miles. The great Central Highway was opened to traffic in 1931. Domestic air service is highly developed, while international lines connect Cuba with the United States, Mexico, and most of the Latin-American republics. In 1930, 5543 vessels of 22,997,053 gross tons entered and cleared the ports in the foreign trade. A weekly freight-car ferry service from New York to Havana was inaugurated on Oct. 10, 1932.

**GOVERNMENT.** The Constitution, as amended May 11, 1928, vests executive power in a president, elected for six years and ineligible for reelection; legislative power rests in a national congress of two houses, the Senate of 37 members elected for nine years and the Chamber of Representatives of 128 members, elected for six years by male and female suffrage. The Senate is renewed in part and the House is renewed by halves every three years. President in 1932, Gen. Gerardo Machado y Morales (Liberal) who was inaugurated May 20, 1929, for a second term expiring May 20, 1935. The three parties represented in Congress—the Liberal, Conservative, and Popular parties—are completely controlled by their leaders in Congress, the majority of whom supported the Machado administration and its programme. The government's platform called for a comprehensive system of public works, diversification of industry, and the encouragement of public instruction and agriculture.

#### HISTORY

**THE GROWTH OF TERRORISM.** When President Machado on Dec. 22, 1931, terminated negotiations for a compromise settlement with the opponents of his veiled dictatorship, the nation gradually relapsed into an orgy of political terrorism and governmental repression, such as had accompanied the anti-Machado revolt of August, 1931. The President followed his announcement that he would serve out his full term of office, ending in 1935, with efforts to conciliate the Opposition. A number of measures passed by Congress and signed by the President during January, 1932, extended general amnesty to political prisoners involved in the 1931 revolt, some 248 of whom were released. Among the 25 insurgent leaders freed were former President Mario G. Menocal and Col. Carlos Mendieta, the two rebel chieftains. Pardons were withheld, however, from

students charged with bombing attempts or illegal possession of explosives.

Conciliatory measures failed to check the sporadic bombings and political disturbances, originating in many instances among students. These occurrences grew in intensity throughout the year, despite heavy-handed repression. On February 2, President Machado took steps to consolidate his virtually absolute authority by a decree creating a national militia, under his direct command. The militia was to include all national police and volunteers. A law enacted February 16 made all persons charged with bombing or terroristic activities subject to military courts. The measure affected about 150 students then held on charges of this nature. Three of the student prisoners were placed on trial before a military court April 11; on April 26 they were sentenced to eight years' imprisonment. Meanwhile Senator Borah read before the U. S. Senate (April 11) a letter from the Cuban Patriotic League giving an account of the case.

The government's next move was a Presidential decree of April 19, establishing absolute control over foreigners remaining more than 60 days in the country. The measure was aimed at foreign Communists and agitators. The Cuban Supreme Court, which in 1931 had ruled out several of the President's dictatorial measures, again stepped into the breach with two decisions. The first, issued on April 26, declared unconstitutional the Presidential decree of July 1, 1931, which closed the University of Havana and suspended salaries of the faculty members. The second, issued May 14, ruled out the law of February 16 giving military tribunals jurisdiction to try alleged terrorists. The decision voided the eight-year sentences imposed on the three student prisoners April 26.

In the days preceding the 30th anniversary of Cuban independence on May 20, the police uncovered new revolutionary plots and jailed 85 additional political prisoners, including Col. Carlos Mendieta and Alberto Méndez Penate, another of former President Menocal's lieutenants. Menocal himself took refuge in the Brazilian Legation on May 23. These developments were accompanied by a new series of bombings, culminating in an attempt to assassinate President Machado on June 10. Wholesale arrests followed, in which the Opposition leader, Dr. Pedro Herrera Sotolongo, and many prominent citizens of Havana and Santa Clara were incarcerated. On June 23, Machado signed a Congressional measure suspending constitutional guarantees throughout Cuba for another year and authorizing the President to extend the period for another two years if he so desired. This law, prolonging the military rule in effect since Dec. 11, 1930, empowered Machado to maintain himself in office by force of arms until the expiration of his term.

Former President Menocal sailed from Havana July 2, having obtained a Cuban passport upon the agreement that he would remain abroad for one year and not interfere with Cuban politics. His departure caused no cessation of terroristic activities. Capt. Miguel Calvo, Chief of the Cuban Secret Police, and two escorting policemen were shot to death on a Havana street July 9. In the middle of the month Havana was divided into two military districts, under the direct supervision of General Herrera, Chief of Staff of the Cuban Army. Widespread opposition to the government was indicated by the resignations of the

president of the Cuban Supreme Court and the Cuban Ambassador to Mexico, Márquez Sterling, and by the action of the faculty of Havana University in voting (July 12) to suspend for a further period the educational and academic activities of the institution.

A lull in political activities during August was followed in September and October by another wave of bombings and assassinations, in which both government and Opposition supporters were victims. In this underground warfare, the most bloody incidents occurred in Havana, September 27. Dr. Clemente Vazquez Bello, President of the Senate, head of the Liberal party, and right-hand man of President Machado, was riddled with submachine-gun bullets and shotgun slugs from a passing automobile. A few hours after his death, three leading members of the Opposition, the brothers Gonzalo, Guillermo, and Leopoldo Freyre de Andrade, were shot down in their home, apparently in reprisal. Dr. Miguel Angel Aguiar, another Machado opponent shot the same day, died later of his wounds. Police, inspecting the cemetery in which the remains of Dr. Bello were to be buried the next day, discovered bombs which they believed were planted for the purpose of wiping out high government officials when they assembled for the funeral services. Fearful of assassination, 11 prominent Opposition leaders took refuge in foreign embassies and legations in Havana.

The death of Dr. Bello caused a reorganization of the Liberal party leadership. He was succeeded as President of the Senate by Major Alberto Barreras and as president of the Liberal party by Dr. José Barcelo, Governor of Oriente Province. Col. Carlos Machado, brother of the President, succeeded Dr. Bello as President of the Santa Clara Liberal Provincial Assembly. Another change in the Cabinet had occurred on June 1, when Dr. Orestes Ferrara, Cuban Ambassador to Washington, became Secretary of State. Oscar B. Cintas, Cuban business man, was appointed to the Washington post.

The election of Nov. 1, 1932, brought no change in the situation, although accompanied by disturbances previous to election day in which 15 were killed and 70 wounded. The opposition boycotted the polls and all contests were between individuals pledged to support the government. The elections replaced half the House of Representatives, two Senators, and all municipal and provincial officials.

On November 28, a military court imposed the death sentence on three socially prominent youths accused of killing Lieut. Díez Díaz, chief of the Rural Guards at Artemisa, on May 21. The same day President Machado signed a decree releasing 86 political prisoners, who had been in jail for many months. On December 1 constitutional guarantees were reestablished and martial law was ended in all Provinces except Havana. The police outside of Havana Province were demilitarized on December 5. Toward the end of the month there was a new outbreak of terrorism and of government reprisals. It was reported December 28 that the police were quietly arresting numerous students and recently liberated Oppositionists. The same day, Dr. Fausto Menocal, brother of former President Menocal, and Dr. Pedro Cue, a Havana University professor, fled to the United States. The year ended with another characteristic episode. The body of Juan Gonzalez Rubiera, a 17-year-old student, was

found riddled with bullets in a Havana street December 30. Early that morning police attempted to arrest Rubiera and another student. The youths were reported to have gravely wounded Sergeant Rafael Castro before Rubiera was captured. The police explained Rubiera's death by saying that he was killed while trying to escape.

**THE ECONOMIC SITUATION.** The political developments of 1932 were not unrelated to the intensification of the economic depression and the consequent financial straits of the government. The administration managed to avert default on its foreign obligations by additional borrowing in New York. Despite higher tariff duties imposed on imports March 17 and measures designed to increase taxes, government revenues steadily declined (see *Finance*). Toward the end of September it was reported that the salaries of employees in most governmental departments were from three to four months in arrears. The army and navy, who received the preference in the distribution of incoming tax payments, were paid up to August. This accounted for the army's continued support of the Administration.

The steady decline in the exchange value of the Cuban silver dollar, which was at a discount of about 5 per cent on August 24, further embarrassed the government. The decline took place in the face of a heavy influx of \$3,586,859 in silver in the form of new money early in the year.

**OTHER DEVELOPMENTS.** The island was struck on Nov. 9, 1932, by a violent hurricane, which cut a wide swath from Santa Cruz del Sur, on the southern coast, to Nuevitas, on the northern coast, taking an estimated toll of 2500 lives and extensive property damage. The town of Santa Cruz del Sur was almost completely destroyed by a tidal wave accompanying the hurricane and the majority of the inhabitants were drowned. It was reported from Havana November 16 that reconstruction of the town on a new site four miles inland would begin immediately. Santiago was shaken on Feb. 2 and 3, 1932, by severe earth shocks, which caused 13 deaths and property damage of between \$1,000,000 and \$2,000,000. President Machado called a special session of Congress, opening February 3, which appropriated \$1,000,000 for relief of the stricken district. On Feb. 9, 1932, the Cuban government, received the report of Prof. E. R. A. Seligman of Columbia University, who had been commissioned by President Machado to make a study of the island's fiscal and economic situation. He suggested various reforms intended to modernize the tax administration and relieve commerce and industry of burdens considered responsible for their depressed condition.

Consult, William L. Schurz, "Cuba's Economic Isolation," *Current History*, August, 1932.

**CUFRA.** See Cyrenaica.

**CULLEN OF ASHBOURNE, BRIEN COKAYNE, FIRST BARON.** A British financier, died in London Nov. 3, 1932. Born July 12, 1864, he attended Charterhouse, and in 1883 entered the merchant firm of Antony Gibbs & Sons. From 1886 to 1900 he was in charge of the branches of this firm in Chile, and on his return to England in 1901 was made a partner. He was elected a director of the Bank of England in 1902. As deputy governor of that institution in 1915-18 and governor in 1918-20 he played an important part in guiding Britain's financial affairs during the crucial World War and post-war periods.

He was created a Knight Commander of the Order of the British Empire in 1917 and Baron in 1920.

**CUMBERLAND PRESBYTERIAN CHURCH.** A branch of the Presbyterian Church, originally the Cumberland Presbytery of Kentucky. It was formed in 1810, when the so-called anti-revival party of the church objected to the admission into the ministry of men who were not up to the usual literary and theological standards, and to the doctrine of fatality as taught in the third and tenth chapters of the Westminster Confession of Faith. Its chief strength was in the Southern States, in consequence of which it was barely saved from disunion during the slavery dispute at the time of the Civil War. This situation led to the establishment of the Colored Cumberland Presbyterian Church.

A general assembly which meets annually is the supreme judiciary, the 1932 meeting being held in Chattanooga, Tenn., May 19-24. In 1932 there were 1168 churches, reporting 752 ministers and a church membership of 70,752, in the denomination's 10 synods and 62 presbyteries. The Sunday school enrollment was approximately 52,250. The property of the church was valued at \$3,356,537, not including a \$500,000 endowment for education.

Missionary work was carried on among the Indians in the United States, in China, and South America. The denomination maintained Bethel College and the Cumberland Presbyterian Theological Seminary, both in McKenzie, Tenn. Its official organ was the *Cumberland Presbyterian*. The Rev. G. G. Hallaburton of Lakeland, Fla., was moderator of the general assembly in 1932, and the Rev. D. W. Fooks of Nashville, Tenn., was stated clerk and treasurer.

**CURAÇAO**, koo'ra-sā'ō. A Dutch colony in the West Indies consisting of two groups of islands about 500 miles apart, one group comprising the islands of Curaçao (49,444 inhabitants in 1931), Bonaire (15,687), and Aruba (6139), and the other consisting of the southern part of St. Martin (2376), St. Eustatius (965), and Saba (1688). Area, 403 square miles; population, Jan. 1, 1931, was 76,299. The capital is Willemstad, on the island of Curaçao, with a population of 20,792. Registered births in 1930 numbered 1766; deaths, 1358; marriages, 706. In the same year there were 43 schools with 10,446 pupils.

The chief products of the colony are maize, beans, pulse, cattle, salt, and phosphate of lime. The chief industry is oil refining. Imports in 1930 were valued at 407,215,087 guilders and exports at 416,607,756 guilders (1 guilder averaged \$0.402 in 1931). Vessels entering the ports in 1930 numbered 12,732 of 49,985,490 net registered tons. The revenue for 1931 was estimated at 8,997,360 guilders and the expenditures at 8,829,721 guilders.

The colony is administered by a governor assisted by a council of four and a colonial council of 13 members, all nominated by the sovereign. Governor in 1932, B. W. T. van Slobbe (appointed Jan. 1, 1930).

**CURLING.** The United States players demonstrated rather unexpected superiority over Canada's representatives in curling in 1932, defeating the Canadians in an exhibition at the Winter Olympic games at Lake Placid, three matches to one, 114 points to 108. The American team, C. B. Williams, F. D. Peale, C. B. Ogden, and J. W. Calder, skip, was chosen in the Allen

Memorial tournament in January. In earlier Olympic exhibition matches, United States teams from New York and Connecticut defeated Northern Ontario teams, but later Quebec, Northern Ontario, Manitoba and Kitchener took five matches from New York, Massachusetts and Michigan.

Utica's fine team won the annual Stockton Cup tournament at the Country Club at Brookline, Mass., defeating St. Andrew's No. 1, 29-12, in the final match. Utica also won the Gordon National Medal, beating Schenectady in the final, and the Richard S. Emmett Medal competition by nosing out The Caledonian Club of New York, 16 to 14.

Through the showing in the Winter Olympic games, curling gained in popularity and toward the end of the winter, weekly games were played at the Sleepy Hollow Country Club in Westchester, N. Y., which hundreds of enthusiasts attended.

**CURRENCY.** See COINS, VALUE OF FOREIGN; FINANCIAL REVIEW; MONEY; UNITED STATES.

**CURRICULUM.** See EDUCATION IN THE UNITED STATES; UNIVERSITIES AND COLLEGES.

**CURZON COLLECTION.** See ART SALES.

**CYANIDE POISONING.** See MEDICINE AND SURGERY.

**CYCLING.** William (Torchy) Peden of Vancouver was undoubtedly the bicycle-riding champion of 1932. A former member of the Canadian Olympic cycling team he competed in 14 six-day races and was on the winning team 10 times. Teamed with Reggie McNamara, the sturdy Canadian won the race in March in New York and then conquered the field with Freddie Spencer in New York in December. He won also two races in Montreal and Milwaukee, and one each in Atlantic City, Chicago, Toronto, and Minneapolis. Riding is a sport that showed no suffering from the depression. Peden was acclaimed one of the finest riders ever to compete in the arduous game.

Bicycle racing in its other branches, professional, amateur, sprint, all-around, and motor-paced, suffered because of strikes called by the riders when the promoters and managers of races were unwilling to meet the demands for increased financial remuneration. Under the circumstances it was agreed to name those riders champions who were leading on points when the strike was called. The amateur sprint title went to Tino Reboli with fifty-two points. Cecil Walker again led the professional riders, taking the all-around championship for the eighth time and the American sprint title for the third year in a row. Alfred Letourner, French cyclist, won the national motor-paced title. The world's professional sprint championship went to Joseph Scherens of Belgium and Georges Paillard, of France, captured the world's motor-paced crown. Alfredo Binda, Italian, took the world's professional road-riding title and the world's amateur sprint title went to Albert Richter of Germany, who displaced Helge Harder of Denmark as champion.

Italian cyclists won three of the six Olympic titles.

**CYPRUS**, si'prūs. Cyprus was ceded to Great Britain for administrative purposes by Turkey in 1878, formally annexed by Britain on Nov. 5, 1914, and given the status of a British colony, May 1, 1925. Third in size among the islands of the Mediterranean, it is situated 40 miles south

of the Anatolian peninsula and 60 miles west of the Syrian coast. Area 3584 square miles; population, census of 1931, 347,959. There were 64,225 Moslems and 283,550 Christians. Capital and chief trading centre, Nicosia (population 23,677 in 1931). In 1930, elementary schools numbered 990 with a total enrollment of 49,586.

The chief agricultural products were beans, potatoes, raisins, barley, wheat, vetches, oats, cotton, sesame, olives, and silk. The mining of copper ore, asbestos, gypsum, terra umbra, and chrome is extensively carried on. Industry is relatively unimportant. Imports in 1931 were valued at £1,414,104 and exports at £1,101,708. Shipping aggregating 2,213,778 tons entered and cleared the ports in 1930. Revenue in 1931 was £728,396; expenditure, £743,076; public debt, £121,810.

Cyprus is administered by a governor, aided by an executive council. Under Letters Patent (Nov. 13, 1931) the legislative council ceased to exist and power to make laws was granted to the governor-in-council. Governor, Sir R. E. Stubbs, appointed May 26, 1932, to succeed Sir Ronald Storrs.

**CYRENAICA**, sir'ē-nā'i-kā. (**CIRENAICA**). The eastern district of the Italian colony of Libia on the north African coast. Area, about 75,340 square miles; including the Cufra hinterland zone, 285,640 square miles. Population (1931 census) 164,607, of whom 10,000 were Italians. Capital, Benghazi, 33,794 inhabitants in 1929. Agriculture, fishing, cattle raising, and salt refining are leading industries. Italian colonization is progressing.

Imports in 1930 totaled 151 652,000 lire; exports, 21,249,000 lire (1 lire equals \$0.0528 at par). The estimated revenue for 1930-31 was 248,580,000 lire, including an Italian state contribution of 204,700,000 lire; civil expenditure, 96,905,000 lire; military expenditure, 150,980,000 lire. The military force in 1929 comprised 500 officers and 16,000 men. Governor in 1932, Marshal Pietro Badoglio, whose headquarters were in Tripolitania; Lieutenant Governor of Cyrenaica, General Graziani, see **TRIPOLITANIA**.

**CZECHOSLOVAKIA**, chek'ō-slō-vā'ki-ā. A central European republic comprising the Provinces of Bohemia, Moravia and Silesia, Slovakia, and Ruthenia, together with a small part of the Teschen district. Capital, Praha (Prague).

**AREA AND POPULATION.** The area and census population, by Provinces, is shown in the accompanying table.

#### AREA AND POPULATION OF CZECHOSLOVAKIA

Province	Area, sq miles	Population 1921	1930
Bohemia . . . . .	20,102	6,670,582	7,106,766
Moravia and Silesia . . . . .	10,324	3,335,152	3,563,157
Slovakia . . . . .	18,895	3,000,870	3,330,885
Ruthenia . . . . .	4,886	606,568	725,350
Total . . . . .	54,207	13,613,172	14,726,158

At the 1921 census, Czechoslovaks comprised 65.5 per cent of the total population; Germans, 23.3 per cent; Magyars, 5.5; Ruthenians, 3.4; Jews, 1.3; Poles, 0.5; others, 0.2. There were 238,808 aliens. The population is predominantly Roman Catholic in religion. The movement of the population in 1931 was: Births, 325,182 (338,327 in 1930); deaths, 212,159 (207,630); marriages, 129,114 (136,357). The population of the principal cities at the census of Dec. 1, 1930,

with 1921 census figures in parentheses, was: Praha (Prague), 848,081 (676,663); Brno (Brünn), 263,646 (221,758); Moravská Ostrava, 125,347 (113,709); Bratislava (Pressburg), 123,852 (93,189); Plzeň (Pilsen), 114,150 (108,023).

**EDUCATION.** Elementary education is compulsory between the ages of 6 and 14 years. Illiteracy is confined almost exclusively to Slovakia. On Oct. 31, 1930, there were 1,721,615 pupils in 14,900 public and private elementary schools; 231,802 pupils in 1868 public and private higher grade schools; 88,412 pupils in 347 secondary Latin and technical schools; and 35,756 pupils in 182 public schools of commerce. The four universities of Prague (Czech), Prague (German), Brno (Czech), and Bratislava (Slovak) had 19,342 students in 1929-30 and the four technical high schools, 10,344.

**PRODUCTION.** Czechoslovakia has rich agricultural, mineral, and forest resources and the northwestern section is one of the most industrially developed regions of Europe. In 1930, about 39 per cent of the total area was arable land, 16.8 per cent was in permanent grass and pasture, and 32.8 per cent was wood and forest land. Production (in quintals of 220.46 pounds) of the chief crops in 1931, with 1930 figures in parentheses, was: Wheat, 11,221,574 (13,772,889); rye, 13,876,860 (17,875,710); barley, 10,660,067 (12,177,901); oats, 12,246,079 (13,078,175); potatoes, 97,283,083 (89,504,306); sugar beets, 52,408,366 (64,213,344). Corn, tobacco, hops, wine, flax, and hemp are other farm products. Raw sugar production in 1931-32 was 812,900 metric tons, the lowest in a decade. Livestock at the beginning of 1931 included 4,457,522 cattle, 2,433,830 cows, 2,776,215 swine, and 607,612 sheep. The 1931-32 raw-sugar output was 814,000 metric tons.

Mineral and metallurgical production, in metric tons, in 1931 (preliminary), with final 1930 figures in parentheses, was: Hard coal, 13,687,957 (14,568,000); lignite, 18,638,146 (19,224,000); pig iron, 1,164,000 (1,440,000); steel, 1,524,000 (1,836,000); salt, 190,179 (177,700). The 1932 pig iron production was 451,000 tons; crude steel, 682,000 tons; bituminous coal, 11,052,000 tons; lignite, 15,910,000 tons; and coke, 1277 tons.

There were 11,996 factories in Czechoslovakia in 1929, of which 1970 were textile mills, 2271 glass and stone works, 1839 engaged in food production, 1397 furniture and bent wood factories, 923 machine shops, 901 metal factories, 645 chemical factories, and 393 paper mills. Beer, shoes, and artificial silk are other important industrial products. Due to its differentiated economy, Czechoslovakia remained probably the most prosperous country in Eastern Europe until the latter part of 1931. Its industrial exports were then restricted by the British tariff and by the foreign exchange restrictions placed in effect in neighboring states. Industrial production consequently declined and the number of unemployed increased from 336,574 on Jan. 1, 1932, to 479,912 at the end of September.

**COMMERCE.** The value of Czechoslovak foreign

	Imports	Exports
1932 . . . . .	7,537,000,000	7,399,800,000
1931 . . . . .	11,800,535,000	13,149,393,000
1930 . . . . .	15,714,503,000	14,473,732,000
1929 . . . . .	19,987,858,000	20,498,869,000



trade has declined since 1929, as shown in the table on page 227 (figures in Czechoslovak crowns, worth \$0.0296 at par).

The leading import items (1931) were: Cereals, 1,041,761,000 crowns; cottons, 1,066,414,000 crowns; woolen goods, 947,743,000 crowns; fats and oils, 611,836,000 crowns; machinery, 406,423,000 crowns. The chief exports were: cotton goods, 1,578,286,000 crowns; iron and iron manufactures, 1,328,730,000 crowns; woolen goods, 1,139,291,000 crowns; sugar, 974,223,000 crowns; and glass, 642,800,000 crowns.

Germany in 1931 supplied imports valued at 3,300,463,000 crowns and took exports worth 2,040,214,000 crowns. Austria furnished imports valued at 851,491,000 crowns and took exports valued at 1,796,449,000 crowns. Other leading sources of imports were Poland, 619,115,000 crowns; Rumania, 566,590,000 crowns; United States, 483,600,000; and France, 453,872,000. The United Kingdom in 1931 took exports valued at 1,355,955,000 crowns; Yugoslavia, 832,213,000 crowns; United States, 804,587,000 crowns; Switzerland, 466,578,000 crowns; and France, 460,664,000 crowns.

**FINANCE.** Budget estimates for the calendar year ended Dec. 31, 1931, placed revenue at 9,843,827,000 crowns and expenditure at 9,838,525,000 crowns. The year ended, however, with a deficit of 312,000,000 crowns (\$9,360,000). Actual expenditures amounted to 12,260,000,000 crowns (about \$367,800,000), and revenues to 11,948,000,000 crowns (about \$358,440,000). The revenues included extraordinary receipts of 1,657,000,000 crowns from state enterprises, not included in the budget. For 1932, the budget estimates were: Receipts, 9,323,376,000 crowns; expenditures, 9,318,709,000 crowns. In October, 1932, a budget deficit of about 800,000,000 crowns was forecast.

The national debt at the end of 1931 totaled 37,550,514,669 crowns, of which 25,900,810,500 crowns represented the internal debt, 8,349,704,169 crowns the external debt, and 3,121,000,000 crowns the note debt. An additional foreign loan of 600,000,000 francs was negotiated in France early in 1932. The budget for 1932 set aside 2,160,722,000 crowns for the service of the national debt.

**COMMUNICATIONS.** At the beginning of 1931, there were 8217 miles of state owned or operated railways and 159 miles of privately owned lines. The state railways in 1931 carried 235,538,621 passengers and 64,667,468 tons of freight; total operating revenues were 3,692,188,973 crowns and operating expenditures 4,475,692,920 crowns. The final deficit, after taking into account all items, was 104,434,324 crowns. In 1931, there were about 49,000 miles of highways, including 5300 miles of state highways maintained by the national government. Air service was provided by five national and 15 international lines (1930). In 1930, 1,197,284 metric tons of merchandise were carried on the Danube River within Czechoslovakia and 2,200,093 tons of merchandise on the Elbe and Vltava Rivers.

**GOVERNMENT.** According to the constitution adopted by the National Assembly, Feb. 29, 1920, executive power is vested in a president, elected for seven years by the two chambers in joint session, who appoints and recalls his ministers; and legislative power in a senate of 150 members elected for eight years and a chamber of deputies of 300 members elected for six years, the former

elected by all citizens over 26 years of age and the latter by all citizens over 21 years of age. The principle of proportional representation is applied. President in 1932, Thomas Garrigue Masaryk, reelected May 27, 1927. For the composition of the Chamber of Deputies and of the Cabinet headed by František Udržal (Czech Agrarian) in 1932, see 1931 YEAR BOOK. For changes in 1932, see *History*.

### HISTORY

**DOMESTIC AFFAIRS.** The world depression bore more heavily upon Czechoslovakia during 1932 than in the previous year. Exports were nearly 50 per cent less than in 1931 and imports declined by one-third. The contraction of industrial activity led to an increase in unemployment, which placed a heavy strain upon governmental finances. Yet the budget remained in approximate balance, due to rigid economies, additional taxation, and the inherently strong position of Czechoslovak industry and finance. The exchange value of the crown remained at par throughout the year, partly as a result, however, of government control of foreign exchange transactions. By the law of July 15, 1932, the government was authorized to continue exchange restrictions until July 31, 1934, if necessary. The loan of 600,000,000 francs (about \$24,000,000) raised in France following authorization by the French Parliament in March was required, not to meet a deficit, but to tide over the temporary lack of liquidity of the Czechoslovak Treasury's assets. Czechoslovak industry sustained a severe loss in the accidental death on July 12 of Thomas Bata (q.v.).

Premier Udržal announced at the opening of the spring session of parliament that the government's legislative programme would be confined exclusively to measures designed to check economic and financial disintegration. The bills introduced called for higher taxes on beer and on trade turnover, establishment of a special unemployment fund, and support of the state railways as against competing motor bus services. Reduction of the period of compulsory military service from 18 to 14 months was provided for in another bill. In February during the winter session of parliament a bill for the reorganization of the banking system, designed especially to increase the security of deposits, was introduced by the government. Most of this legislation was adopted during the year, Premier Udržal's bourgeois-Socialist coalition government maintaining its working majority in parliament.

Besides its financial problems, the cabinet was confronted with the problem of famine relief in the Province of Ruthenia and the revival of the separatist movement among the Slovaks and the Germans. The situation in Ruthenia led to violent attacks upon the government by the Left parties and Gov. M. Roszpal of the stricken area was forced to resign. The Slovak autonomist agitation had been quiescent since the conviction of its leader, Prof. Voitech Tuka, on charges of high treason on Oct. 5, 1929. Tuka was sentenced to 15 years' imprisonment. On Oct. 16, 1932, a meeting of some 10,000 Slovaks drew up a manifesto demanding a large measure of administrative autonomy and the replacement by Slovaks of Czech government employees in Slovakia. Father Andrej Hlinka, a lieutenant of Professor Tuka, addressed the meeting, asserting



that there was no such nation as Czechoslovakia and that the Slovaks had their own traditions.

The agitation among Germans of Czechoslovak nationality was believed to have relatively little support, as two of the German minority parties were members of the government coalition. At the end of February, 1932, the Minister of the Interior dissolved a German-Bohemian association called *Volksport* on the ground that it was allied to the Hitler movement in Germany and had become a menace to the state. Seven members of the organization were arrested and tried in the criminal court at Brno, Moravia, on charges of conspiracy against the republic.

These developments had little relation to the resignation of the cabinet, which took place Oct. 21, 1932, chiefly because of the ill health of Premier Udržal. Agrarian discontent and disagreement over the proposed budget for 1933 figured in the collapse of the ministry which had retained office since the election of Oct. 27, 1929. There were five new faces in the cabinet formed October 29 by Jan Malypetr (Czechoslovak Agrarian Republican). The other members were: Minister of Interior, Dr. Jan Czerny; Foreign Affairs, Dr. Eduard Beneš; Finance, Dr. Karl Trapl; War, Bohumil Bradáč; Justice, Dr. Alfred Meissner; Education, Dr. Fran Dérer; Commerce, Dr. Joseph Matonsek; Agriculture, Dr. Milan Hložka; Railroads, Rudolph Bechyně; Posts and Telegraphs, Dr. Emil Franke; Public Works, Jan Dostálek; Social Welfare, Dr. Ludwig Czech; Health, Dr. Frantisek Spina; Unification of Laws and Organization of Public Administration, Dr. Jan Šramek. The grouping of the parties forming the government coalition remained unchanged.

**FOREIGN RELATIONS.** As in 1931, the efforts of Dr. Beneš in the Foreign Office during 1932 were directed primarily toward mitigating the blighting effects of the economic depression upon Czechoslovak agriculture, industry, and commerce. The Foreign Minister supported the proposal for a Danubian federation advanced by Premier Tardieu of France in the spring (see UNITED STATES OF EUROPE). There was little disappointment in Czechoslovakia when the proposal was wrecked by the opposition of Germany and Italy, however. Her adherence to the scheme was prompted mainly out of consideration for her ally. Fundamentally, Czechoslovakia remained hostile to anything resembling a resuscitated Dual Monarchy. Dr. Beneš met the Foreign Ministers of the other Little Entente powers—Yugoslavia and Rumania—at Belgrade May 13–15 to consider the Danubian situation. While deploring the ultra-nationalistic economic policies of the day and asserting their readiness to cooperate in any proposed solution, the Little Entente statesmen proposed no remedies except financial assistance by the League to countries in distress. Their own countries were peculiarly subject to aggressive nationalism, which they were unwilling or unable to subordinate to economic rapprochement in Central Europe.

The solidarity of the Little Entente in defense of the status quo in Europe was strengthened by the progress of the Hitler and nationalist movements in Germany and the return of Hungary to its Italian orbit. Prince Ghika, the Rumanian Foreign Minister, visited Praha (Prague) on Jan. 19–21, 1932, to reaffirm Rumania's loyal support and cooperation in the Little Entente policies. On January 22, the three

Little Entente foreign Ministers met at Montreux, Switzerland, to formulate a joint policy in advance of the Disarmament Conference. As usual, they supported the French disarmament thesis during that conference (see DISARMAMENT). In connection with the Manchurian dispute, which came to a head before the League of Nations Assembly late in the year, Foreign Minister Beneš took a vigorous stand in support of the Lytton Report and the authority of the League, which he considered Japan had flouted. In this controversy, Czechoslovakia allied herself with the smaller powers of Europe, rather than with the noncommittal policy of France (see LEAGUE OF NATIONS; JAPAN under *History*).

The war debt controversy with the United States found Czechoslovakia aligned with France and the other European powers in demanding postponement of payments due Dec. 15, 1932. When Washington insisted upon payment, however, the December 15 installment was made. (see REPARATIONS AND WAR DEBTS). Also see LITTLE ENTENTE; FRANCE, GERMANY, HUNGARY, YUGOSLAVIA, and ITALY under *History*.

Consult Hamilton Fish Armstrong, "Versailles: Retrospect," *Foreign Affairs*, October, 1932.

**CZERNIN, OTTOKAR, COUNT OF CHUDENITZ.** An Austrian statesman, died in Vienna, Apr. 4, 1932. He was born in Dimokur, Sept. 26, 1872. After taking his doctor's degree in law at the University of Prague he served in the Austro-Hungarian diplomatic corps at various capitals. In 1903 he entered politics, being elected to the Bohemian Parliament as a member of the Constitutional party. In 1912 he became a member of the Austrian Upper House (Herrenhaus). Later in the same year he was appointed Minister to Bucharest, where he remained until Rumania declared war against Austria in August, 1916. At the end of 1916 he succeeded Burian as Minister of Foreign Affairs. Recognizing the importance of preserving the Central Empires as Great Powers, he bent all his energies toward the achievement of peace, and on the visit of the German Chancellor, Bethmann-Hollweg, to Vienna in March, 1917, proposed a peace by compromise. This proposal was to the effect that Germany should receive Poland as compensation for her sacrifice of Alsace-Lorraine and that Austria should be allowed to indemnify herself in Rumania. It resulted in the celebrated Kreuznach agreement of May 17, 1917. In the meantime Czernin had agreed to the Emperor Charles's suggestion that his brother-in-law, Prince Sixtus of Bourbon-Parma, be used as an intermediary in peace negotiations with France, but he was ignorant of the letter of Mar. 24, 1917, in which Charles assured Poincaré of his willingness to support the "just claim" of France to Alsace-Lorraine. The subsequent publication of this letter by Clémenceau, in answer to Czernin's charge that France's refusal to renounce Alsace-Lorraine was an obstacle to peace, led to Czernin's resignation on Apr. 15, 1918. The closing months of his tenure of office were marked by the conclusion in March, 1918, of the Treaty of Bucharest with Rumania, and the Treaties of Brest-Litovsk with Russia and the newly-founded eastern republics, Finland, Estonia, Latvia, Lithuania, Poland, and the Ukraine. In regard to the latter his position was still further undermined by the attacks made upon him by the Austrian Poles who resented his

ceding to the Ukraine, in order to secure a "bread peace," the district of Chelm to which the Poles laid claim.

**DAEGER, THE MOST REV. ALBERT THOMAS.** A Roman Catholic prelate, Archbishop of Santa Fe, died in Santa Fe, N. M., Dec. 2, 1932. He was born in North Vernon, Ind., Mar. 5, 1872. Upon his graduation from St. Francis College, Cincinnati, in 1889 he entered the Novitiate of the Friars Minor in Oldenburg, Ind., and studied also at the seminaries of St. Francis and St. Clement in Cincinnati and St. Boniface in Louisville. He was ordained to the priesthood in 1896 and was assigned as assistant priest to the Church of Our Lady of Sorrows in Kansas City, Mo. The following year he was transferred as assistant to the Church of St. Francis de Sales in Lincoln, Neb., of which he was made pastor in 1900. In 1902 he was sent to the missions of New Mexico, which were under the jurisdiction of the Friars Minor of the Cincinnati Province, holding pastorates in Penablanca (1902-10), Farmington (1910-17), and James (1917-19). On the resignation of the Most Rev. J. B. Pitaval as Archbishop of Santa Fe and Metropolitan of the Province of Northern New Mexico in 1918, he was named his successor, and was consecrated as the sixth incumbent of that see on May 7, 1919. He was honorary president of the Society of Missionary Catechists.

**DAHOMEY,** da-hô'mi. A French colony on the west coast of Africa forming a subdivision of the colony of French West Africa. Lieutenant-Governor in 1932, M. Blacher. See FRENCH WEST AFRICA.

**DAINGERFIELD, ELLIOTT.** An American painter, died in New York City, Oct. 22, 1932. He was born at Harper's Ferry, Va., Mar. 26, 1859, studied at the Art Students' League, New York City, and first exhibited at the National Academy of Design in 1880. In 1897 he visited Europe for purposes of study and later was appointed lecturer on composition at the Art Students' League and instructor in drawing at the School of Design in Philadelphia. Previous to his death he was head of the Permanent Art School at Blowing Rock, N. C. His productions were largely figure paintings, many of them of a religious nature, and landscape paintings. Among the former, the rich and glowing colors of which are reminiscent of the Italian masters of the sixteenth century, are the murals in the Lady Chapel of the Church of St. Mary the Virgin, New York City, "Christ Stilling the Tempest" (Metropolitan Museum of Art, New York City), "The Child of Mary" (National Gallery, Washington), and "An Arcadian Huntress" (City Art Museum, St. Louis). His importance as a landscape painter, in whom imagination and a strong sense of decorative beauty predominate, is exemplified in such works as "Slumbering Fog" (Metropolitan Museum of Art, New York City), "The Midnight Moon" (Brooklyn Institute Museum), "Storm Breaking Up" (Toledo Museum), "Swirling Mists" (City Art Museum, St. Louis), "The Valley of the Dragon" (Chicago Art Institute), "Sunset Hour" and "West Glow" (Butler Art Institute, Youngstown, O.), and "Little Town of Bethlehem" (Harrison Gallery, Los Angeles, Calif.). Other notable canvases in private collections are: "Two Women Shall Be Working in the Fields"; "The Lost Sheep"; "Christ in the Wilderness"; "Story of the Madonna"; "Madonna and Child"; "Labor and Plenty"; "Plant-

ing"; "The Mothers"; "A Madonna of the Fields"; "A Woodcutter"; "The Tanagra"; "The City That Never Was"; and "The Tower of Silence," the latter two being imaginative impressions of the Grand Canyon. Among the honors which he received were a silver medal at the Pan-American Exposition (1901) and the Clarke Prize of the National Academy of Design (1902). He was elected an associate member of the National Academy of Design in 1902 and an academician in 1906.

**DAIRYING.** The year 1932 was marked by a light demand and low prices for dairy products, a slightly reduced production, relatively cheap feed, and a small amount of stocks in storage on account of the unsettled conditions.

The prices of fluid milk declined at about the same rate as the prices of manufactured dairy products, which were very low, 92 score butter selling for less than 20 cents in New York in the summer. However, base prices for fluid milk continued relatively higher than wholesale prices of the manufactured products. Notwithstanding these low prices consumption was not stimulated sufficiently to create an active demand. The consumption of the manufactured dairy products, butter, cheese, and canned milk, showed a reduction of about 3.5 per cent as compared with 1931. There was, however, some indication of improvement toward the close of the year, particularly in butter prices.

In the face of these conditions production increased about 2 per cent in January due to an increase in the number of cows. The production per cow was lower so that in May there was a decrease of about 4 per cent in milk production. With more cows freshening in the fall of 1932 the usual seasonal decline in production was less than normal. Milk production for the year showed little change from 1931. The number of heifers being raised in the fall of 1932 began to decline, indicating that the increase in the numbers of milch cows would not continue. Poor pastures and little feeding also resulted in lower production than would have occurred had markets and prices been more favorable.

There was considerable variation in the feed prices in different sections. They were low in the areas where feeds were abundant, but in the deficient feed areas, as in New England, they were high, resulting in a less favorable ratio between feed prices and milk prices than existed during the last two seasons. High freight rates seemed largely responsible. Pastures were estimated as only 80 to 90 per cent as good as in 1925 to 1929, making more grain feeding necessary if fall production was to be maintained.

The failure of the expected seasonal advance in prices to occur until late in the year, coupled with the rather steady fall in prices from the autumn of 1931, resulted in a fluid milk price of less than \$1.70 per 100 lbs. during the latter part of the year. The dissatisfaction of producers was demonstrated by the occurrence of milk strikes in several parts of the country, seriously threatening the milk supply of several of the larger cities. Some milk was dumped in the Midwest, and the farmers of the New York Milk Shed organized to demand returns commensurate with production costs.

With the falling market the stocks of butter and cheese in storage were less than normal. There were only 107,300,000 lbs. of butter and 66,700,000 lbs. of cheese in storage on September

1, which is the peak month for cold storage holdings. These amounts were heavier than last year but only 72 per cent and 83 per cent, respectively, of the 1925 to 1929 averages. Butter production was about the same as last year, but cheese production was about 7 per cent less. Factory production of evaporated milk, an outlet for surplus milk, was about 10 to 15 per cent heavier than for the average of 1925 to 1929.

**INTERNATIONAL CONDITIONS.** World prices of dairy products were low and unsteady in 1932. The foreign trade of the United States declined not only in imports but more materially in exports.

Although milk production in Europe and North America during most of the pasture season was lighter this year than last, world production of dairy products suffered in much the same way from low prices. The seriousness of the situation was recognized in several countries so that special forms of relief were set up. For example, the Latvian government guaranteed a butter export price of 2.50 lats per kilo (21.89 cents per pound) for first grade butter. The Netherlands government also set up an agency to provide a bounty to be paid to dairy farmers.

In contrast with European and North American production, the output of dairy products for 1932-33 from the Southern Hemisphere promised to materially exceed all previous records. About 20 per cent more butter was reported as arriving at grading ports in Australia and New Zealand between August and November than was received in the previous year.

Butter markets appeared to have been affected by the various national policies of trade restriction and their influence was to counteract the effect of low prices upon consumption. German markets were materially limited by discriminatory tariffs to such an extent that production was lessened in the Scandinavian and Baltic countries which are so largely dependent on the German trade. The German butter import restrictions were, however, somewhat liberalized and revised for 1933, and became effective Nov. 15, 1932. Cheese trade was relatively unobstructed and maintained a strong position in the world markets with reduced world supplies. On account of the high tariff placed by Great Britain on butter from the Irish Free State, amounting to almost an embargo, new markets were sought for this product.

The restrictions on butter imports into countries of secondary importance as consumers of surplus dairy products, such as Belgium, Switzerland, France, and Italy, left a larger portion of the surplus products to seek the markets of Great Britain and Germany than would have occurred without these protective policies. Because of Germany's higher tariffs and quota restrictions it has been taking less and Great Britain more of the butter supplies from the international trade. During 1932 Great Britain imported 946,300,000 lbs. of butter and Germany 159,621,000 lbs. The respective figures for 1931 were 902,728,000 and 200,831,000 lbs. The stocks of butter in storage in Canada and Great Britain in the fall were low as in the United States.

Both exports and imports of butter for the United States were materially less during the first nine months of 1932 than for the corresponding period of 1931. Based on the total estimated milk equivalent for the various products, the decline was 45 per cent in exports and 13 per cent

in imports. There was thus a larger excess of imports over exports in the United States of all dairy products than existed in 1931. The excess of imports has decreased during the last six years from 1,262,852,000 lbs. of milk equivalent in 1926-27 to 378,314,000 lbs. in 1931-32.

In November domestic prices made the first material seasonal advance, but London prices showed some decline or very little increase resulting in a spread between 92 score butter in New York and Danish butter of 10 cents and New Zealand butter of 14 cents per lb. in London.

The decline of 24 per cent in the United States imports of Swiss cheese from 15,683,108 lbs. in 1931 to 11,698,756 lbs. in 1932, together with a decrease of about one-third in the exports of condensed and evaporated milk were the most important developments in the foreign trade of dairy products of the United States.

**RESEARCH.** Investigational work of interest and value to the producer and consumer of dairy products is productive of important results at the State Agricultural Experiment Stations, the United States Department of Agriculture, and other agencies. Such work covers practically all phases of the dairy industry from the economics of management of dairy cattle, the place of the dairy enterprise in the farm operations, feeding and breeding of the cattle, and methods of milking, to improved practices and technique in the manufacture and keeping qualities of milk drinks, butter, cheese, ice-cream, and canned milk, and the study of the relative value of milk from different cows for infant feeding.

A problem of considerable practical importance to the dairyman is to know what age of breeding heifers gives the most economical returns. The Missouri Agricultural Experiment Station conducted such a study and found that as the age of breeding heifers advanced their milk and fat production increased. From this study, in which the heifers varied in age at calving from 13 to over 30 months, it was concluded that the most efficient milk and fat production was obtained by breeding animals to calve at from 20 to 24 months of age.

A study of milk cooling under farm conditions by the Nebraska Agricultural Experiment Station showed that if bacterial growth in the milk was to be retarded it must be cooled to 60° F., or below, in one to one and one-half hours. The importance of a good rapid cooling equipment was thus necessary to produce a high quality product.

Another advantage of rapid cooling was demonstrated in studies at the New York State Agricultural Experiment Station at Geneva. Milk distributed in most cities is pasteurized, but this process, unless followed by rapid cooling, reduces the amount of cream rising in the bottle and thus it does not show the desired cream layer. With rapid cooling following pasteurization normal creaming occurs.

There is much interest among producers and manufacturers regarding the quality of cream that may be used in the manufacture of butter. Delayed delivery is of a distinct advantage to the producer, but obviously there is some deterioration in the cream when delivery is delayed, and too much delay interferes with the quality of the butter. The Washington, Indiana, Illinois, and other agricultural experiment stations made extensive studies of the relationship between the

quality of the cream delivered and the butter produced from it, and no single test was entirely adequate. The best indication of the quality of the butter appears to be delivery at frequent intervals. Some correlation has been found also between quality of the butter and the types of organisms in the cream and its aroma when delivered at the milk station.

Cattle breeding for milk production was expected to receive more active attention at the Allahabad Agricultural Institute in India. Holstein, Brown Swiss, Jersey, and Guernsey bulls were being bred to cows of the most promising local breeds, Scindi, Hissar, Sahiwal, and Kan-krej, with good success in the improvement of the milk production of the native breeds.

The Hannah Dairy Research Institute was formally opened in 1931 by the Duke and Duchess of York in its permanent location at Auchincruive in Ayreshire, Scotland. A dairy herd of about 40 Ayreshire cattle, a flock of sheep, and a few goats were acquired. Investigations were under way dealing with the nutrition of ruminants, the physiology of lactation, the breeding of dairy cows, bovine tuberculosis, and the condensing and drying of milk and its products.

A new dairy building, including offices, a creamery, facilities for dairy manufacturing research, and instruction laboratories was dedicated at Pennsylvania State College on Aug. 26, 1932.

**NECROLOGY.** Frederik Rasmussen, executive secretary of the International Association of Ice Cream Manufacturers, died on Feb. 21, 1932. He was a well known figure in dairy circles and was head of the Department of Dairy Husbandry at Pennsylvania State College from 1916 to 1919.

The death of Harry Hayward, formerly assistant chief of the Dairy Division of the Bureau of Animal Industry of the United States Department of Agriculture, occurred on May 4. Mr. Hayward was connected at one time with the University of Minnesota; Hamlin Dairy School in Germany; University College, Reading, England; and the Delaware, Pennsylvania, and New Hampshire Agricultural Colleges.

Dr. R. Stenhouse Williams, research professor of bacteriology in the University of Reading, England, and first Director of the British National Institute for Dairying, died February 2. He was well known for his research in the nutritional value of milk, dairy bacteriology, and the production of a clean, safe milk supply.

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**DAKAR.** See FRENCH WEST AFRICA.

**DALMATIA.** A former crownland of Austria now incorporated in Yugoslavia (q.v.).

**DAMS.** The year 1932 was marked by a number of notable events in the field of dam construction—the completion of the Owyhee Dam, the completion of the first stage in the construction of the Hoover Dam, the completion of the Dnieprostroy Dam, and the beginning of four notable dams in California. In fact the current depression appears to have had little effect in curtailing great dam constructions.

The final concrete was placed in the Owyhee Dam on May 28 and on July 17 this great arch-gravity structure was dedicated by the U. S. Bureau of Reclamation. Five hundred and thirty ft. high, it will hold the record as the highest dam in the world until the completion of the Hoover Dam of the Boulder Canyon Project.

Progress on the Hoover Dam during the year has been most satisfactory and the conditions uncovered by the construction to date indicate that no foundation difficulties are to be expected. Indeed the first stage of the construction was completed on November 13 when the flow of the Colorado River was turned through the two bypass tunnels on the Arizona side, almost a year ahead of the contract schedule. This was possible due to the phenomenal progress made in driving and lining these tunnels. Indeed the technical press during the year has been filled with accounts not only of the construction of Boulder City, with its accommodations for the construction workers on the great dam, of the great gravel and sand plant which will finish the aggregates for the  $4\frac{1}{2}$  million cubic yards of concrete to be used in the dam, of the concrete-mixing plant, the largest and most complete ever built, but technical writers have also described in detail the diversion tunnel construction.

The four diversion tunnels, circular in section, 56 ft. in diameter, and lined with concrete 3 ft. thick constituted a most extraordinary tunneling operation. Top headings, 12 ft. by 12 ft. in section, were first driven. A unique steel drilling frame, mounting 30 drills on five bars, the whole mounted on an auto-truck body, was then used in drilling the huge bench enlargement, 56 ft. wide and 28 ft. high. Two set-ups of this frame, one on each side, completed the 110 holes for the  $17\frac{1}{2}$  ft. round in an average time of  $2\frac{1}{2}$  hours. After blasting, the 1000 cubic yards of rock brought down were loaded by a  $3\frac{1}{2}$  yard electric shovel, into motor trucks which carried it to muck piles along the canyon walls. Finally the semi-circular invert lift, 14 ft. deep, was taken out and tunnel lining began.

The excellent and sound character of the rock encountered in these tunnel excavations assures the safety of the dam abutments. Furthermore, excavation already under way in the river bed for the upper cofferdam, indicates that the river fill of gravel, boulders, and silt, should give no trouble in the deep excavation which must be made for the foundations of the great dam itself. The material so far encountered stands well and appears to be reasonably impervious to water.

Two floods, one in the spring and one in the

fall, broke into the tunnels but delayed work only for a few days. Unless there is an extraordinary flood during later construction this great work should go forward ahead of schedule.

*The Engineering News-Record* of June 23, 1932, carried a complete description of the great Dniestrostroy Dam which has been under construction since 1927 in the Ukraine in south-central Russia. Located near Kichkas on the Dnieper River, about 200 miles from its mouth at the Black Sea, this project is both for navigation and for power. The dam is 140 ft. high and 2500 ft. long. Records showed that it would be necessary to provide for extraordinary floods and in May, 1931, when partly completed, the work was called upon to pass the greatest flood on record at this site—the huge volume of 835,000 cu. ft. per second. Accordingly the construction force was increased to a maximum late in 1931 of 25,000 men and women so as to complete the dam before the spring floods of 1932. These floods, however, did not reach the previous figure, a maximum of 500,000 being recorded.

The Dniestrostroy project has been designed and the construction directed by the veteran American hydraulic engineer, Hugh L. Cooper. The turbine units installed are the largest in the world and are capable of generating 84,000 h.p. each, under a head of 116.5 ft. and over 100,000 h.p. under the maximum head of 123 ft. A flight of three locks is provided for navigation.

Following the abandonment of the San Gabriel Dam site at the Forks, the Los Angeles Flood Control and Water Conservation Commission prepared plans for two other dams in the San Gabriel Valley. After the low bidder had refused to sign a contract, new bids were called for and construction was under way on Dam No. 2, located on the West Branch about 9 miles above the old Fork site. This is to be a rock fill dam, 265 ft. high above stream bed.

Unfortunately, it has been impossible to secure acceptable bids for Dam No. 1, which is to be built about two miles below the old site. This is also designed as a rock-fill dam but only one bid was received when bids were called on August 1. Since then plans have been revised but a second bidding was also unsuccessful. After a final revision new bids have again been called for. The structure will be higher and larger than Dam No. 2 and will be the fifth large dam under construction in this part of the country. The others are as follows:

Pine Canyon Dam, also in the San Gabriel Valley, is a 245-ft. high (325 ft. above foundations) gravity dam with a crest length of 750 ft. It is being built for the Pasadena, Calif., water supply and is to be taken over by the metropolitan district of which Pasadena is a member upon the completion of the Colorado River aqueduct.

The El Capitan Dam for the water supply of San Diego, Calif. is to be an hydraulic fill dam, 220 ft. high above foundations, with a heavy stone facing on the upstream side. Excellent progress has been made in cleaning the site and constructing the concrete cut-off diaphragm.

The Bouquet Canyon Dam, 50 miles north of Los Angeles, is being built by the Los Angeles department of water supply and power to replace the storage lost when the St. Francis dam failed, several years ago. This is a rolled earth em-

bankment, 215 ft. high, with a reinforced concrete facing on the upstream slope.

While none of these dams set new records they are notable works of their type. In fact, the Bouquet Canyon Dam may possibly be a record structure for rolled fill.

Two other dams on the West Coast should be noted. There is under construction on the Lewis River, 32 miles north of Portland, Ore., an arch dam, 313 ft. high. This dam, known as the Ariel Dam, is a notable structure of this type. It is particularly important that arch dams form solid, continuous walls in order that the arching action, basic to the design of the dam, may be brought into full play. Concrete shrinks in setting and such dams are usually built in sections. Special arrangements are therefore necessary to fill the joints between sections after the concrete has set and the structure has contracted. Thus in the Pardee Dam, 358 ft. high, completed in 1929 for the water supply of the San Francisco area, continued cooling and shrinkage of the structure has made a second pressure grouting of the construction-and-contraction joints necessary.

On the Madden Dam, now under construction on the Chagres River for additional water supply and flood control on the Panama Canal, the first concrete was placed in August and excellent progress was reported until November 28 when an unexpected flood interrupted the operations. The rock conditions at the Madden dam site present unusual difficulties. Extensive borings have shown large caverns and pockets in the otherwise sound limestone encountered in part of the work. These are being filled by forcing in liquid clay under pressures running up to 300 lbs. per square inch.

A record dam of the Ambursen, or slab and buttress type is the Roderiquez Dam in Mexico. This dam (see YEAR BOOK, 1930) is to be 187 ft. high above stream bed and 240 ft. above lowest foundations. Work was abandoned late in 1931, due to financial difficulties, when the dam was about 35 per cent completed. It is understood that construction has again been going forward during the past year.

As the year comes to a close there are reports that the Austin (Texas) Dam, a famous dam failure of earlier days, is to be rebuilt. It should also be recorded that satisfactory progress has been made in increasing for the second time, the height of the famous Nile Dam at Aswan.

**DAN, TAKUMA, BARON.** A Japanese financier, died by assassination in Tokyo, Mar. 5, 1932. He was born in Fukuoka in 1858 and received his education in the United States, attending the Massachusetts Institute of Technology. For several years after his return to Japan he taught English in the government schools and then became technical official at the Government Meteorological Observatory and at the Miike Coal Mine. On the purchase of the latter by the Mitsui Gomei Kaisha about 1900 he entered the service of that organization, and after 1910 was general managing director of its vast trading interests, which were said to handle more than one-third of Japan's import and export trade. The numerous subsidiaries of this holding company covered nearly every field of economic activity, including banking, mining, real estate, manufacturing, and transportation. As chairman of the board of directors of the Mitsui Bank and president of the mining companies financed by that institution,

he was one of the most powerful Japanese financiers. In 1921 he headed a Japanese mission to the United States in an effort to promote business relations between the two countries. His assassin's motive was partly political in that he believed the alleged corrupt political parties could be destroyed by destroying the financiers who supported them. See JAPAN under *History* for political background.

**DANA'S TEXT BOOK OF MINERALOGY.** See MINERALOGY.

**DANISH LITERATURE.** See SCANDINAVIAN LITERATURE.

**DANUBIAN UNION.** See UNITED STATES OF EUROPE; AUSTRIA and HUNGARY under *History*; PEACE.

**DANZIG, dän'ts'ik, FREE CITY OF.** A Baltic port, occupying a strategic position at the mouth of the Vistula River, which, with its surrounding territory, was established as a free city on Nov. 9, 1920, under the terms of the Treaty of Versailles. It was formerly a part of the German Empire. Area, about 754 square miles; 1920 population, 407,629, of whom 235,237 were in the city proper. The population in 1929 was 95 per cent German and less than 5 per cent Polish. German is the official language. Of the 1924 population, 222,868 were Protestants, 140,797 Roman Catholics, and 9239 Jews. In 1929, there were 44,632 children in elementary schools, 3228 in middle schools, and 6207 in high schools.

Danzig is advantageously situated with relation to the great Polish, German, and Russian grain districts and has been the chief outlet for the foreign commerce of Poland, which exercises joint control with the Free City of the harbor administration. The territory is also within the Polish Customs administration. Traffic through the port in 1931 amounted to 8,331,503 metric tons. The prosperity of Danzig was adversely affected by the growth of the new Polish port of Gdynia (see POLAND under *Communications*) and by the establishment of Polish government agencies for the direct sale of Polish exports and the direct purchase of such Polish imports as potash salts and nitrates.

A total of 5959 vessels of 4,061,733 net registered tons arrived at Danzig during 1931, and 5432 vessels of 3,719,988 net registered tons cleared. With the aid of a short-term loan, reduced expenditures, and higher taxes, the budget for the fiscal year ended Mar. 31, 1931, was balanced at 142,896,050 gulden. Four main railway lines connect Danzig with important German cities, while three other main lines run to leading Polish cities. Air lines link the port with various German and Polish points.

Danzig is under the protection of the League of Nations, which appoints a High Commissioner to settle disputes between the Free City and Poland. Foreign relations are controlled by Poland, but the Free City exercises a veto power. The Constitution, as approved by the League of Nations May 11, 1922, vests executive power in the President of the Senate, which is the highest state authority. A Diet of 72 members elected for four years by universal suffrage elects the members of the Senate and its President. The composition of the Diet elected Nov. 16, 1930, was: Social Democrats, 19; National Socialists (Hitlerites), 12; Centrists, 11; National Germans, 10; Communists, 7; National People's party, 3; other parties, 10. President of the Senate in 1932, Dr. Ernst Ziehm, elected Jan. 13,

1931. Count Manfredi Gravina, High Commissioner of the League of Nations in Danzig, died in September, 1932 and was succeeded in November of that year by H. R. G. Rosting (of Denmark). See POLAND under *History*.

**DARTMOUTH COLLEGE.** A nonsectarian institution for the higher education of men in Hanover, N. H., founded in 1769. The 1932 autumn session had an enrollment of 2371 students, most of whom were working for the B.A. degree, the exceptions being 15 graduate students, 38 students in the medical school, 21 in the Thayer School of Civil Engineering, and 104 in the Tuck School of Administration and Finance. There were 290 members on the faculty. The endowment amounted to \$16,500,000, while the income for the year was \$730,000. The Fisher Ames Baker Memorial Library contained 351,902 volumes. President, Ernest Martin Hopkins, A.M., Litt.D., LL.D.

**DATE SCALE ERADICATION.** See ENTOMOLOGY, ECONOMIC.

**DEATH RATE.** See VITAL STATISTICS.

**DEBTS, PUBLIC.** See PUBLIC FINANCE; GREAT BRITAIN, FRANCE, GERMANY, ETC., under *Finance*.

**DE BUNSEN, SIR MAURICE (WILLIAM ERNEST).** A British diplomat, died in London, Feb. 21, 1932. Born Jan. 8, 1852, he attended Christ Church College, Oxford, and in 1877 entered the diplomatic service as an attaché at Washington. He served successively between 1879 and 1894 as third secretary, second secretary, and secretary of the British legation in Tokyo. In 1894 he was made consul-general at Bangkok, Siam, and in 1897 secretary of the British embassy at Constantinople. In 1902 he was transferred to Paris as secretary of the embassy and minister plenipotentiary, and in 1905 was stationed in Lisbon as British envoy extraordinary and minister plenipotentiary. He was British ambassador to Madrid during 1906-13 and to Vienna during 1913-14. At the latter post he played an outstanding part in the crisis previous to the declaration of war in August, 1914. In 1918 he visited the South American countries as head of a British mission, and previous to his retirement in 1919 was created a baronet.

**DEFECTIVES.** See CHILD WELFARE.

**DELAWARE. POPULATION.** According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 238,380, as against 223,003 in 1920. Wilmington, the chief city, had (1930) 106,597 inhabitants; Dover, the capital, had 4800.

**AGRICULTURE.** The following table gives the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod. Bu.	Value
Corn	1932	147,000	4,263,000	\$1,279,000
	1931	146,000	4,745,000	1,851,000
Wheat	1932	79,000	908,000	472,000
	1931	91,000	2,188,000	1,069,000
Hay	1932	76,000	117,000*	1,070,000
	1931	65,000	109,000*	1,184,000
Sweet potatoes	1932	7,000	826,000	322,000
	1931	8,000	1,400,000	560,000

\* Tons.

**MINERAL PRODUCTION.** The relatively slight mineral production of the State attained the total of \$424,901 for 1930; for 1929, of \$467,493. It was made up in large part of clay products, under the classification of brick and tile, of which the total value was \$157,391 for 1930 and \$230,441 for 1929. Apart from clay thus used, there

was some extraction of raw clay. Stone, sand, and gravel, largely for local demand, made up most of the remainder of the yearly mineral total.

**FINANCE.** State expenditures in the year ended June 30, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments, \$6,286,688 (of which \$1,886,419 was for local education); for interest on debt, \$175,165; for permanent improvements, \$4,653,379; total, \$11,115,232 (of which \$3,022,926 was for highways, \$273,147 being for maintenance and \$2,749,779 for construction). Revenues were \$14,852,049. Of these, property and special taxes furnished 66.8 per cent; departmental earnings and compensation to the State for officers' services, 4.8; sale of licenses, 16.9 (in which was included a gasoline sale tax that produced \$1,035,879). Funded debt outstanding on June 30, 1931, totaled \$3,740,785, of which \$2,905,000 was for highways. Net of sinking-fund assets, the debt was \$3,240,367. The State levied in the year no general ad-valorem taxes on property.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 325.12.

**EDUCATION.** It was reported at the end of the year that the schedules of teaching salaries had been maintained throughout the public schools in the State, but that the automatic increases in salaries had taken place only in some cases. The estimated number of persons of school age in the State in 1932 was 53,150. There were enrolled in the public schools 44,289 pupils. Of these, 27,886 were in grades up through the sixth, and 16,393 were in higher grades, through the twelfth. The expenditures of the year for public-school education totaled \$6,506,583, of which \$3,908,413 was current expenditure. Salaries of teachers averaged, by the year, \$1550.

**CHARITIES AND CORRECTIONS.** The State Board of Charities, under the system in force in 1932, exercised the central powers of the State in the supervision of institutions of care and custody, either conducted or supported wholly or partly by the State or its subdivisions. The Board held the power to authorize the sterilization of institutionalized mental defectives and of habitual criminals on application from authorities having direct charge of such persons. It supervised the bringing, into the State, of dependent children. The Board was composed of five unremunerated appointee members, serving terms of four years, and of the Governor, *ex officio*. Three of its members were required to be appointed from the respective counties of the State and two at large; two of the five were required to be women.

A State Board of Health, beside exercising the usual functions of such a body, administered two State institutions for tuberculosis Brandywine Sanatorium (whites), at Faulkland, and Edgewood Sanatorium (colored), at Marshallton. The Delaware State Hospital, established by statute to care for the insane, operated through State support, under a board of trustees, and harbored some 700 patients. A system of county jails and workhouses was maintained, but the State had a Board of Parole, empowered to grant and revoke paroles, and a Board of Pardons, to recommend cases to the Governor, for pardon, reprieve or commutation. Institutions for juvenile delinquents, other than private institutions, were the Ferris Industrial School (boys), at Marshallton, harboring some 260

boys; Delaware Industrial School for Girls, at Claymont; Industrial School for Colored Girls, at Marshallton.

**ELECTIONS.** The popular vote of the State on November 8 favored the Republican National ticket. Hoover (Rep.) received 57,073 votes for President; for Roosevelt (Dem.), 54,319. C. Douglas Buck, Republican, the incumbent Governor, was reelected, defeating Landreth L. Layton, the Democratic candidate. A Democrat, Wilbur L. Adams, was elected to the State's seat in the House of Representatives of the Seventy-third Federal Congress.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, C. Douglass Buck; Lieutenant-Governor, J. Henry Hazel; Treasurer, George S. Williams; Auditor, Edward Baker; Secretary of State, Charles H. Grandland; Attorney-General, Reuben Satterthwaite, Jr.

**Judiciary:** Chancellor, Josiah O. Wolcott; Chief Justice of Supreme Court, James Pennewill; Associate Justices of Supreme Court, Richard S. Rodney, Herbert L. Rice, William Watson Harrington, Charles S. Richards.

**DELAWARE, UNIVERSITY OF.** An institution of higher learning in Newark, Del., founded in 1833. The enrollment in 1932-33 was 784, of whom 493 were men and 291 were women. The enrollment in the 1932 summer session was 443. The faculty numbered 124 members, 93 of whom were on the regular teaching staff, the others being members of the experiment station and extension staff. Appropriations from the State and Federal governments amounted to approximately \$445,330; invested endowment funds amounted to \$604,360. The library contained approximately 64,000 volumes. President, Walter Hüllihen, Ph.D., D.C.L., LL.D.

**DEMERARA.** The name of a county of British Guiana, sometimes incorrectly used to designate the entire colony. See **BRITISH GUIANA**.

**DE MOLAY, ORDER OF.** A nonsectarian secret organization for young men between the ages of 16 and 21, founded in 1919 by Frank S. Land in Kansas City, Mo., and named in honor of Jacques De Molay, the last military grand master of the Knights Templars. The members are pledged to the precepts of love of parents, reverence, patriotism, cleanness, courtesy, fidelity, and comradeship, and to the promotion of the public school system and good citizenship. The order is governed by a grand council of Freemasons, while the chapters are sponsored by Masonic bodies or groups of Masons. However, it is not a junior Masonic fraternity, and more than 60 per cent of its members are from non-Masonic families. In November, 1932, there were about 160,000 members and more than 350,000 former members in 1300 cities of the United States, Alaska, Hawaii, Puerto Rico, the Philippines, Canada, Mexico, Chile, and Panama. There were three chapters in the U. S. Navy, namely, Battle Fleet, Admiral Dewey, and Asiatic, with membership confined solely to sailors. The official organ is *International De Molay Cordon* (monthly). Frank S. Land, the founder, is grand scribe; Dr. Stratton D. Brooks, former president of the Universities of Oklahoma and Missouri, is executive director. International headquarters are at 201 East Armour Boulevard, Kansas City, Mo.

**DENISON UNIVERSITY.** A coeducational Baptist institution of higher education in Granville, O., founded in 1831. The enrollment for the



autumn of 1932 was 855, and for the summer of 1932, 152. The faculty numbered 63. The amount of endowment was \$3,280,700; the income for the year was \$336,300. There were 72,800 volumes in the library. The university was the recipient of a \$15,000 grant from the Carnegie Corporation to be used for new books for the library. This amount is to be spread over a period of three years. The President is Avery Albert Shaw, A.M., D.D., D.C.L., LL.D.

**DENMARK.** The smallest of the three Scandinavian states; comprising the peninsula of Jutland with adjacent islands in the Baltic, the Faroe Islands, and a part of Schleswig. The King of Denmark is also head of the government of Iceland (q.v.). Capital, Copenhagen. King in 1932, Christian X.

**AREA AND POPULATION.** With an area of 16,576 square miles, excluding the Faroe Islands (area, 540 square miles), Denmark had a population in 1931 estimated at 3,566,000, compared with 3,550,651 at the census of 1930, and 3,267,831 in 1921. For the five years 1927-31, births averaged 66,488 annually and deaths 35,387; the birth rate per 1000 of the population averaged 18.9, and the death rate 11.2. Emigrants in 1931 numbered 1186, compared with an average of 6101 annually for the years 1927-31. The population of the leading cities in 1930 and 1925 was: Copenhagen (København), 771,168 (731,406 in 1925); Aarhus, 81,279 (76,226); Odense, 56,759 (52,376); Aalborg, 44,365 (42,819).

**EDUCATION.** Primary education is free and compulsory between the ages of 7 and 14. On Jan. 1, 1930, there were 494,883 pupils attending elementary schools and 50,118 attending secondary schools. The enrollment in all divisions of the University of Copenhagen averages about 4700; in the University of Aarhus, about 100.

**PRODUCTION.** Danish economy is based chiefly upon agriculture and dairying, and farm products account for about three-fourths of the value of all exports. In 1931 and 1932 foreign markets for these exports were impaired by the general decline in purchasing power and the increase in tariffs, particularly by the Ottawa Agreements which curtailed the British market. About 66 per cent of the total area, or 7,000,000 acres, was under cultivation. Livestock in 1931 included 3,197,000 cattle, 5,435,000 swine, and 498,000 horses. In the same year there were slaughtered 654,000 cattle and calves, and 50,000 sheep and goats. Production of butter (1931) was 378,000,000 pounds (373,000,000 in 1930); of bacon, 820,000,000 pounds (874,000,000). The chief crops in 1931 were: Wheat, 9,921,000 bushels; rye, 8,661,000 bushels; barley, 44,553,000 bushels; oats, 64,761,000 bushels; potatoes, 33,069,000 bushels; sugar beets, 11,300 metric tons; forage roots, 22,050,000 metric tons. The turnover of Danish coöperative societies declined from 1,929,000,000 crowns in 1930 to 1,673,000,000 crowns in 1931 (crown equals \$0.2680 at par).

Most of the world's motor ships are built in Danish yards; in 1931 motor ships comprised 116,000 tons out of 126,000 gross tons of shipping built in Denmark. Food products, cigars and cigarettes, cotton yarn, cotton cloth, cement, bricks, paper, oils, and varnishes are other leading products. Of about 295,384 organized workers in 1931, an average of 53,019 were unemployed. On June 30, 1932, there were about 80,000 registered unemployed.

**COMMERCE.** Due to lower prices and re-

stricted markets, Danish foreign trade declined from 1929 through 1932. Imports in 1931 totaled 1,465,000,000 crowns (\$368,050,000), against 1,729,000,000 crowns (\$463,409,000) in 1930. Exports totaled 1,257,000,000 crowns (\$316,862,000), compared with 1,524,000,000 crowns (\$408,341,000) in 1930. Iron and steel, fabrics of vegetable fibre, mineral oils, coal, fertilizers, and automobiles were the chief imports, in order of value, in 1931, while pork, bacon, and butter were the principal exports. Germany in 1931 took 13.5 per cent of all exports (by value), Sweden and Norway, 11.5 per cent; and the United Kingdom, 56.1 per cent. Germany furnished 33.6 per cent of the total imports by value; the United Kingdom, 15.1 per cent; and the United States, 10.3 per cent. United States statistics for 1931 showed exports to Denmark of \$29,748,000 (\$40,243,000 in 1930) and imports from Denmark of \$1,881,000 (\$3,181,000 in 1930).

**FINANCE.** Budget operations for the fiscal year ended Mar. 31, 1932, closed with a surplus of 89,000 crowns, as against an anticipated deficit of 5,000,000 crowns, and a surplus of 25,000,000 crowns for the preceding year. Indications were that the 1932-33 budget would balance also. The budget estimates for 1931-32 placed revenues at 330,589,000 crowns and expenditures at 326,823,000 crowns. The total debt as of Mar. 31, 1930, was 1,354,931,000 crowns (\$363,122,000), of which the internal debt comprised 637,005,000 crowns, and the external debt 717,926,000 crowns. Denmark abandoned the gold standard on Sept. 28, 1931. The crown (krone), par value \$0.2680, exchanged at \$0.2676 in 1930, \$0.2506 in 1931, and \$0.1673 in the week of Dec. 5-10, 1932.

**COMMUNICATIONS.** Railway lines in operation Mar. 31, 1931, extended 3290 miles, of which 1563 miles belonged to the state and 1727 miles to private companies. The government lines in 1931 reported gross receipts equivalent to \$30,557,000, and the private lines receipts equivalent to \$6,640,000. A bridge for the state railways connecting the mainland with the Baltic Sea island of Fyen (Funen) was under construction in 1932. Highways extended about 32,060 miles. The addition of 25 new vessels to the Danish merchant fleet during 1931 brought the total to 1,215,000 gross tons. Gross freight earnings, exclusive of coastwise shipping, were \$40,096,000 in 1931 and \$46,000,000 in 1930. Sixty vessels of 234,000 tons were idle on Nov. 22, 1932. The only commercial air line in 1932 reported a flight distance of 160,357 miles, with a total of 4985 passengers, 49,005 pounds of freight, and 53,133 pounds of mail.

**GOVERNMENT.** The Constitution as amended Sept. 10, 1920, vests executive power in the King, who acts through a responsible ministry. Legislative power is vested in the Rigsdag (Parliament), composed of the Folketing (lower house) and the Landsting (upper house). The Folketing has 140 members, of whom 117 are elected on the basis of proportional representation; the Landsting has 75 members, elected indirectly by voters over 35 years of age. For the composition of the Rigsdag and of the Cabinet following the 1932 elections, see *History*.

**HISTORY.** Premier Theodore A. M. Stauning's coalition government, formed by the Social Democratic and Radical parties in 1929, was returned to office in the elections to the Folketing on Nov. 16, 1932. The standing of the parties in the new



Folketing, with the previous standing in parentheses, was: Social Democrats, 62 (61); Radicals, 14 (16); Liberals, 38 (44); Conservatives, 27 (23); Justice League, 4 (3); Communists, 2 (0); Slesvig party, 1 (1); Faroe Islanders, election of Dec. 12, 1932, 1 (1). Elections to fill part of the seats in the Landsting, held September 7, gave the Conservatives one additional seat at the expense of the Radicals. The new lineup was: Government parties, 35; Opposition parties, 41.

The chief issue in the Folketing election was the action of the Landsting in rejecting (October 27) a government bill for extension of foreign exchange control for 18 months and for the transfer of this control from the National Bank to the Ministry of Commerce. The government parties renewed their previous demands for the abolition of the Landsting, asserting that that "reactionary" body was constantly vetoing bills passed by the Folketing and approved by the majority of the Danish people. The Opposition groups attacked the government primarily on the ground that it had granted too many trade concessions to Great Britain without adequate compensation.

Following the government's victory, the exchange control law was extended for one year by both Houses of the Riksdag on December 6. Largely due to control of the exchange, a favorable balance of trade was indicated by preliminary returns for 1932, as compared with the 1931 import surplus of 88,400,000 crowns. In the latter part of 1932, Great Britain, Germany, France, the Netherlands, and Belgium all restricted their imports of Danish agricultural produce, with disastrous effects upon Danish agriculture and industry. The government estimated that in December, 1932, 35.6 per cent of the registered working population of 310,757 were unemployed, as against 22.1 per cent a year earlier.

The question of farm relief, which had replaced disarmament as the outstanding political issue during 1931, became more acute in 1932. In two years, butter prices in Copenhagen had dropped 28 per cent; bacon, more than 60 per cent; eggs, 33 per cent. The net return on farm capital declined from 6 per cent in the post-war years to less than 1 per cent in 1930-31 and was still lower in 1931-32. The government continued its efforts to ameliorate the condition of agriculture. On Jan. 7, 1932, the Folketing passed a law establishing a partial moratorium on farm obligations for one year. Legislation giving unemployed workers a 10 per cent rebate on many food and other commodities was passed late in February, and a measure was introduced to raise more than \$5,000,000 in new taxation for unemployment relief. Several of these measures were modified or rejected in the Landsting. The Premier, renewing his attack on that body, declared that the time was approaching when the state must assume responsibility for the planning and management of the entire economic system. For the controversy with Norway over Greenland, see GREENLAND. Also see GREAT BRITAIN under *History*; POLAR RESEARCH.

**DENTAL NUTRITION.** See FOOD AND NUTRITION.

**DENVER, UNIVERSITY OF.** A coeducational institution of higher learning in Denver, Colo., founded in 1864. The registration for the autumn of 1932 totaled 2323, distributed as follows:

Graduate school, 223; college of liberal arts, 949; school of science and engineering, 122; school of commerce, accounts, and finance, 439; school of law, 66; school of dentistry, discontinued; school of art, 120; school of librarianship, 33; city college, 236; extension and correspondence, 164. The summer session in 1932 totaled 910. The faculty had 181 members. The total assets of the university amounted to \$4,192,409 and consisted of plant assets, \$1,737,310; endowment assets, \$2,298,571; and current assets, \$180,529. The total income for the year was \$513,509. The library contained 75,000 volumes. Chancellor, Frederick M. Hunter, Ed.D., LL.D.

**DEPAUW UNIVERSITY.** A coeducational institution for higher learning in Greencastle, Ind., under the auspices of the Methodist Episcopal Church founded in 1837. The enrollment for the autumn session of 1932 was 1581, including 1012 men and 569 women. Of this number, 1481 were registered in the college of liberal arts and 100 in the school of music. The college of liberal arts had a faculty of 95 members and the school of music a faculty of 15. The productive funds of the university amounted to \$5,343,355, including assets of \$2,206,720 of the Rector Scholarship Foundation. The income from productive funds was \$267,903, while the total current income for the year was \$651,015; \$102,247 of the income from productive funds was for scholarships. The total amount of gifts for permanent funds received during the year was \$55,700. The library contained 75,773 volumes. President, G. Bromley Oxnam, D.D., LL.D., Litt.D.

**DEPRESSION.** See BUSINESS REVIEW; BANKS AND BANKING; FINANCIAL REVIEW; TAXATION; articles on basic industries, such as COTTON, IRON AND STEEL, SUGAR; and sections on *Commerce, Finance, and Production* in articles on various countries, such as GERMANY, GREAT BRITAIN, FRANCE, UNITED STATES, etc.

**DERBY.** See RACING.

**DESIGN, NATIONAL ACADEMY OF.** See NATIONAL ACADEMY OF DESIGN.

**DETROIT, UNIVERSITY OF.** An institution of higher education in Detroit, Mich., under the auspices of the Roman Catholic Church and conducted by the Jesuit Fathers, founded in 1877. In the autumn of 1932 there were 2731 students registered, distributed as follows: Arts and Sciences, 448; Engineering, 530; Commerce and Finance (Day), 285; Law, 185; Dentistry, 46; Commerce and Finance (Evening), 255; Foreign Trade (Evening), 16; Thursday-Saturday School, 531; Minor Executive Course, 50. The Summer School registration was 385. The faculty numbered 162. The income in 1931-32 was \$525,132. There were 79,199 volumes in the library. President, Rev. Albert H. Poetker, S.J., Ph.D.

**DETROIT INSTITUTE OF ARTS.** See ART MUSEUMS.

**DICKINSON, ANNA ELIZABETH.** An American lecturer, author, and actress, died in Goshen, N. Y., Oct. 22, 1932. Born in Philadelphia in 1842, she became prominent through her fiery addresses on total abstinence, abolition, politics, and woman suffrage. In the '70's she turned to playwriting, her more successful productions being *A Crown of Thorns*, in which she herself played; *Mary Tudor*; *Aureliano*; and *An American Girl*. She published also *What Answer?* (1868), in which she gave her views on racial

marriages, and *Opinions* (1879). She retired to private life in 1896.

**DICKINSON, G(OLDSWORTHY) LOWES.** A British author, died in London, Aug. 3, 1932. Born in 1860, son of the well-known artist, Lowes Dickinson, he was educated at Charterhouse and at King's College, Cambridge. He became a fellow at the latter in 1887 and served as librarian from 1893 to 1896. Also, he lectured in history at King's College and at the London School of Economics and Political Science. His early writings were marked by a skillful use of the Socratic dialogue as a literary form, outstanding examples being *The Greek View of Life* (1890); *From King to King: The Tragedy of the Puritan Revolution* (1891); and *The Meaning of Good* (1906). Among his historical works are: *Revolution and Reaction in Modern France* (1892); *The Development of Parliament during the Nineteenth Century* (1895); and *An Essay on the Civilization of India, China, and Japan* (1914). In the field of religious and philosophic criticism he published: *Religion: A Criticism and a Forecast* (1905); *A Modern Symposium on Philosophic Schools of Thought* (1905); *Justice and Liberty* (1908); *Is Immortality Desirable?* (Howard Ingersoll lecture, 1909); and *Religion and Immortality* (1911). His anonymous *Letters from a Chinese Official* (1903; in England, 1901, called *Letters of John Chinaman*), in which he criticized the crudities of Western civilization, were answered by William Jennings Bryan, who took seriously the Chinese authorship, in his *Letters to a Chinese Official* (1906). He was also an authority on international relations, his works in this field including *The European Anarchy* (1916); *The Choice before Us* (1917); *The Magic Flute* (1920); *War: Its Nature, Cause, and Cure* (1923); *The International Anarchy, 1904-14* (1926); and *After Two Thousand Years* (1930).

**DICTIONARIES.** See PHILOLOGY, MODERN.

**DIESEL ELECTRIC CARS.** See ELECTRIC TRANSPORTATION.

**DIESEL ENGINES.** See INTERNAL COMBUSTION ENGINES.

**DIET.** See FOOD AND NUTRITION.

**DIETARY DEFICIENCY DISEASES.** See FOOD AND NUTRITION.

**DINDINGS.** See STRAITS SETTLEMENTS.

**DIPPEL, ANDREAS.** An American singer, died in Los Angeles, Calif., May 12, 1932. He was born in Cassel, Germany, Nov. 30, 1866, and studied voice in Berlin, Milan, and Vienna, making his debut in 1887 in Bremen as the pilot in *The Flying Dutchman*. Afterwards he sang in opera in London, Breslau, Vienna, and Bayreuth. During 1890-92 he toured the United States and for one season sang at the Metropolitan Opera House in New York City. He was with the Imperial Court Opera in Vienna during 1893-98, then returned to the United States, and was identified with the Metropolitan Opera Company, New York, until 1910. During 1908-10 he was also joint director, with Giulio Gatti-Casazza, of the Metropolitan Opera Company. In 1910 he organized the Chicago Grand Opera Company, of which he was general manager until 1913. In 1914 he was impresario of a comic opera company, producing the better class of light operas and operettas. Other operatic ventures, however, won only temporary success. In 1928 he went to Hollywood where he was connected with the synchronization department of the Metro-Goldwyn-Mayer studio.

**DISARMAMENT.** The General Conference for the Reduction and Limitation of Armaments opened at Geneva on Feb. 2, 1932, under the presidency of Arthur Henderson. Giuseppe Motta (Switzerland) was elected honorary President.

Delegations were sent by 59 states, namely: Afghanistan, Albania, Argentina, Australia, Austria, Belgium, Bolivia, Brazil, British Empire, Bulgaria, Canada, Chile, China, Colombia, Costa Rica, Cuba, Czechoslovakia, Denmark, Egypt, Ethiopia, Estonia, Finland, France, Germany, Greece, Guatemala, Haiti, Hejaz, Honduras, Hungary, India, Irish Free State, Italy, Japan, Latvia, Liberia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Panama, Persia, Peru, Poland, Portugal, Rumania, Siam, Spain, Sweden, Switzerland, Turkey, Union of South Africa, Union of Soviet Socialist Republics, United States of America, Uruguay, Venezuela, and Yugoslavia. The Dominican Republic sent observers.

In his opening speech Mr. Henderson emphasized the unique importance of the Conference, and defined its task as follows:

(a) To arrive at a collective agreement on an effective programme of practical proposals speedily to secure a substantial reduction and limitation of all national armaments;

(b) To determine that no armaments should be maintained outside the scope of the treaty by which all nations represented at the Conference would make the achievement of universal disarmament their common aim; and

(c) To ensure continuity of advance in disarmament, without detracting in any way from the fullest measure of success of the minimum effort of the Conference, by arranging for similar conferences to meet at reasonably short intervals of time.

Mr. Henderson concluded in the following terms:

The problem of disarmament is vitally relevant to the grave economic and financial crisis for which most nations are at the moment trying to find a solution. The financial burden of armaments and of past wars, indeed, is one of its main contributory causes. It is one of the principal causes of unbalanced budgets in a large number of countries. . . .

World opinion demands that every effort be made at this Conference to achieve a substantial reduction of this prodigious expenditure. This is not merely because such expenditure is entirely unproductive, but also because even the maintenance of armaments on their present level constitutes a menace to the peace of the world. . . .

The general discussion opened February 5 and continued until February 24, during which time 50 speakers presented their respective national viewpoints. André Tardieu, head of the French delegation, on February 5 proposed the creation of a small League army, to be supplemented in time of need by national contingents. Bombing planes would be exclusively in League hands, and other aggressive weapons would be placed at the League's disposal. The British Foreign Secretary, Sir John Simon, on February 8 set forth a plan for a 25 per cent voluntary naval cut, including the abolition of submarines and limitation of tonnage and armament. Hugh S. Gibson, the American delegate, on the following day presented a nine-point programme for armament reduction and Chancellor Brüning, for Germany, demanded the universal reduction of armaments to the limits imposed upon Germany by the Versailles Treaty. The Soviet representative, Maxim Litvinov, urged (February 11) a 50 per cent reduction in the peace time military forces, if over 200,000 men, and a proportional reduction in the forces of states with smaller standing armies.

An analysis of the various proposals and statements made during this stage of the Conference showed that 14 countries supported the abolition of heavy long-range artillery; 11 favored abolition of tanks; 13 abolition of bombing aircraft; 7 abolition of all military aircraft; 7 abolition of capital ships; 6 abolition of aircraft carriers; 10 abolition of submarines; 26 prohibition of chemicals and bacteriological arms; and 8 the prohibition of all preparation or manufacture of chemical products which might be employed in time of war.

The general Conference took the next step on March 15 by voting for "moral" disarmament and appointed a General Commission of representatives of 21 nations to formulate definite methods of procedure.

The General Commission met on February 24 and appointed Dr. Benes (Czechoslovak) as *rapporteur*. It considered the method to be adopted in studying the proposals referred to it by the Conference. Two draft resolutions were deposited, one by Sir John Simon (Great Britain), the other by M. Litvinov (Soviet Union). The text recommended by Sir John Simon read as follows:

The General Commission resolves to carry on its discussions within the framework of the Draft Disarmament Convention, full liberty being reserved to all delegations to develop their own proposals in subsequent debate and to move their amendments in the form of modifications, additions or omissions at the appropriate point.

That recommended by M. Litvinov was in part:

Believing that the only effective means of contributing to the organization of peace and the establishment of security against war is the general, complete and rapid abolition of all armed forces, setting out from the principle of equality for all,

Convinced that the idea of general and complete disarmament answers to the sincere aspiration of the masses towards peace,

The Conference decides to base its work on the principle of general and complete disarmament.

On February 25 the Commission unanimously adopted Sir John Simon's original text. The Commission which had adjourned for the Easter recess, reassembled at Geneva from April 11 to 26. In accordance with its decision of March 16, it began by discussing, from April 11 to 13, the general principles involved in Article I of the draft Convention. This Convention had been drawn up by the Preparatory Disarmament Commission after five years of study and deliberation, ended in December, 1930. It was designed to provide a framework within which the limitation and reduction of armaments could be achieved.

In the course of the debate the Commission had to consider various recommendations and proposals concerning the problem of qualitative reduction of armaments. Outstanding among these was the proposal for the abolition of tanks and heavy artillery, as well as of poison gas, advanced by the American delegation (April 11), with the support of Great Britain, Italy, and others. The gist of the proposal was to make all aggressive weapons illegal. All these proposals were referred to the Bureau (of experts and technicians) of the Conference, with instructions to analyze and coordinate them. On April 18, the Commission approved the report presented by Dr. Benes on behalf of the Bureau and commenced examination of the principle of reduction of armaments: (a) by definitive reduction, under a single convention; (b) by reduction to the lowest possible

level; (c) by reduction to be brought about by stages.

On April 19 the drafting committee submitted to the Commission the following draft resolution which was unanimously adopted:

In view of the opinions expressed during the discussion at the Conference for the Reduction and Limitation of Armaments;

The General Commission considers that the reduction of armaments, as provided for in Article 8 of the Covenant of the League of Nations, should, after this Conference has taken the first decisive step of general reduction to the lowest possible level, be progressively achieved by means of successive revisions at appropriate intervals.

On April 20 the drafting committee submitted the following text:

In view of the proposals submitted by various delegations concerning the criteria for the limitation and reduction of armaments,

The General Commission declares that, in determining those criteria, the provisions of Article 8 of the Covenant of the League of Nations shall be applied and that, in consequence, armaments must be reduced to the lowest point consistent with national safety and the enforcement by common consent of international obligations.

It will be necessary, further, to take account of the geographical situation and circumstances of each State.

The General Commission decides that the application of these criteria and the methods by which the reduction and limitation of armaments must be effected should be immediately examined from a practical standpoint

This resolution was adopted, with the Union of Soviet Socialist Republics casting the only dissenting vote. On the same day the following supplementary resolution was also unanimously adopted:

In seeking to apply the principle of qualitative disarmament as defined in the previous resolution, the Conference is of opinion that the range of land, sea, and air armaments should be examined by the competent Special Commissions with a view to selecting those weapons whose character is the most specifically offensive or those most efficacious against national defence, or those most threatening to civilians.

**THE HOOVER PLAN.** While the General Commission was striving, with little success, to establish a basis for a collective agreement for the reduction and limitation of armaments, hope for any substantial accomplishment in this direction gradually diminished. Hope was revived, however, when on June 22 President Hoover submitted a plan for a general one-third reduction in military and naval forces, the abolition of all tanks, chemical warfare, large mobile guns, and bombing planes, and the prohibition of bombardment from the air. The proposal was coolly received by the French and British Governments, although warmly acclaimed by public opinion in many European countries.

The only tangible results of six months' labor of the Conference were set forth in a resolution drafted by M. Benes in private conversations with delegates of the United States, Great Britain, and France, and adopted by the Conference on July 23. It reaffirmed the determination "to achieve a first decisive step" toward disarmament and declared that the Conference

Decides forthwith and unanimously, guided by the general principles underlying President Hoover's declaration.

That a substantial reduction of world armaments shall be effected to be applied by a general convention alike to land, naval, and air armaments,

That a primary objective shall be to reduce the means of attack.

**GERMANY'S WITHDRAWAL.** The failure of the resolution of July 23 to incorporate the German demand for armament equality caused the Ger-

man delegation to give notice that it could not "undertake to continue its collaboration if a satisfactory solution of this decisive point for Germany is not reached by the time the Conference resumes its work." The General Commission adjourned for its summer recess August 29. A month later, the German Foreign Minister proposed to France that the two countries enter into a confidential discussion in an effort to reach an understanding on the equality issue. The conditions laid down by Germany, were considered by the French equivalent to a proposal for rearmament and the French government declined to enter into discussions (September 12). The French note denied Germany's right to repudiate or modify Part V of the Versailles Treaty by unilateral action, as had been advocated.

On September 18 the British government made public a memorandum severely condemning Germany for raising the equality issue at that time and supporting the French legal contention in regard to Part V of the Versailles Treaty; but the British memorandum also acknowledged Germany's moral right to equal treatment, and proposed, in general terms, a method by which this might be accomplished by incorporating a modified version of the Versailles military clauses in the general disarmament convention, to be accepted voluntarily by all powers.

Five days before the Bureau was scheduled to reassemble Germany declared in a note to the president of the Conference (September 16) that it "cannot be expected to take part in negotiations with regard to measures of disarmament to be laid down in the Conference until it is established that the solutions which may be found are also to apply to Germany." This, in effect, was a declaration that France's earlier reply, rejecting the German request to reorganize its army, was unacceptable to the von Papen government and that German cooperation at Geneva would await acceptance of the demand for equality.

On September 20, President Hoover issued a public statement asserting that revision of the Versailles Treaty was "solely a European question" but expressing a hope that Germany "will continue to participate in the Arms Conference, which has now such great promise of progress for the entire world. . . ."

When the Bureau of the Conference reconvened September 21, it was obviously impossible to make progress until the issue raised by Germany had been settled and the German delegates returned to the Conference. Accordingly, the Bureau adjourned September 26 pending a settlement of the equality issue.

**HERRIOT'S DISARMAMENT PLAN.** Diplomatic conversations in search of a formula satisfactory to Germany, France, and Great Britain continued for a month. With the Disarmament Conference Bureau scheduled to reconvene on November 3, the General Conference facing complete collapse, and France preparing to appeal to the United States for relief from the approaching war-debt installment, Premier Herriot was forced to modify the French position. On October 28 he outlined a new disarmament plan to the French Chamber of Deputies. It was presented to the Disarmament Bureau November 3 and published on November 14.

This far-reaching proposal linked the French demand for disarmament with security in a new way by extending the Locarno agreements and assuring that definite aid would be furnished by

the European states to a country attacked in violation of the League Covenant or the Kellogg Pact. The military proposals relating to the European powers, supplemented the political aspects of the plan. Their two basic objects were (1) the reduction of the offensive character of national forces, on the basis of "equality of defensive status" and (2) to place specialized national forces at the disposal of the League as a contingent for joint action against an aggressor. The home defense forces of all Continental European states were to be reduced to a uniform short-service conscript system. The principle of qualitative disarmament was endorsed and the use of heavy artillery and tanks was to be prohibited in national armies of Europe but such weapons were to be placed at the disposal of the League of Nations. The plan thus granted Germany equality of rights in so far as military effectives were concerned. It further strengthened vague provisions for collective action against an aggressor provided for in Article XVI of the League Covenant.

Negotiations between the Great Powers for a settlement of the German equality demand made progress as a result of the modification of the French stand. Early in December Prime Minister MacDonald, Premier Herriot, Foreign Minister von Neurath of Germany, and Baron Aloisi of Italy, were brought together at Geneva by Norman Davis of the American delegation. As a result of their discussions a declaration was issued December 11, signed by the representatives of all five powers, granting Germany's right to equality "in a system which would provide security for all nations" and announcing Germany's return to the Disarmament Conference on the basis of the declaration. The four European governments pledged that "they will not in any circumstances attempt to resolve any present or future differences between the signatories by resort to force" and all five powers promised to work out without delay, in cooperation with the other nations at the Geneva Disarmament Conference, "a convention which shall effect a substantial reduction and a limitation of armaments with provision for future revision with a view to further reduction."

As a result of this declaration, a meeting of the General Commission of the Conference was called for Jan. 31, 1933, to make a final effort to draft a conclusive disarmament treaty.

See GERMANY, FRANCE, GREAT BRITAIN, ITALY, the UNITED STATES, and other nations under *History*; PEACE; LEAGUE OF NATIONS; MILITARY PROGRESS; NAVAL PROGRESS.

**BIBLIOGRAPHY.** Consult "The World Disarmament Conference," *Foreign Policy Reports*, May 11, 1932, vol. viii, no. 5 and Jan. 18, 1933, vol. viii, no. 23; "Disarmament," *International Conciliation*, December, 1932, no. 285 (texts of official documents and articles by Viscount Cecil of Chelwood and Norman H. Davis).

**DISCIPLES OF CHRIST.** A communion, known also as the Churches of Christ, which sprung from a movement for Christian unity in Presbyterian circles at the beginning of the nineteenth century, under Barton W. Stone in Kentucky and Thomas and Alexander Campbell in Western Pennsylvania. In policy the churches are congregational. There are six major administrative agencies: The United Christian Missionary Society; Board of Education; Board of Temperance and Social Welfare; Association for the Pro-

motion of Christian Unity; Pension Board; and the missionary societies of the several States and provinces of Canada. These agencies are corporations and are related in an advisory way to the International Convention of the Disciples of the Disciples of Christ, which meets annually in the late summer or early autumn.

The general missionary work of the churches is organized under the United Christian Missionary Society, with headquarters at 222 Downey Avenue, Indianapolis, Ind. In 1932 its foreign field embraced the Belgian Congo, Africa, China, India, Jamaica, Japan, Mexico, Philippine Islands, Puerto Rico, Argentina, Paraguay, and Tibet (Batang, on the border). During the year there were 6536 baptisms in the foreign fields. The 425 mission schools had a total enrollment of 16,552. The communion maintained 16 hospitals and 12 dispensaries, which gave 391,437 treatments. The church erection fund amounted to \$2,917,457. Mission work in the home field was conducted among the French mountaineers, immigrants, Negroes, Orientals, Spanish-Americans, and Mexicans. The department of benevolence maintained six homes for children, six homes for the aged, and one hospital. In 1932, 29 colleges cooperated with the Board of Education.

The total church membership throughout the world in 1932 was 1,707,859, a gain over 1931 of 28,091; and in the United States and Canada, 1,572,732, a gain of 22,978. The Bible School enrollment for the world was 1,201,965, a gain over the previous year of 87,193; and for the United States and Canada, 1,129,938, a gain of 71,722. Contributions for missionary, benevolence, and educational purposes, reported for the fiscal year in the United States and Canada totaled \$3,194,614.

Among the periodicals published by the communion are the *World Call*, *Christian Evangelist*, *Christian Standard*, and *Christian Unity Quarterly*. The acting president of the International Convention in 1932 was Homer W. Carpenter of Louisville, Ky. Dr. Stephen J. Corey of Indianapolis, Ind., was president of the United Christian Missionary Society.

**DISEASE, INFLUENCE OF CHEMICAL COMPOUNDS ON.** See CHEMISTRY.

**DISEASE KILLING RAYS.** See CHEMISTRY, INDUSTRIAL.

**DISEASES OF ANIMALS.** See VETERINARY MEDICINE.

**DISEASES OF PLANTS.** See BOTANY.

**DISTRIBUTION.** See BUSINESS REVIEW.

**DIVORCE.** See MARRIAGE AND DIVORCE; LAW IN 1932.

**DNEIPER RIVER PLANT.** See WATER POWER; DAMS; UNION OF SOVIET SOCIALIST REPUBLICS.

**DOCKS.** See PORTS AND HARBORS.

**DOGS.** As almost as many shows were held as in previous years and the entries were as large, the depression did not seem to affect the activities of the dog fanciers of the world to any great extent.

For years Mrs. M. Hartley Dodge, owner of the Giralda Farms, at Madison, N. J. has been one of the most enthusiastic dog breeders and fanciers in the country. Year in and year out she has shown her dogs in every good-sized show and has been one of the mainstays of the kennel world by holding the annual, magnificent Morris and Essex show, the largest outdoor show in the world, on her estate each summer. In 1932 she came into her own with two of the premier dogs

of the year. Her lemon-colored pointer, Nancol-leth Markable, an importation from England, stalked through the Westminster Kennel Club show at Madison Square Garden, New York City, in February to receive the award for Best-in-Show. To gain the most coveted honor in dogdom, the pointer beat out Blue Dan of Happy Valley, magnificent English setter which had been finalist to the remarkable Pendley Calling in the previous year. Nancol-leth Beryl, full sister of the champion, carried on in the summer and fall, making an extensive trip throughout the country and winning innumerable best-in-shows at Buffalo, New Orleans, Los Angeles, and elsewhere.

Field trials came more and more into prominence, numerous ones being held on Long Island and New Jersey and in the mid-West. These attracted good crowds of sportsmen and plans were accordingly made to hold more trials in the new year.

**DOLE.** See UNEMPLOYMENT; LABOR, AMERICAN FEDERATION OF; FRANCE; GREAT BRITAIN; GERMANY.

**DOLLAR, ROBERT.** An American shipping magnate, died in San Rafael, Calif., May 16, 1932. He was born in Falkirk, Scotland, Mar. 20, 1844, attended common schools there until he was 11, and then went to work in a machine shop. When he was 13 years old his father emigrated to Canada and there Robert started his career as chore boy in a Quebec lumber camp and was eventually promoted to foreman. In 1872 he began logging on his own account, but the panic of the following year caused this venture to fail. His second attempt about five years later was more successful, and in 1882 he transferred his business to Marquette, Mich. In 1888 he located in San Francisco, Calif., leasing a large tract of redwood in Sonoma Co., and operating a sawmill at Guerneville. His business expanded so rapidly that within a few years he was able to lease other large tracts of timber lands in Washington, Oregon, and California, and to establish mills that laid the foundation for the enormous lumber manufacturing industry of the Pacific coast. Difficulty in getting his product transported led to his decision in 1892 to purchase his own schooner for this purpose. A year later he had added two more vessels, the gold discoveries in Alaska at that time enabling him to charter them out for carrying miners and stores to that region. The addition of several large steamships to his fleet about 1900 enabled him to expand his shipping business still further, and to attract the Far Eastern trade. He was also a pioneer importer of products from China, Japan, and the Philippines. During the World War his company realized enormous profits by carrying out munitions and stores to Vladivostok for the Czarist Russians, bringing back Chinese coolies for the labor corps in France (shipped across Canada by rail), and after the Armistice returning these Chinese to their own country at freight 400 to 600 per cent above normal.

In 1923 "Captain" Dollar purchased from the U. S. Shipping Board seven 10,000-ton passenger steamships with which he inaugurated the first round-the-world passenger steamship service, with sailings every two weeks, calling at 22 way ports. This fleet grew to more than 40 ships, 18 of which were in the passenger service, the latest addition being the turbine-electric driven, 22,000-

ton *President Hoover* in 1930. At the time of his death he was president of the Dollar Steamship Co., Robert Dollar Co., Admiral Oriental Co., Dollar Portland Lumber Co., and the Canadian Robert Dollar Co. In connection with the latter he founded about 1922 the town of Dolar-ton, near Vancouver, where he erected one of the largest and most modern sawmills on the Pacific coast and built a church, social hall, post office, and several streets of bungalow residences for his employees. He was decorated several times by the Chinese government for his gestures of friendliness, the total of his benefactions for the erection of churches, schools, and Y. M. C. A. buildings reaching more than \$1,000,000. He was the author of *Memoirs of Robert Dollar* (1925), and *One Hundred and Thirty Years of Steam Navigation: A History of the Merchant Ship* (1931).

**DOMESTIC ARCHITECTURE.** See ARCHITECTURE.

**DOMINICA.** See LEEWARD ISLANDS.

**DOMINICAN REPUBLIC (SANTO DOMINGO).** A West Indian state occupying the eastern part of the island of Haiti, the western part of which comprises the Republic of Haiti (see HAITI). Capital, Santo Domingo.

**AREA AND POPULATION.** The area is estimated at 19,332 square miles; the population at the census of 1921 was 897,405 (estimated at 1,200,000 in 1931). The chief cities, with their estimated populations in 1929, were: Santo Domingo, 45,000; Santiago, 15,000; San Pedro de Macoris, 31,000; Puerto Plata, 9500; La Romana, 10,000. The city of Santo Domingo was destroyed by a hurricane on Sept. 3, 1930; it was being rebuilt in 1932. Of the total population, 25 per cent were white (mainly of Spanish descent), 25.4 per cent were Negroes, and the remainder were mestizos or of mixed blood. In February, 1930, there were 841 schools, of which 33 were technical, and a total enrollment of 90,366 (average attendance, 55,842), or about one-half the children of school age. In 1930, about 320,000 persons were reported as illiterate, compared with 373,000 in 1920.

**PRODUCTION.** Agriculture is the main support of the population, with sugar, cacao, coffee, rice, and tobacco as the chief crops. Of the 9900 square miles of cultivable land, about 6600 square miles are under cultivation. The 21 sugar "centrals" are controlled for the most part by American capital. Sugar production during the 1930-31 grinding season totaled 362,700 long tons (379,000 long tons in 1931-32). Rice production increased to 15,957 tons in 1931. The forests produce lignum-vitae, mahogany logs, railroad ties, and dyewoods. Sugar refining is the only important manufacturing industry, while straw hats and a few other articles are produced for local consumption. Mineral deposits, which include gold, copper, silver, petroleum, and low-grade coal, are relatively unimportant. Cacao production in 1931 was estimated at 50,000,000 pounds; coffee, 12,000,000 pounds.

**COMMERCE.** The total foreign trade declined to \$23,218,924 in 1931 from \$33,781,060 in 1930. Imports in 1931 were valued at \$10,151,762 (\$15,220,219 in 1930) and exports at \$13,067,162 (\$18,551,841 in 1930). The three chief import items in 1931 were: Cotton and cotton manufactures, \$1,731,387 (\$2,364,845 in 1930); grains, fruits, vegetables, and preparations, \$1,403,674 (\$2,419,007); oils and minerals, \$1,059,767 (\$1,344,816). The leading exports were: Sugar, \$7,583,908 (\$9,910,289 in 1930); cacao, \$1,789,

115 (\$2,709,739 in 1930); coffee, \$1,182,490 (\$1,483,008). The United States in 1931 supplied imports to the value of \$10,151,762 (\$15,220,219 in 1930), or more than one-half of the total. The 1931 exports went principally to the United States, \$3,427,767 (\$4,368,121 in 1930); France, \$3,091,168 (\$2,456,792); United Kingdom, \$4,045,556 (\$7,329,192). In 1932 imports totaled \$7,794,000 and exports \$11,164,000 (preliminary).

**FINANCE.** In accordance with the American-Dominican convention of 1924, there is a customs receivership. Receiver William E. Pulliam reported gross collections for 1931 amounting to \$2,883,476, a decline of \$711,091, or 19.78 per cent, compared with 1930. Import duties accounted for \$2,820,232 of these receipts (\$3,505,338 in 1930). Of the gross revenue, \$1,386,578 was allocated to sinking-fund payments and \$914,361 for account of interest on the outstanding Dominican bonded indebtedness. Customs expenses absorbed \$131,961 and the relatively small sum of \$105,000 remained to be transferred to the Dominican government. The sum transferred in 1929 was \$3,461,814. From Oct. 26 to Dec. 31, 1931, the Dominican government secured an additional \$440,430 from customs revenue, as a result of the decree issued October 26 diverting the collections at the three principal ports—Santo Domingo, San Pedro de Macoris, and Puerto Plata—to a special emergency fund for a two-year period. Due to this diversion of funds, the receiver was obliged to discontinue amortization payments on the Dominican debt; interest payments were continued. The total amount of Dominican government bonds outstanding on Dec. 31, 1931, was \$16,593,500, a reduction of \$1,688,000 during the year. The government's budget estimates for 1931 placed revenue at \$12,094,870 and expenditure at \$9,957,662.

All government revenues in 1931 totaled \$7,311,417, against \$9,975,000 in 1930. Expenditures amounted to \$7,920,119 (\$10,642,000 in 1930) and the deficit to \$608,702 (\$667,000 in 1930). The 1931 deficit was increased to \$1,091,721 by cash purchases totaling \$115,813 to increase Government warehouse stock and unliquidated balances of appropriations amounting to \$367,206.

**COMMUNICATIONS.** Railway lines in 1930 extended 147 miles, including 62 miles of state owned line. There were 845 miles of highways (686 miles of macadam). There are air connections with San Juan, Puerto Rico; and Miami, Fla., via Cuba. The government-owned telephone and telegraph systems have been leased to American companies. There is direct radio-telegraph service to the United States. In 1930, 1687 vessels, of 2,381,606 tons, entered the ports and 1509, of 2,218,259 tons, cleared.

**GOVERNMENT.** Under the Constitution as revised in 1929, executive power is vested in a president, elected for four years, and a cabinet appointed by him. There is a senate of 12 members, one for each Province, and a lower chamber of 33 members, one for each 30,000 of population. The members of both houses are elected, nominally by direct suffrage, for four years; vacancies are filled by each house from a list of names submitted by the chief of the retired member's party. President in 1932, Gen. Rafael Leonidas Trujillo y Molina, who assumed office Aug. 16, 1930, following the successful revolution

of February, 1930. The only political party within the Republic in 1932 was President Trujillo's Dominican party, organized in 1931, which included all members of the government. Most of the opposition leaders had retired from public life.

**HISTORY.** On Aug. 16, 1932, anniversary of the restoration of the Dominican Republic, President Trujillo issued a proclamation offering political amnesty to persons who fled from the republic following the establishment of his régime in 1930. Few were reported to have accepted his invitation to return. Shortly afterwards, Rafael Estrella Ureña, who was removed from the office of Vice President by act of Congress on Dec. 7, 1931, was found living in obscurity in New York City. Reports that the moratorium on amortization payments on the foreign debt, placed in effect in 1931, would be extended to include interest payments also, were denied by President Trujillo in December, 1932. According to estimates of the U. S. State Department, there were 10,695 American citizens in the Dominican Republic on Jan. 1, 1933, most of them from Puerto Rico and the Virgin Islands.

**DONOVAN, COL. WILLIAM J.** See NEW YORK under *Political and Other Events*.

**DOOLITTLE, MAJ. JAMES A.** See AERONAUTICS.

**DOUMER, döömär', PAUL.** A French statesman, died in Paris, May 7, 1932, as a result of wounds inflicted by Paul Gorgoulou, a Russian Fascist, whose alleged purpose was to foment a war between the U.S.S.R. and France. The attack took place while President Doumer was making an official visit to the annual sale of books by well-known authors for the benefit of ex-soldiers.

Doumer was born in Aurillac, department of Cantal, Mar. 22, 1857, and after obtaining his education in Paris taught mathematics and economics. In about the year 1885 he entered political journalism in Paris and also became chief assistant to Charles Floquet, president of the Chamber of Deputies. In 1888 he was elected to the Chamber of Deputies as a Radical for the department of the Aisne and was reelected in 1890. He was Minister of Finances in the cabinet of Léon Bourgeois (1895-96). From 1897 to 1902 he was Governor-General of French Indo-China, where he sponsored important public works and accomplished the political and financial unification of the administration of this possession. Reëntering the Chamber in 1902, he became head of the budget commission, and in 1905 was made president of the Chamber. In 1906 he was the candidate of the moderate and reactionary parties for President of the Republic, but was defeated by Armand Fallières. He was elected to the Senate in 1912 as representative for Corsica, and was State Minister in Paul Painlevé's cabinet in 1917. In Aristide Briand's cabinets of 1921-22 and 1925-26 he was Minister of Finances. In 1927 he was made president of the Senate, a post which he was holding at the time of his election to the presidency on May 13, 1931. He was the second chief executive of France to die by assassination. On June 24, 1894, Marie François Sadi Carnot was stabbed by an Italian anarchist in Lyons. See FRANCE under *History*.

**DOURINE.** See VETERINARY MEDICINE.

**DRAINAGE.** See RECLAMATION.

**DRAMA.** See THEATRE; GERMAN LITERATURE; FRENCH LITERATURE; LITERATURE, ENGLISH AND AMERICAN; ITALIAN LITERATURE; SCANDINAVIAN

LITERATURE; SPANISH-AMERICAN LITERATURES; SPANISH LITERATURE.

**DROUGHT.** See AQUEDUCTS; AGRICULTURE; FLAX; DAIRYING; HAY; FORESTRY; HORTICULTURE; LIVESTOCK; METEOROLOGY; UNITED STATES under *Administration*.

**DRUG CONTROL.** See LEAGUE OF NATIONS.

**DUDLEY, WILLIAM HUMBLE WARD, 2d EARL OF.** A British administrator, died in London, June 29, 1932. Born May 25, 1867, he attended Eton and succeeded to the title on the death of his father in 1885. In 1895 he was made parliamentary secretary of the Board of Trade. He served in the Boer War with the yeomanry cavalry and was also an assistant adjutant general on Lord Robert's staff. In 1902 he became Lord Lieutenant of Ireland. He was one of the chief supporters of the "devolution" policy, calling for the delegation of larger powers to local bodies, advanced by George Wyndham, Chief Secretary for Ireland. This policy, however, incurred the resentment of both the Irish Nationalists and Unionists and led to Wyndham's resignation and Dudley's recall on the fall of the Balfour ministry in December, 1905. After serving for two years as chairman of the Royal Commission on Congestion in Ireland, Lord Dudley was appointed Governor-General of Australia, where he remained until 1911. During the World War he commanded the 1st Worcester yeomanry in Egypt and at Gallipoli in 1915. He was one of the wealthiest British peers, owning about 30,000 acres rich in coal and minerals in Staffordshire and Worcestershire, as well as estates in Jamaica.

**DUFFY, FRANCIS PATRICK.** An American Roman Catholic clergyman, died in New York City, June 26, 1932. He was born in Cobourg, Ont., Canada, May 2, 1871, and was graduated from St. Michael's College, Toronto, in 1892. He then went to New York City where he taught at the grammar school of St. Francis Xavier's College, from which college he also received the A.M. degree in 1894. He studied for the priesthood at St. Joseph's Seminary, Troy, N. Y., and was ordained in 1896. He also attended the Catholic University of America and in 1899 received the S.T.B. degree. In 1905 he received the D.D. degree from St. Mary's Seminary, Baltimore, Md., and in 1919 the LL.D. degree from Fordham University. During the Spanish-American War he served as an unofficial chaplain at the post at Montauk Point, N. Y. From 1898 to 1912 he was professor of philosophy, logic, and metaphysics at St. Joseph's Seminary, Dunwoodie, N. Y. He then organized the Church of Our Saviour, South Fordham, New York City, and served as rector for eight years. In 1916 he accompanied the 69th regiment of the New York National Guard to the Mexican border. Of this regiment, which was known as the 165th infantry of the National Army, during the World War, he was chaplain oversea. Also he was senior chaplain of the 42d (Rainbow) division, to which this regiment belonged. For his distinguished services he was advanced in rank from first lieutenant to major, and was recommended by Gen. Douglas MacArthur, commander of the 42d division, as colonel but refused the commission. He received the Distinguished Service Cross, the Distinguished Service Medal, the Croix de Guerre with palm, and was made a Chevalier of the French Legion of Honor. In 1920 he became pastor of Holy Cross Church, New York City, and in 1925 president



of the Catholic Summer School of America. He was President of the Rainbow Division Veterans, 1925-1928. He remained chaplain of the 165th regiment of the New York National Guard, holding at the time of his death the rank of lieutenant-colonel. He was editor of the *Catholic Register*, Toronto (1895), associate editor of the *New York Review* (1905-10), and author of *Father Duffy's Story* (1919).

**DUKE UNIVERSITY.** An institution for higher education in Durham, N. C. It had its beginning under the name of York Academy, established in 1835 in Randolph County, N. C., and expanding later into Union Institute, then into Normal School, and in 1858 into Trinity College. In 1892, Trinity College was moved to Durham where it continued under that name until 1924, when the greater Duke University was made possible through benefactions from James B. Duke.

The enrollment for the autumn of 1932 was 2755; distributed as follows: Undergraduate men, 1429; undergraduate women, 637; school of religion, 143; school of law, 100; school of medicine, 158; other graduate schools, including arts and sciences, 223; school of nursing, 74; duplications, 9. For the summer session of 1932 there was an enrollment of 1798. In the autumn of 1932 the faculty, including officers, numbered 299.

The endowment funds of the university amounted to \$23,333,473.72, and the income for the year was \$1,202,194.21. Gifts received during the year 1931-32 amounted to \$136,250. The Angier B. Duke Memorial Student Loan Fund exceeded \$1,250,000 in value. The library contained 307,601 accessioned volumes and more than 40,000 uncatalogued volumes. President, William Preston Few, Ph.D., LL.D.

**DUNKERS.** See BRETHREN, CHURCH OF THE.

**DURALUMIN.** See ALUMINUM.

**DURUM WHEAT.** See WHEAT.

**DUTCH EAST INDIES.** See NETHERLAND INDIA.

**DUTCH GUIANA.** See SURINAM.

**DUTCH REFORMED CHURCH.** See REFORMED CHURCH IN AMERICA.

**DUTCH WEST INDIES.** The Dutch possessions in the West Indies, viz., Surinam (Dutch Guiana) and Curaçao. See SURINAM; CURAÇAO.

**DYNAMO ELECTRIC MACHINERY.** The development of most outstanding interest in large machines was the construction and almost completion of the two mercury-vapor boilers and turbines, one at Kearny, N. J., and the other at Schenectady, N. Y. In the boilers mercury will be raised to a temperature of 950° F. and a pressure of 125 lbs. gauge. The vapor will pass through a turbine giving 20,000 kw. of power to its electrical generator and then at 450° F. to a condenser where it will be reduced to liquid mercury but in so doing, it raises water to a temperature of 400° F. and 400 lbs. pressure which will give 30,000 kw. of power in an ordinary steam turbine. Each installation requires 135 tons of mercury, said to have cost \$178,000.

By this means a kw.-hr. is obtained with less than 10,000 b.t.u. overall which is a very high thermal efficiency. In the mercury cycle alone a kw.-hr. is obtained for 4000 b.t.u.

A similar unit of 10,000 kw. capacity has been in operation at Hartford, Conn., for a year and has been in service 96 per cent of the time.

Among steam turbines the largest was the second 180,000 kw. for the Brooklyn Edison Co., a duplicate of that reported last year.

There was also a 147,000-kv.-a., 1800-r.p.m., 22,000-volt set added to the State Line station of Chicago and a 121,000-kv.-a., 1800-r.p.m., 18,000-volt unit for Waukegan, Wis.

Under construction for use with 1200-lb. steam at 825° F. is a 150,000-kw., 1800-r.p.m. unit consisting of one generator with three turbine cylinders arranged triple-tandem-compound. This is the largest unit so far for operation on steam at 1200 lbs.

A 15,000 kw. and a 25,000 kw. each were added to the line of machines operating at 3600 r.p.m., a new record for size at this speed. A 6000-kw. steam turbine-generator unit is the first to be built for operation outdoors without other protection than its own lagging and casing.

In the construction of all these new turbines and their generators electric welding has played an increasingly important part and minimized material. X-rays have been used to inspect the welds and it is now possible to "see" faults through four inches of steel. Much research has been devoted to the effects of the high temperatures (800 to 1000° F.) upon the mechanical strength of the metals used and this has resulted in much more confidence. As for operating conditions, new instruments have been devised which give a continuous record of conditions inside the turbine, such as, eccentricity, interference, and vibration. For years past the temperatures of various parts of the generators have been recorded by suitable instruments.

There were no striking developments in water-wheel generators. The outstanding accomplishment was the opening of the Safe Harbor plant on the Susquehanna River in Pennsylvania. The present installation consists of five 42,500-h.p. Kaplan turbines each driving a 36,000-kv.-a., three-phase 13,800-volt, 60-cycle generator and one driving a 37,500-kv.-a., single-phase, 25-cycle generator. Ultimately there are to be 12 units aggregating 510,000 h.p.

These are the most powerful turbines of this type. They operate with a head of 55 ft. on a vertical shaft and have propellers with automatically adjustable blades to give a high efficiency at fractional loads. The power from this station goes partly to Baltimore and partly to Philadelphia on 220,000-volt transmission lines.

The Abitibi Power Co. of Canada has built a plant containing five vertical shaft water-wheel units of 48,500 kv.-a. each at 13,800 volts and 25 cycles.

In England some high voltage d.c. generators were built to give 45,000 volts and 0.15 ampere for precipitating solid particles in gases and smoke. Each unit consists of one motor driving three generators on one shaft. The generators are mounted on porcelain insulators, give 15,000 volts each and are connected electrically in series.

A record in size of single phase frequency changers was achieved in the 30,000-kv.-a., 60 to 25 cycle, three-phase to single-phase sets for the Philadelphia Electric Co. to supply power for the Pennsylvania R.R. The sets consist of a 36,000-kv.-a., three-phase, 60-cycle synchronous motor driving a 30,000-kv.-a., single-phase, 25-cycle, 13,200-volt generator. The generator would have a capacity of 61,000 kv.-a. if operated three-phase.

The special features of the set are that the machines are of the indoor type but are operated outdoors and protected by a close-fitting steel plate housing. There is a closed system of cool-



ing and ventilating and the frame of the driving motor is arranged to be rotated slightly in a cradle to give a phase shift for load regulation and operation in parallel with other sets.

Another installation of frequency-changers is of the variable frequency-ratio type. The set consists of a 25-cycle induction motor and a 25,000-kv-a., 60-cycle synchronous generator and auxiliary machines on the same shaft. It is arranged to feed very low (slip) frequency into the wound rotor of the induction motor in accordance with the Scherbius system of speed control (see YEAR BOOK, 1929) of induction motors.

Four of the largest single-phase transformers of the non-resonating or surge-proof type for 230,000 volts were rated at 45,000 kv-a. each when operated self cooled and 60,000 kv-a. when operated with forced oil cooling. The low voltage side consisted of two independent 22,000-volt windings to be connected to a double winding generator. Each transformer weighed 393,000 lbs. including 152,000 lbs. of oil.

There was an installation of 100,000 kv-a. consisting of three 33,333-kv-a. water-cooled transformers connected in Y for 66,000 volts with load ratio control on the high-tension side and in series with the high-voltage winding is a 100,000-kv-a. regulating transformer to give a shift of  $\pm 6^\circ$  for load control and synchronizing. This is the largest bank with control of both the magnitude and phase of the voltage.

Much attention has been given to synchronous motors, to improve their ability to start under load and accelerate against the fly-wheel effect of the load and finally to pull this load into synchronism. By improvements in details of design motors have been built to do this in sizes from 200 to 600 h.p. with rated speeds from 300 to 900 r.p.m.

Multispeed motors of both the induction and synchronous type have recently been put on the market. These motors have changeable windings giving two numbers of poles and hence two stable speeds with high efficiency. Motors of the induction type having these characteristics have been used for ship propulsion for some time but the offering of a commercial line of sizes suited for industry is new as is also the application of the principle to synchronous motors.

A new type of induction motor was brought out having three power ratings (only one speed) with high efficiency and high power factor at all three ratings. This is accomplished by bringing out taps on the windings of the primary so that they may be connected in delta for the highest rating, in a combined Y with delta centre for medium and in simple Y for lowest rating. They are used where the power demand is seasonal or for installations which are expected to develop and need more power in the future.

Another new type of induction motor (proposed but not in production) has its primary and secondary windings connected together in parallel (by means of a transformer, if necessary). This gives it a greater maximum output hence greater pull-out torque and higher efficiency at overloads but the same maximum efficiency. It might be suitable for rolling mills where sudden heavy overloads are experienced.

There has been a great increase in the use of totally enclosed fan-cooled motors and they are being built in greater numbers and in larger sizes. Their advantage is the freedom from con-

tamination by dirt, splashing, and humid atmosphere.

Experimental research has been carried on by some companies with a commutatorless motor which uses a structure of the synchronous type, fed by an electron tube frequency-converter which supplies the motor with direct current at stand-still, low frequencies at low speeds, and high frequencies at high speeds by changing the supplied frequency to suit the speed of the motor. The tubes are controlled by a small distributor on the motor shaft. The motor is thus always running at synchronous speed, even at stand-still and has the characteristics of a d.c. shunt motor, i.e. constant torque per ampere at any speed. Also the motor may be arranged with the winding of the field in series with the neutral of the primary, in which case series motor characteristics may be obtained. An experimental locomotive using this type of motor is being built in Switzerland.

A great deal of attention has been given to the elimination of noise and vibration in electric machines. Means are now available for measuring and comparing noise, a committee is being formed to standardize nomenclature, units and methods of measuring and designers of motors are paying attention to careful balancing of the moving parts and to the air currents set up. A device is in regular commercial use which determines just what weight should be placed on the revolving part and just where it should be placed to give exact dynamic balancing. A new line of motors is placed on a spring support in the base so that no vibration may be transmitted to the floor or building.

The greatest activity has been exhibited in the commercial development of electron tubes for power work. They are now being used as rectifiers, converters, inverters, relays, and controllers. By placing a grid or third electrode in the well-known mercury vapor tube a new device has been obtained which carries currents of power magnitude and is capable of multifarious applications with close control and regulation.

These tubes cannot only convert from a.c. to d.c. as has been their only application in the past but also from d.c. to a.c. (inverter) or from a.c. of one frequency to a.c. of any other frequency. Tubes are now on the market capable of carrying as high as 600 amperes and others capable of operation on 15,000 volts while tubes for 100,000 volts have been used in research.

A new liquid dielectric useful as an insulating material has been developed and given the trade name "Pyranol." It appears to be a substitute for oil as an insulator as it is non-inflammable and non-explosive. It is now being used as the dielectric in capacitors as it has a high dielectric constant (5). Its use in transformers depends upon the character of the insulation on the windings as it attacks chemically the older standard varnishes and can only be used with special insulating materials such as "Glyptol," the new synthetic substitute for varnishes.

Non-Linear Circuits is a new term being introduced in electrical engineering which applies to a device containing capacitance and reactance in which the reactance varies suddenly and greatly at certain values of the current due to a purposely high saturation in the iron of the reactance device. This characteristic is obtained by imposing a chosen d.c. magneto motive force on the magnetic circuit of the reactance for the

a.c. circuit. By this means regulators are obtained which will vary the voltage or current in a circuit in a definite manner. The most easily understood example is controlling the lamps in the different words of a lighting sign to have each group lighted a definite interval of time in succession.

The systematized research on dielectrics and electrical insulation has been continued intensively and many new facts have been learned and published. A few of the most general interest are: By careful preparation it has been possible to produce insulating oils having a conductivity of  $10^{-18}$  to  $10^{-19}$  mhos. Dielectric losses in highly refined insulating oils at commercial frequencies and operating temperatures have been shown to result from conduction but at high frequencies and low temperatures the major loss may be accounted for by the orientation of polar molecules. The subject of polar molecules in dielectrics is now being studied for viscous liquids and solids and is giving very important results; development of polar molecules in oils gives a measure of deterioration. A remarkable agreement has been found between the measured loss, power factor and capacity values at 60 cycles for solid and liquid dielectrics and the values calculated from the d.c. characteristics.

**EARTH.** See GEOLOGY.

**EARTHQUAKES.** See SEISMOLOGY.

**EAST AFRICA PROTECTORATE.** See KENYA COLONY.

**EASTMAN, GEORGE.** An American inventor and industrial philanthropist, died in Rochester, N. Y., Mar. 14, 1932. He was born at Waterville, N. Y., July 12, 1854, and attended the public schools of Rochester. An enthusiastic amateur photographer, he perfected about 1880 a process for manufacturing sensitive gelatin dry plates and also invented a machine for coating these plates. In 1884 he patented the first commercially successful rollable film, consisting of a paper backing coated with a soluble gelatin layer, a layer of collodion, and finally with a hardened sensitive gelatin emulsion. The following year he and W. H. Walker, his associate, invented a roll holder to contain this film which was attached to the back of the camera. In 1888 he perfected the first portable roll-film camera, called the "Kodak," which carried a roll of film for 100 exposures. With its introduction he coined one of his first slogans, "You push the button, we do the rest," for when the film was used up, the camera was returned to the manufacturing company to develop and print the pictures and to reload it. A year later, in August, 1889, he introduced commercially the first film coated on a rollable transparent support. Patents were granted him and his associates that year and subsequently on the process and machines for working it. This invention was considered by many one of the most important contributions to the photographic art. It made possible the widespread development not only of amateur photography but also of motion picture photography, for it enabled Thomas A. Edison to perfect the Kinetoscope and paved the way for the development of the motion picture industry. In 1891 he introduced a cartridge device for the protection of films, which permitted daylight loading of the film in the Kodak. The pocket Kodak was introduced in 1895 and the first folding Kodak in 1898. This was followed in 1902 by the Kodak

development machine, which enabled the user to dispense with the dark-room in the development of the negative. In 1903 a non-curling film was devised and marketed.

Mr. Eastman was one of the first executives to adopt the practice of mass production to reduce the cost of a salable product. He also was one of the first to recognize the value of a research programme and to employ trained men to conduct research work, including much fundamental scientific investigation.

At the time of his death Mr. Eastman was chairman of the board of the Eastman Kodak Co. of New York and of the Eastman Kodak Co. of New Jersey. The former, which was formed in Rochester in 1892 with Mr. Eastman as treasurer, was an outgrowth of earlier firms which he had organized, including, with Col. Henry A. Strong, Strong & Eastman (1881), the Eastman Dry Plate Co. (1882), and the Eastman Dry Plate & Film Co. (1884). The Eastman Kodak Co. of New Jersey was incorporated in 1901 so as to consolidate the various properties, such as the General Aristo Co., which had been acquired as subsidiaries of the parent company. He was also a director of Kodak, Ltd., of London and of about 85 subsidiary companies throughout the world which furnished necessary raw products or served as sources of supply.

George Eastman was a leader in recognizing the important part played by the members of an industrial organization in the success of the business and the justice of material rewards for this participation. As early as 1912 he caused the Eastman Kodak Company to pay a "wage dividend" to employees over and above the amount of wages or salaries and bearing a direct relationship to the amount of dividends declared on the common stock of the company during the previous year.

The wage dividend has been paid uninterruptedly since then, with \$33,584,686 thus distributed by the end of 1932. Mr. Eastman personally contributed a large block of stock in the Eastman Kodak Company, and caused the organization to contribute a similar block from its treasury, for distribution to employees on a basis of length of service. Subsequently, following Mr. Eastman's policy, the company made provision for retirement annuities, disability benefits, and life insurance for employees.

During his later life he was personally interested in the adoption of a 13-month calendar, in the fostering of music as part of the community life of his native city, and in African wild-life photography. His philanthropic gifts amounted to almost \$100,000,000, the greatest beneficiaries being the city and the University of Rochester. To the latter he gave more than \$54,000,000, part of which was used as endowment for the Eastman School of Music. He also gave lavishly to the Massachusetts Institute of Technology, which received \$19,500,000, Stevens Institute of Technology, Hampton Institute, and Tuskegee Normal and Industrial Institute. Previous to his death he had established dental clinics in Rochester, London, Paris, Rome, Brussels, and Stockholm. Among the honors bestowed on him were the 1927 Progress Medal of the Royal Photographic Society (London), the medal of the American Institute of Chemists, officer of the French Legion of Honor, commander of the Order of the Crown of Italy, officer of the Cross of the Order Polonia Restituta, knight of the Royal Order of

Vasa, and, posthumously, the officer of the Cross of the Order of Leopold. His career was tragically ended by suicide, the only explanation being a note to his friends: "My work is done. Why wait?"

**EAST PRUSSIA.** A Province of the state of Prussia separated from Prussia and from the German Reich by the Polish Corridor. Total area, 15,061 square miles; population June 16, 1925, was 2,256,349. See GERMANY and POLAND under *History*.

**ECCLIESIASTICAL ARCHITECTURE.** See ARCHITECTURE.

**ECLIPSE OF THE SUN.** See ASTRONOMY; PHOTOGRAPHY.

**ECOLOGY.** See BOTANY.

**ECONOMIC ASSOCIATION, AMERICAN.** An organization founded in Saratoga, N. Y., in 1885 to encourage economic research, especially the historical and statistical study of the actual conditions of industrial life; to issue publications on economic subjects; and to encourage perfect freedom of thought and discussion upon current problems from an economic point of view. The membership, which in 1932 totaled approximately 3700, comprises persons interested in the study of political economy or the economic phases of political and social questions.

The association held its annual meeting in Cincinnati, O., Dec. 28-30, 1932. Among the topics discussed were: "The Rise of Monopoly in the United States"; "Farm Debt and Distressed Land Holding"; "Record of Insurance in the Depression"; "Reserves for Unemployment"; "Stabilization of Industries"; "American Economic Thought"; "Size of Business Unit as a Factor in Efficiency of Marketing"; "Federal Reserve Policy Since 1926"; "The Tariff"; "Real Estate Speculation." Papers read at the meetings are published in the *Proceedings* of the association. The official periodical is the *American Economic Review*, a quarterly. The officers in 1932 were: President, George E. Barnett, Johns Hopkins University; vice presidents, Benjamin M. Anderson, Jr., New York City, and Ralph E. Heilmann, Northwestern University; counsel, John E. Walker, Washington, D. C.; and secretary and treasurer, Frederick S. Deibler, Northwestern University.

**ECONOMIC ENTOMOLOGY.** See ENTOMOLOGY, ECONOMIC.

**ECONOMIC GEOLOGY.** See GEOLOGY.

**ECONOMICS.** See BANKS AND BANKING; BUSINESS REVIEW; FINANCIAL REVIEW; LITERATURE, ENGLISH AND AMERICAN; PUBLIC FINANCE, ETC.

**ECUADOR**, êk'wâ-dôr. A South American republic situated on the northwest coast of the continent between Colombia on the north and Peru on the south. Capital, Quito.

**AREA AND POPULATION.** The area in 1931, still undetermined because of the boundary dispute with Peru, was variously estimated at from 110,000 to 337,304 square miles, including the Galapagos or Colon Islands (2868 square miles), situated 600 miles west of Ecuador in the Pacific. The population in October, 1931, was estimated at 2,500,000. One estimate placed the white population at 10 per cent of the total; Indians, 38 per cent; mixed, 41 per cent; Negroes, 5 per cent; others, 6 per cent. The chief cities, with their approximate populations in 1930, are: Quito, 91,641; Guayaquil, 120,000; Cuenca, 40,000; Riobamba, 30,000; Latacunga, 15,000; Ambato, 14,000. Births in 1930 totaled 97,361; deaths, 44,385; marriages, 13,799.

**EDUCATION.** Primary education is free and nominally compulsory. In 1932, there were 1864 primary schools, including 1523 government, 114 municipal, and 260 private schools, with a total of 113,583 enrolled pupils. Sixteen secondary schools had 2532 pupils; normal and special schools, 2633. Institutions of higher learning are the Central University at Quito, Guayas University at Guayaquil, Azuay University in Cuenca, and the Law College at Loja.

**PRODUCTION.** Ecuador's main industry is agriculture, on which about 90 per cent of the population is dependent for a living. The prosperity of the country has been undermined by the drastic decline in the value of the two chief crops—cacao and coffee. Largely due to blights, the production of cacao declined from 60,000 tons to 14,000 tons in 1931. Coffee exports fell from 17,275,208 sucres in 1928 to 7,601,932 sucres in 1930 (sucre equals \$0.20 at par). Other exports, chiefly cattle, petroleum, rice, flour, sugar, hats, and textiles, have increased in value, from 35,078,122 sucres in 1927 to 49,641,016 in 1930. Ivory nuts, cotton, sugar, kapok, are also produced. The 1931 production of coffee was 20,800,000 pounds; rice, 36,591,000 pounds; cotton (1931-32), 5,624,000 pounds; sugar (1930-31), 23,600 long tons.

Petroleum output is about 180,000 tons annually. There are fairly extensive deposits of copper, iron, lead, coal, gold, silver, and sulphur, mostly undeveloped. The forests, which cover most of the country, yield valuable dyewoods, rubber, cinchona, balsa wood, and other products. The leading industries are the making of straw (Panama) hats, textiles, and shoes, the grinding of sugar cane, and rice hulling.

**COMMERCE.** According to Ecuadorean statistics, exports in 1931 totaled \$11,332,034 (\$16,129,308 in 1930) and imports \$8,815,224 (\$12,796,221 in 1930), or declines of 29.7 per cent and 31.1 per cent, respectively. The value of the leading exports was: Crude petroleum, \$3,164,813 (\$3,159,687 in 1930); cacao, \$2,450,909 (\$4,680,718 in 1930); coffee, \$1,186,096 (\$1,520,386); straw hats, \$1,289,331 (\$1,680,532); cyanide precipitates, \$1,264,171 (\$1,477,725). The three leading import classes were: Cotton and cotton manufactures, \$1,527,000 (\$1,980,000 in 1930); animals, foods, beverages, \$1,323,000 (\$1,966,000); metals and manufactures thereof, \$1,241,000 (\$1,959,000). Imports in 1931 came chiefly from the United States, \$3,308,176 (\$5,137,105 in 1930); Great Britain, \$1,606,128 (\$2,327,092); Germany, \$1,180,169 (\$1,667,875). Exports went principally to the United States, \$5,232,244 (\$7,604,988 in 1930); France, \$996,874 (\$1,059,945); Germany, \$598,929 (\$1,150,493); Colombia, \$626,551 (\$1,955,080).

Conversions to dollars were made at the par value of the sucre (20 cents).

**FINANCE.** The budget estimates balanced at 47,664,900 sucres for 1932 and at 61,476,500 sucres for 1931. A final deficit was indicated for both years, however. The public debt on Oct. 31, 1931, aggregated 125,853,513 sucres, of which 114,840,047 sucres represented the external and 11,013,466 sucres the internal debt. A loan of 10,000,000 sucres obtained from the Swedish Match company in 1928 was guaranteed by a match monopoly, but this was revoked by Congress in 1931. Ecuador abandoned the gold standard on Feb. 9, 1932. American investments in Ecuador in 1931 were estimated by the U. S.

Commerce Department at \$11,770,000; British investments were about £4,000,000.

Actual ordinary revenues in 1931 were 43,983,159 sucres; expenditures, 44,429,614 sucres; deficit, 446,455 sucres. For 1930, revenues were 60,494,000 sucres, expenditures, 60,178,000 sucres; surplus, 316,000 sucres.

**COMMUNICATIONS.** In 1930, there were nine railways in operation, aggregating 639 miles of line; 1388 miles of main trunk highways; 2217 miles of secondary roads; and mail and passenger air service connecting Guayaquil with the other chief cities of North and South America.

**GOVERNMENT.** The Constitution promulgated Mar. 26, 1929, vested executive power in a president elected for four years by direct suffrage, and legislative power in a congress of two houses. The Senate has 32 members elected for four years by the Provinces and occupational groups; the Chamber of Deputies, 56 members elected for two years by direct vote of literate male and female citizens. At the beginning of 1932, the Provisional President was Dr. Don Alfredo Baquerizo Moreno, who assumed office Oct. 15, 1931, following the forced resignation of President Isidro Ayora.

### HISTORY

**BONIFAZ REPUDIATED.** When Neptali Bonifaz, wealthy Conservative landowner, was elected President on Oct. 20-21, 1931, through a split in the Liberal party ranks, it was the first time in many years that the hold of the Liberals on the government had been shaken. As predicted, Liberal efforts to prevent the President-elect from assuming office on the scheduled date—Sept. 1, 1932—developed early in the year. The first move was revolt led by Commander Ildefonso Mendoza, one of the defeated Liberal candidates, who on Apr. 7, 1932, seized the fort at Punta Piedras, commanding the Guayas River between Guayaquil and the coast, and two gunboats. He was unsuccessful in his effort to prevent the return of former President Leonidas Plaza Gutierrez, Conservative who had been in exile since 1925. His naval followers were captured by government forces April 11 and one of his assistants, Capt. Benignos Abad, was sentenced on April 24 to eight years imprisonment. On July 13, government officials arrested Col. Luis Larrea Alba, who had been Provisional President for two months in 1931, and announced that they had frustrated a second conspiracy to make him dictator through a military *coup d'état* (see 1931 YEAR BOOK).

Meanwhile it was discovered that Señor Bonifaz had assumed Peruvian citizenship 28 years earlier and had registered his first three sons as Peruvians. There was an immediate demand for his withdrawal as President-elect, arising partly from political partisanship and partly from the strong hostility among Ecuadoreans toward Peru. The Constitution provided that the President must be an Ecuadorean citizen. When Congress convened August 10, anti-Bonifaz crowds demonstrated in the streets of Quito. Under pressure of public opinion, Congress on August 19 sent a special commission to ask the President-elect to renounce the office, but he refused. The following day Congress, by a vote of 48 to 36, declared him ineligible. Supported by the Army, which was Liberal in its sympathies, Congress on August 26 authorized Provisional President Baquerizo Moreno to remain in office until a new election could be held.

The following day the Provisional President was forced to take refuge in the Argentine Legation by a revolt of part of the Quito garrison, supported by adherents of Bonifaz. The remainder of the army remained loyal. Troops converged upon the capital from various directions and aided by Liberal civilians recaptured the city on September 2 after several days of severe fighting in which from 800 to 1000 persons were killed. Bonifaz, in turn, took refuge in the American Legation. Alberto Guerrero Martínez, president of the Senate, was installed as Provisional President and on September 4 the Provisional government called new elections for October 30 and 31. In the elections, which were accompanied by disorders in Guayaquil and charges of fraud, Juan de Dios Martínez Mera (Liberal) decisively defeated Manuel Sotomayor y Luna (Conservative). The new President, a financier, was said to command the confidence of the propertied classes.

**THE FINANCIAL CRISIS.** Alarmed by the decline in the gold reserves of the Banco Central and facing the necessity of a loan to balance the 1932 budget, the government on February 7 passed a measure authorizing the Banco Central to abandon the gold standard. The government then secured a loan of 12,000,000 sucres (about \$2,000,000) from the bank. The exchange value of the sucre immediately declined, from 5.06 to 6.50 to the dollar. Under pressure from importers, the government on May 2 undertook to control foreign exchange operations through the Banco Central. The exchange relations led to some restriction of business and brought to the fore the traditional conflict between the importers of the coast, who opposed the depreciation of the sucre, and the mountain farmers, who favored it as a means of restricting imports of flour and lard. Both the suspension of the gold standard and exchange control were announced as temporary measures, to be reconsidered in November.

Before President Martínez Mera was inaugurated on Dec. 5, 1932, another anti-administration conspiracy was crushed at Quito on November 24. His cabinet, announced December 7, consisted of: Minister of Government, José María Pérez Echanique; Foreign Affairs, Antonio J. Quevedo; Education, Dr. Leopoldo Izquiete Pérez; Public Works, Alfredo Espinosa Palacios; Finance, Federico Cornejo; War, Gen. Juan Francisco Orellano. On December 8, Alberto Guerrero Martínez resigned as President of the Ecuadorean Senate due to the opposition of his colleagues. For Ecuador's part in the Leticia dispute, see COLOMBIA under *History*.

**EDDINGTON, SIR ARTHUR.** See PHYSICS.

**EDUCATIONAL PSYCHOLOGY.** See PSYCHOLOGY.

**EDUCATION ASSOCIATION.** See NATIONAL EDUCATION ASSOCIATION OF AMERICA.

**EDUCATION IN THE UNITED STATES.**

**STATISTICS.** *Attendance.* The latest available report of the United States Office of Education shows that the enrollment of pupils and students in all of the educational institutions of the country in 1930 totaled 29,908,544. These were divided as follows: public kindergarten and elementary schools, 21,278,593; private kindergartens and elementary schools, 2,309,886; public high schools, 4,399,422; private high schools, 341,158; secondary schools in preparatory departments of colleges, 47,309; secondary students in normal schools, 11,978; in normal

schools and teachers' colleges, 161,524; universities and colleges, 924,276; in private business and commercial schools, 179,756.

Between 1922 and 1930 the enrollment in kindergartens increased by about 30 per cent. In the latter year only one child in three who was eligible was enrolled. Reports state that cities do not indicate any pronounced tendency to abolish kindergartens. There are, however, many evidences that there will be marked changes in policies. It has been assumed that the enrollment in a kindergarten must be small and that the teacher must have an assistant. At present there are places in which 60 children are found in a kindergarten with only one teacher. In other places the children are divided. As many as 30 attend during the forenoon, and the same teacher cares for an equal number in the afternoon.

The nursery school as it is now conceived has never been an integral part of the school system. Various cities have experimented with the conduct of such institutions. At present it seems that the expense will be prohibitive. There are few indications that these schools will be brought into the regular systems as long as there is the present demand for economy. The Office of Education made public the following statement regarding school enrollments in the public schools of the United States:

Seven out of every ten Americans between 5 and 20 years of age attend school. For the United States as a whole, of the 17,209,566 persons from 7 to 13 years of age, 16,394,400, or 95.3 per cent, attended school at the end of the decade. This was an advance from 90.6 per cent in 1920.

Those between the ages of 14 and 15 numbered 4,678,084, while 4,156,378, or 88.8 per cent, were enrolled in school. In 1920, only 79.9 per cent of this group was in school. Turning to those between the ages of 16 and 17, which numbered 4,663,137, 57.3 per cent, or 2,669,857, were enrolled. In 1920 only 42.9 per cent of this group entered school.

There are 6,815,710 persons within the country between the ages of 18 and 20, of which number 1,456,784, or 21.4 per cent, go to school. In 1920 this group, the lowest of all, constituted but 14.8 per cent of that age population.

One of the significant increases has been among adults above 21 years of age in turning toward organized education. The number of students 21 or over increased during the decade nearly 300 per cent. In 1920 but 844,789 adults attended school. In 1930 the number had increased beyond 1,034,000.

**Costs.** The following facts regarding the costs of education are found in the report of the Office of Education for 1930. The total expenditure for education of all kinds, both public and private in the United States, for that year was \$3,234,638,567. The grand total of income for that year was \$3,459,375,539. Of this total, \$2,822,914,120 was for public institutions, and \$636,461,419 was for private institutions.

The total income for the public schools, including kindergarten, elementary, and secondary schools, for 1930 was \$2,469,311,376. This was derived as follows: from federal aid, \$7,333,834; from States, \$353,670,462; from counties, \$216,746,764; from local units, \$1,510,805,777; from loans and sale of bonds, \$357,050,699; sale of property and insurance adjustment, \$5,002,444; from other sources, \$18,701,396; income from school lands and permanent school funds, \$27,510,517. The total current expense for the public schools for 1930 was \$2,306,965,557. This included general control, \$78,679,502; salaries, \$1,250,427,194; textbooks, \$25,150,281; supplies used in instruction, \$42,149,758; operation, \$216,072,433; maintenance, \$78,810,238; auxil-

iary agencies, such as libraries, transportation of pupils, and health service, \$101,922,622; fixed charges, including pensions and insurance, \$50,269,680; capital outlay, \$370,877,969; interest, \$92,535,880.

In addition to the current expenses there were payment of bonds and loans, \$144,950,229; payment in sinking funds, \$13,980,119. During the year the matter of school costs has been under serious consideration. There has been a general attempt to economize. It is impossible to estimate the extent to which savings have been effected because many of the devices for economizing do not appear in the school reports. Many cities that report no cut in teachers' wages are receiving "contributions" of 10 per cent or more from the teachers' wages. Other cities have announced cuts of various amounts ranging from 10 to 35 per cent. In some cases, these cuts have been made on salaries that were decreased by 10 per cent or more the previous year.

Most school systems have increased the size of classes so as to reduce the number of teachers needed. Special subject teachers and supervisors have in many cases been eliminated. In some systems, the school term has been shortened. Reports from various parts of the country indicate that many systems are facing the necessity of closing schools because of lack of funds. There are places in which the teachers have had no salary over a period of several months.

Publishers of textbooks report a marked decrease in sales during the past year. The demand for school supplies and equipment has decreased to such an extent that a number of the more prominent school equipment plants have been closed. San Antonio, Texas, announced that their budget of \$2,421,240 for the school year ending June 30, 1932, had been decreased to \$1,500,000 for the following year. There is also a marked decrease in school building. Except in those places where the school term has been very greatly shortened, there has been no claim that the efficiency of the school has been greatly impaired. This is held to be due to the loyalty of the teachers, many of whom have served during the past year with little or no salary.

In connection with the actual achievement of marked economies in the conduct of the schools, it is interesting to note the attitude of such organizations as the National Education Association. In the resolutions adopted at their mid-summer meeting, they condemned a policy of retrenchment on expenses in the schools and immediately urged activities that would tend to increase expenses.

**Debts.** The public school debts in the United States amount to over \$2,425,000,000. Five States each have debts of more than \$200,000,000. These are Pennsylvania, \$272,795,327; New York, \$259,147,786; Ohio, \$229,258,598; New Jersey, \$213,267,468; and California, \$211,014,607. There are 13 States with debts in excess of \$50,000,000 each.

In the State of New Jersey the average indebtedness per pupil in average daily attendance was \$321.69. The corresponding cost in Pennsylvania was \$164.22.

In 1920 the Office of Education received reports of indebtedness from 34 States. These reported a total of \$651,930,112. In 1930 the same States reported indebtedness amounting to \$2,120,795,919. This shows an increase of 225.3 per cent. In 1920 the average indebtedness per

pupil in average daily attendance was \$54.17. In 1930 the average was \$114.08, an increase of 110.6 per cent.

The Office of Education also shows that in 1930 the public paid interest amounting to \$92,535,880; for bonds and loans, \$144,950,229, and for sinking funds, \$13,980,119. The payments for interest amounted to 4 per cent of the total costs of public schools.

**Property.** The Federal Office of Education published reports showing that the total value of public school property in the United States is \$6,211,327,040. This figure is for public elementary and secondary schools in 1930. The report shows that between 1928 and 1930 the value of school property increased by \$725,000,000.

For the United States the value of school property per pupil enrolled was \$242. In New York State it was \$407, while in Georgia it was \$72.

Public school property for elementary and secondary schools exceeds \$100,000,000 in 16 American States. New York valuation is \$871,000,000; Illinois, \$441,000,000; and California, \$427,000,000. The valuation in Ohio is \$409,000,000; in Michigan, \$338,000,000; in New Jersey, \$292,000,000, and in Massachusetts, \$243,000,000. The valuation in Texas is \$206,000,000, while in Connecticut, Indiana, Iowa, Minnesota, North Carolina, and Wisconsin it ranges above \$100,000,000.

**CHARACTER EDUCATION.** The development of character has been considered as a direct result of education. It has been somewhat unusual for the schools to undertake direct instruction in character education. At present there is a decided tendency to provide for character training in the curricula of both elementary and secondary schools.

Professors George H. Betts and George E. Hill of Northwestern University have made public the results of an extensive investigation of character education. They had reports from 836 cities. Fully one-fourth of these reported definite time allotment for character education in one or more grades of the public school system. These allotments were more frequent in the elementary than in the high school. On the average, one hour a week is allowed.

It is evident that the movement is at present without definite guidance. Much of the subject matter used by the teachers is locally prepared. A number of the cities reporting have committees of teachers working on the curriculum for character training, and a few places reported research projects under way.

The majority of cities that reported believed that character should be an indirect outcome of school work rather than a specific subject in the curriculum.

The investigators found that "there is a decided tendency to recognize character outcomes on the school report card, especially in the elementary grades and kindergarten."

The nature of the ends desired is indicated by the traits most commonly appearing on the report cards. They are effort, conduct, cooperation, courtesy, obedience, and persistence.

**THE NATIONAL SURVEY OF SECONDARY EDUCATION.** During the year the three-year national survey conducted by the Federal Office of Education was completed. The findings and recommendations are to appear in 28 monographs.

The survey staff studied the returns from more than 200,000 inquiry forms answered by

principals, teachers, pupils, parents, and employers. They also visited 550 different high schools.

Dr. Leonard V. Koos of the University of Chicago, who was the associate director in active charge of the survey, has summarized the report. He indicates that the increased enrollments in high schools show that "increasing proportions of children from what are termed the lower economic levels are being given opportunities of education on the secondary level."

Concerning the curriculum of the secondary school he states that the tendencies "have been away from foreign languages and mathematics (college entrance subjects) and toward social subjects and physical education." He reports that "non-academic subjects, including fine arts and practical arts, have shown a decided increase. In many schools non-academic subjects are now said to claim from a third to two-fifths of the pupils' time."

There has been an increase in trade schools. There are, however, fewer technical and commercial high schools. Continuation, evening, and summer schools are developing, and there is greater use of corresponding courses. College admission requirements show a greater flexibility.

Dr. Koos states that the reports of the survey will show the nature and direction of progress in each State. The reports will, therefore, be of great help to all those who are responsible for the management of secondary schools.

**STATE SCHOOL EFFICIENCIES.** From time to time, there have been attempts to measure the efficiencies of the various State school systems. Such attempts have never met with success. This is particularly true when the results have been combined in such way as to give a single figure as the rating or relative position of each State.

During 1932, the research department of the National Education Association published the results of an investigation in which the relative status of the States was given in respect to five specific features.

The features selected were: (1) The proportion of children reached by the services of the school. By this is meant the total attendance of children 5-17 years of age in comparison with the total that would result if all the children of these ages were in school for 200 days. (2) The holding power of the schools, by which is meant the proportion of children between the ages of 14 and 17 who continue in school. The assumption here is that children of these ages are generally free to leave school if they so desire. (3) The quality of teaching provided. The average salaries of teachers, principals, and supervisors are taken as an indication of the quality of teaching provided. (4) The school environment, as shown by the value of property per child enrolled. (5) The percentage of literacy.

All of the data are for 1930. The following table taken from the Research Bulletin of the National Education Association for May, 1932, shows the relative standing of each of the States in each of the five features thus selected. The names of the States appear in the order in which they rate regarding the per cent of their urban population. Thus Rhode Island has 92.4 per cent urban population, while only 16.6 per cent of the population of North Dakota lives in urban conditions.

STANDING OF THE STATES ON FIVE FACTORS  
RELATED TO SCHOOL EFFICIENCY, 1930

States	Rank of the States for 1930 in:				
	Amount of at- tendance	Hold- ing power	Teach- ers' sala- ries	Value of school prop- erty	Liter- acy
1	2	3	4	5	6
Rhode Island . . . .	22	45	18	18	25
Massachusetts . . . .	2	17	4	8	18
New York . . . . .	8	16	1	1	16
New Jersey . . . . .	8	85	8	8	24
Illinois . . . . .	7	28	8	9	21
California . . . . .	6	1	2	2	7
Connecticut . . . . .	9	40	5	4	15
Michigan . . . . .	1	12	13	5	17
Ohio . . . . .	5	7	6	7	27
Pennsylvania . . . . .	20	33	9	15	22
Maryland . . . . .	27	46	14	31	34
New Hampshire . . . .	10	22	21	20	23
Washington . . . . .	21	3	12	21	6
Indiana . . . . .	13	10	16	22	28
Wisconsin . . . . .	14	21	19	10	19
Utah . . . . .	12	2	20	28	4
Delaware . . . . .	18	29	11	14	33
Florida . . . . .	89	34	41	26	39
Oregon . . . . .	28	5	10	17	5
Missouri . . . . .	15	37	24	25	31
Colorado . . . . .	30	15	17	16	26
Minnesota . . . . .	17	24	22	12	12
Texas . . . . .	40	32	37	36	35
Maine . . . . .	4	18	35	30	30
Louisiana . . . . .	42	44	36	39	47
Iowa . . . . .	11	14	29	27	14
Kansas . . . . .	26	11	27	29	20
Nevada . . . . .	19	4	15	6	1
Nebraska . . . . .	24	13	30	19	11
Arizona . . . . .	35	31	7	35	18
Tennessee . . . . .	38	36	38	44	40
Oklahoma . . . . .	36	20	31	37	32
Montana . . . . .	16	9	25	18	8
Vermont . . . . .	25	26	33	33	29
Virginia . . . . .	37	42	43	41	42
Wyoming . . . . .	29	8	23	11	2
Georgia . . . . .	46	48	46	48	43
Kentucky . . . . .	41	41	40	46	37
Idaho . . . . .	33	6	26	32	9
Alabama . . . . .	45	39	44	42	45
West Virginia . . . . .	32	38	32	34	36
North Carolina . . . .	43	43	42	38	44
New Mexico . . . . .	34	30	28	40	41
South Carolina . . . .	48	47	45	43	48
Arkansas . . . . .	44	28	47	45	38
South Dakota . . . . .	23	19	34	23	8
Mississippi . . . . .	47	27	48	47	46
North Dakota . . . . .	31	25	39	24	10

The accompanying table should be read as follows. Rhode Island stands first in respect to urban population. It is twenty-second among the States in the percentage of children 5 to 10 years of age who attend school. It ranks forty-fifth in the per cent of children 14 to 17 years of age who remain in school. It is eighteenth in regard to the amount of average teachers' salaries. Its rank is thirteenth in respect to the value of school property per child enrolled, and it is twenty-fifth when rated upon the per cent of literacy of native born population.

The table shows some interesting conditions. In a general way, the States having the greatest proportion of urban population have the best record in regard to the attendance of pupils. There are, however, noteworthy exceptions. Maine, which ranks twenty-fourth in urban population, ranks fourth in school attendance, while Rhode Island, which ranks first in urban population, ranks twenty-second in attendance. The holding power of school systems is not closely connected with urban population. Idaho with a population predominantly rural is sixth among the States in attracting children 14 to 17 years of age, while Massachusetts, which ranks second in respect to urban population, is seventeenth in holding power.

As might be expected, the States having highest per cents of urban population generally pay the highest salaries to their teachers. Even in this matter, Arizona outranks Illinois and Pennsylvania. The same group of States that excel in regard to teachers' wages also rank high in the value of school property per pupil.

In the ratings for literacy there is the greatest variation in relative positions. The three highest positions in this feature are claimed by Nevada, Wyoming, and Montana, all predominantly rural in the character of the population.

**EEDEN**, FREDERIK WILLEM VAN. A Dutch physician and author, died in The Hague June 16, 1932. He was born in Haarlem in 1860 and studied medicine at the University of Amsterdam and psychopathology at the Universities of Nancy and Paris. In 1887, with Dr. Van Renterghen, he founded at Amsterdam the first clinic of psychotherapy in the Netherlands. His observation that most of the patients who came to his clinic for treatment were victims of social maladjustment, as well as physical disease, led to his establishing at Bussum about 1900 a model community, called Walden, where he carried out his theories of rehabilitating social misfits. He was also one of the leaders of the Dutch literary revival of the '80s. Among his works are: *Het Poortje* (1884); *De kleine Johannes* (1885); *Ellen* (1889); *Johannes Viator* (1892); *De Broeders* (1894); *Lied van Schijn en Wezen* (1895); *Lioba* (1897); *Blijde Wereld* (1903); *De nachtbluid* (1909); *Sirius en Siderius* (1912); *De Heks van Haarlem* (1915); and *Ismea* (1922).

**EGYPT**. A state in northeastern Africa, established as a nominally independent kingdom Mar. 15, 1922, following the termination on Feb. 28, 1922, of the British protectorate declared Dec. 18, 1914. Egypt's claim to jurisdiction over the Anglo-Egyptian Sudan is denied by the British. Capital, Cairo. Ruler in 1932, King Fuad I.

**AREA AND POPULATION**. While the total area of Egypt proper, excluding the Sudan, is about 380,000 square miles, the cultivated and settled area covers only about 13,600 square miles. The total population at the census of 1927 was 14,217,864, as compared with 12,750,918 at the census of 1917 and 9,734,405 in 1897. The estimated population in 1929 was 14,493,000. In 1930 births numbered 670,817 (645,217 in 1929); deaths, 367,118 (403,457). Populations of the leading cities in 1927 were: Cairo, 1,064,467; Alexandria, 573,063; Port Said, 104,603; Tanta, 90,016; Mansûra, 63,676; Asyût, 57,136; Faiyûm, 52,863; Zagazig, 52,839; and Damanhûr, 51,709. At the 1927 census, Moslems formed 91.19 per cent of the population; Christians, 8.34 per cent; Jews, 0.45 per cent.

**EDUCATION**. About 88 per cent of the population over 10 years of age were illiterate in 1927. In that year, of 4,734,071 children of school age, only 841,711 were attending school. Primary instruction is furnished mainly in native schools called *maktabs*. In 1930-31, there were 1938 *maktabs*, with 185,403 pupils enrolled. The University of El Azhar at Cairo, with its affiliated institutions, enrolled 2128 students in 1930-31. There were 7 higher colleges, and various special, technical, and secondary institutions.

**PRODUCTION**. Agriculture is the main support of the population and cotton is the chief money crop; in 1931 raw cotton comprised 70 per cent of



the value of all exports (74 per cent in 1930). The total cultivable area in 1929-30 was estimated at 8,239,185 feddans (feddan equals 1.038 acres), of which 5,790,050 feddans were under actual cultivation by 2,210,341 landowners. Of the cultivated area, 10 per cent was divided among 1,505,908 owners in plots up to one feddan, while 39.9 per cent, in plots of over 50 feddans, was owned by 12,815 owners. Agricultural workers formed 62 per cent of the total population. The cotton crop in 1931 totaled 1,286,000 bales (of 488 pounds each) from 1,746,890 acres, compared with 1,097,000 bales from 2,161,550 acres in 1930. Wheat, onions, sugar cane, beans, lentils, maize, millet, and rice are other products. Livestock in 1930 included 1,129,033 sheep, 795,546 buffaloes, 776,008 cows, 763,321 donkeys, 166,297 camels, and 35,866 horses.

The output of the leading minerals in 1931, with 1930 figures in parentheses, was: Petroleum, 290,000 tons (285,088 in 1930); phosphate, 242,205 (312,082); manganese, 100,195 (121,211). The manganese mines were closed down in 1932, due to lack of a market. The chief manufactured products are sugar, cigarettes, petroleum products, and articles for local consumption. The sugar industry was expanding as a result of the government monopoly established in 1930. The government in 1932 continued its policy of encouraging industrial development, chiefly through tariff protection.

**COMMERCE.** The adverse trade balance in 1931 was £E3,591,054 (\$16,892,655), compared with £E15,546,736 (\$77,598,423) in 1930. Imports were valued at £E31,528,167 (\$146,555,530), as against £E47,488,328 (\$237,028,490) in the previous year. Exports were £E27,937,113 (\$129,862,880), against £E31,941,592 (\$159,430,070) in 1930. Cotton exports in 1931 (amounting to 7,396,810 cantars of 99.05 pounds each) increased 24.8 per cent in volume over the preceding year, when they totaled 5,926,910 cantars, while the total value dropped 17.2 per cent to £E19,688,069 from £E23,788,474, in 1930. In 1932 imports totaled £E27,426,000 and exports £E26,987,000. The adverse trade balance was £E439,000.

The chief imports, in order of value, were cotton piece goods, iron and steel, fertilizers, coal, boilers and machinery, and wheat and corn flour. Imports came chiefly from the United Kingdom which supplied 22.6 per cent (20.4 in 1930) of the total; next came France, with 9.8 per cent (9.4); Italy, 9.2 (9.1); Germany, 8.0 (7.9). Exports went principally to the United Kingdom, which took 35.9 per cent of the total (34.5 in 1930); France, 12.8 (14.4); Germany, 9.1 (7.9); Soviet Russia, 6.1 (5.3); and Italy, 6.0 (6.2). Exports to the United States were valued at \$3,211,520 (\$9,785,940 in 1930) and imports from the United States were \$6,352,350 (\$11,030,040 in 1930).

**FINANCE.** Budget estimates for the fiscal year ending Apr. 30, 1933, placed revenue at £E37,492,520 and expenditure at £E37,309,639, as compared with £E39,316,000 and £E38,884,000, respectively, for 1931-32. The 1930-31 budget operations closed with a deficit of £E2,638,174, while those for 1931-32 showed a surplus.

The Treasury reserve fund on Apr. 30, 1931, amounted to £E37,950,791 (£E40,599,190 on Jan. 1, 1931), over 40 per cent of which had been immobilized in cotton. The national debt as of April, 1931, stood at £89,644,840 (sterling); the annual service charge for 1931-32 was £E4,101,-

903. In 1932, the Egyptian government advanced £E130,000 to the Anglo-Egyptian Sudan for the construction of a railway between Khartoum and Gebel Aulia, for use in construction of the £4,500,000 dam being built at the latter place. The Egyptian pound depreciated in sympathy with the pound sterling in 1931, the average exchange rate for the year being \$4.65, as against \$5 in 1930; in 1932 the average rate was \$3.58.

**COMMUNICATIONS AND PUBLIC WORKS.** In 1930, there were about 3358 miles of state-owned railway lines, besides 863 miles of private light agricultural lines. The new Cairo-Suez railway (about 80 miles long) was opened to traffic temporarily in 1931. In that year, railway revenues declined 25 per cent from the 1930 level. Highways in 1930 included 3760 miles of graded or drained dirt roads and 205 miles of macadam. Cairo is on the London-to-India air line and is a terminus of the Cape-to-Cairo air route. Work on the heightening of the Aswan Dam was continued during 1932. Steam vessels entering the ports of Egypt in 1930 numbered 9284, of 33,178,137 net registered tons; vessels cleared, 9293, of 33,215,392 tons. See **SUEZ CANAL**.

**GOVERNMENT.** Under the Constitution promulgated Oct. 22, 1930, Egypt was declared an independent hereditary monarchy, in which the King exercises full executive powers as well as legislative powers concurrently with Parliament. His other extensive powers include the right to veto all laws passed by Parliament, the sole right to initiate financial laws, to dissolve the Chamber of Deputies to which the Ministers jointly and separately are responsible, and the right to appoint and remove Ministers. He appoints 60 of the 100 members of the Senate, the other 40 being elected by indirect suffrage, as are the 150 members of the House of Deputies. The King also nominates the President of the Senate. The term of Senators is ten and that of Deputies five years; one-half of the Senate is renewed every five years. Prime Minister in 1932, Ismail Sidky Pasha, who took office June 21, 1930. The Parliament elected June 1, 1931, was boycotted by the Nationalist party (Wafd), which controlled 107 out of 121 Senators and 215 out of 235 Deputies in the previous Parliament. The Wafd also refused to recognize the new Constitution (see 1931 **YEAR BOOK**). Islam is the state religion and Arabic the official language.

**HISTORY.** Both Egypt's domestic situation and its relations with Great Britain remained in a relatively quiescent state during 1932. The Egyptian Nationalist (Wafd) party and the Liberal Constitutionals under former Premier Mahmud Pasha continued their opposition to the Sidky régime, but there was little of the violent rioting of 1931. An unsuccessful attempt was made to bomb a train on which Premier Sidky Pasha was riding on May 6. The suspended negotiations for a treaty settlement with Great Britain were not resumed, although Sidky Pasha informed Parliament in July that the Egyptian government was prepared to reopen negotiations when the proper time arrived. He indicated that the British government had been approached regarding the separate settlement of the capitulations issue. The reply apparently was that Britain considered it advisable to deal with this question later in the final treaty, in order to avoid haggling with other countries.

The session of Parliament which adjourned July 7 was occupied primarily with economic



problems, attributable in large part to the decline in cotton prices. The government was forced to intervene in the Cotton Exchange in March, when a rise of the pound sterling was reflected in a sharp fall in cotton prices. Regulations were established to prevent a precipitate fall in prices. On May 9, the government ceased to sell cotton, although its stocks were estimated at 400,000 bales. Private holders were said to be keeping some 600,000 bales off the market.

Other matters discussed by Parliament were the dam project at Gebel Aulia in the Anglo-Egyptian Sudan, which was approved; the enlargement of the harbor at Alexandria; and a new inner harbor in Lake Mariut. During the year the British, French, and Italian governments refused the request of the Egyptian government that they settle by negotiation the mode of payment of service charges on Egypt's foreign debt. In 1931, the government had announced its intention of paying interest and amortization charges, not in gold, but on the basis of the exchange value of the pound sterling.

The director of the Soviet trade bureau in Alexandria was expelled from the country in August, following the failure of the Soviet Union to purchase the anticipated large quantities of cotton from Egypt. He was also suspected of engaging in Communist propaganda.

**EGYPTIAN ARCHÆOLOGY.** See ARCHÆOLOGY.

**EL CAPITAN DAM.** See DAMS.

**ELECTIONS.** See UNITED STATES; also STATES AND COUNTRIES.

**ELECTRICAL APPLIANCES FOR THE HOME.** See ELECTRICAL INDUSTRIES.

**ELECTRICAL ENGINEERS, AMERICAN INSTITUTE OF.** A national organization representing the electrical engineering profession, founded in 1884. The objects of the institute are the advancement of the theory and practice of electrical engineering and of the allied arts and sciences, the maintenance of a high professional standing among its members, and the development of the individual engineer. It is governed by a board of directors, elected by the membership, consisting of a president, two junior past presidents, 10 vice-presidents, 12 directors, and a national treasurer.

In 1932 there were 60 sections of the institute located in various cities throughout the United States and 109 student branches in colleges giving courses in electrical engineering. Three annual conventions are held, in addition to district, section, and student branch meetings. The 1932 winter convention was held in New York City, January 25-29; the summer convention in Cleveland, Ohio, June 20-24; and the Pacific Coast convention in Vancouver, B. C., August 20 to September 2. Much of the institute's work is accomplished through its general and technical committees, of which there were 43 in 1932. It maintains, in coöperation with other national engineering societies, the Engineering Societies Library and a national employment service. There are three grades of members: member, associate, and fellow. The total membership on Oct. 1, 1932, was 16,958.

The principal publications of the institute are the monthly *Electrical Engineering*, the quarterly *Transactions*, the *Standards* of the A.I.E.E., and the *Year Book*. The medals awarded by the institute in 1932 included the Edison Medal to Bancroft Gherardi, vice-president and chief en-

gineer of the American Telephone & Telegraph Co., for "his contributions to the art of telephone engineering and the development of electrical communication"; the John Fritz Medal, in conjunction with other engineering groups, to Michael I. Pupin, scientist, engineer, author, and inventor of the tuning of oscillating circuits and the loading of telephone circuits by inductance coils; and the Washington Award to William D. Coolidge, associate director of the research laboratory of the General Electric Co., for "his scientific spirit and achievement in developing ductile tungsten and the modern X-ray tube."

The officers of the institute elected for 1932-33 were: president, H. P. Charlesworth; junior past presidents, W. S. Lee and C. E. Skinner; vice-presidents, W. B. Kouwenhoven, W. E. Freeman, P. H. Patton, A. W. Copley, L. B. Chubbuck, J. Allen Johnson, E. B. Meyer, K. A. Auty, Stanley Stokes, and C. R. Higson; directors, J. E. Kearns, F. W. Peek, Jr., C. E. Stephens, A. B. Cooper, A. E. Knowlton, R. H. Tapscott, L. W. Chubb, B. D. Hull, H. R. Woodrow, G. A. Kositzky, A. H. Lovell, and A. C. Stephens; national treasurer, W. I. Slichter; national secretary, H. H. Henline. Headquarters are in the Engineering Societies Building, 33 West Thirty-ninth Street, New York City.

**ELECTRICAL INDUSTRIES.** There were a few outstanding achievements in the application of electric power in the industries in spite of reduced business activity. The Otis Steel Company placed in service the largest cold strip mill built so far. It is a 72-inch mill with two stands, each driven by a 1500-h.p. direct current motor operating between 200 and 400 r.p.m. while the reel is driven by a 400-h.p. motor automatically controlled to maintain any desired tension in the strip. For the gold mines at Noranda, Quebec, a very large hoist was installed to operate a skip hoist which raises 12,000 pounds of ore per trip from a depth of 4200 feet with a bucket speed of 2200 feet per minute and is driven by a 1500-h.p., 68-r.p.m. direct current motor taking power from a motor generator set driven by an 1800 h.p. synchronous motor. An ingenious device was added to a sheet rolling mill which automatically indicates and registers the length of sheet after each pass by means of a Selsyn motor on the rolls and a repeater placed in clear view of the man in charge.

Selsyn motors were also applied to each end of a heavy lift bridge so that the bridge tender can keep the bridge on an exact level as he causes it to rise and descend. Two repeaters in full view enable the operator to see what are the relative heights of the two ends without looking away from his controls. In elevator control electron tubes are now used for automatically stopping the car at the exact floor level. The three-electrode tubes are connected to an oscillating circuit including two coils, projecting from the moving car body and separated about one inch. Magnetic plates project from the stationary structure at each floor and as the elevator brings the magnetic field of the coils into close proximity of the plates the electrical balance of the tubes is changed, the plate-current of the tubes increases and this change operates a relay which stops the elevator.

Advances have been made in electrical control of steering for aeroplanes by interlocking the magneto-compass with the radio-compass and giving the combination automatic control of the

rudder. This combination can maintain the course direction exactly in spite of wind drift or changing velocity or direction of the wind. The radio-compass, of course, is supposed to be receiving signals continuously from a radio beacon located at the desired destination.

A new photo-electric recorder has been brought out which will give a record of measurements as accurate as the measurements themselves. Usually most recording mechanisms have so much inertia and friction that the record is much less accurate than the measurement. In this instrument the only power taken from the circuit to be measured is that required to deflect a galvanometer mirror. By a clever arrangement of stationary and movable mirrors the light beam is made to have unequal effect upon two photo-electric cells which cause a "follow-up" element to move an auxiliary shaft by means of auxiliary power so that this shaft always assumes the same angular position as the shaft of the measuring element. Thus the power to do the recording is taken from the auxiliary source while the measuring circuit merely has to move a beam of light.

The electric manufacturing companies have made an extensive study and done considerable development on "Air Conditioning" which means the heating or cooling, cleaning, revivifying and humidifying of the air in the rooms in which we live or work.

The most widely advertised example is the air conditioning of some of the high class railroad passenger trains but equipment has been put on the market for application in the home. The heated air is drawn through screens onto which warm water is dripping and thus carries humidity with it and mixes with the air of the rooms. It is now claimed that for health and comfort the air we breathe must have some ions in it and it is proposed to ionize the air by electrical discharges as well as clean and humidify it. One company developed an oil-burning house furnace in which the fuel oil is sprayed downward, meets a column of warm air flowing upward and the combustion takes place and the hot products mushroom outward against the water tubes. The oil is ignited by an electric spark and the whole operation is performed and controlled by electrical devices, so as to maintain a definite temperature.

Another interesting development is the use of the now almost universal electric refrigerating machine to cool houses in summer time by putting the cooling coils in the intake flue of a hot air system and forcing the air over them and to the rooms by means of an electric fan. This has been applied to motion-picture houses and railway trains, and some private homes.

The electric manufacturers are now also carrying on an energetic campaign to convince the housewife of the superior merits of the electric cook-stove. Several new lines and sizes were put on the market with new "high efficiency" calrod heating units in which the resistance wire is totally enclosed in a steel tube and this steel tube comes in direct contact with the bottom of the vessel to be heated, thus the heat is transferred by conduction rather than by convection or radiation. By means of careful use of heat insulation in the stove the amounts of power and energy required are reduced and some of the electric light and power companies are making attractive rates for energy for this purpose.

The simple household electric fan has been taken up by the scientists as a subject of study, particularly with respect to those properties which cause the well-known hum or buzz. As a result new fans have been brought out which are noiseless and which will give more air for a given power and size. In other words, the hum has been put to work.

In research the X-ray tube has been improved in design and new methods have been devised of supplying them with the high voltage required. Kenotrons give 85,000 volts and one-half ampere for commercial use. A combination giving 300,000 volts is used in industrial establishments and makes it possible to take pictures through four inches of steel to show whether there are any flaws in the steel.

Experiments upon the effect of cathode rays upon plants and animals are now quite popular among scientists. Any living organism may be killed by an excessive exposure but very curious effects are obtained by moderate exposures. Seeds of plants subjected to such exposure will produce plants having quite abnormal characteristics and appearance. It is possible to produce new types in this way, some of which are improvements over their predecessors. The work started by Luther Burbank may be much helped.

Radiotherapy is the name of a new art now being tried by the medical profession. It consists of producing local heating in the body of a person or animal or even a fever temperature by placing the subject or a desired part of the subject in the field of a very high-frequency, short-wave radio generating set. The part so exposed has a feeling of warmth throughout the inside. It is being tried as a remedy for rheumatism, arthritis, neuritis, etc. The effect of putting the whole body in the field is to produce a fever temperature of any reasonable degree. This, it is claimed, will give a favorable reaction in certain diseases on a similar theory that a malarial infection may improve a case of certain mental diseases. A number of reputable hospitals have installed these machines, known as "fever machines," and are experimenting upon their usefulness.

Research upon the effects of lightning have been carried forward by the construction of a "lightning generator" capable of giving 10,000,000 volts and improved devices to measure the effects of lightning have been added or improved. The new lightning generator gives double the voltage available a year ago.

An instrument, using an amplifier of vacuum tubes, has been developed which will indicate and measure a current of a millionth of a millionth of a millionth ( $10^{-18}$ ) of an ampere or six electrons per second. This is probably the smallest amount of power ever measured. The instrument is used in research work.

#### ELECTRICAL MARINE ENGINEERING.

Five of the six ships with electric propulsion which were mentioned last year as under construction for the U. S. Mail S. S. Co. have been completed and put into service. The sixth was severely injured by fire and is still under construction. Each of these ships is driven by two 5250-h.p. synchronous-induction motors with a shaft speed of 125 r.p.m. for 17.5 knots. For speeds up to 80 per cent of rating one of the two turbo-generator sets supplies power for both motors and above this speed both sets are required. On the trial trip the ships gave a speed

above 19 knots and had a fuel consumption of 0.69 pound of fuel oil per h.p. hr. including the steam supplied to the three 500-kw. auxiliary generators for miscellaneous power applications. There are 45 motor driven auxiliaries in the engine room, 45 ventilating fans throughout the ship, and all the apparatus for handling the ship is electrically driven, such as, winches, capstan, windlass, etc.

There were several Diesel-electric tow boats and tugs put into service, an example of which is the Navy Yard tug No. 119 which has two 260-kw., 250-volt d.c. generators driven by Diesel engines and one 640-h.p., 125-r.p.m. motor driving the propeller. The motor may be controlled from either the engine room or the pilot house.

The *Manhattan*, the largest ship ever built in the U. S. A., is driven by geared turbines but it has an electric plant of four 500-kw., 240-volt d.c. generators to supply power to its numerous auxiliaries. Two thousand kw. or 2700 h.p. would be the capacity of the propelling machinery on many ships. The ship has 383 motors totaling 4000 h.p. and 1200 fans.

A noteworthy change in practice is incorporated in the two new vessels known as *Seatrains New York* and *Havana* which carry freight cars, loaded and complete, between New York and Havana. All the auxiliary apparatus on these vessels is driven by a.c. motors instead of d.c. motors which have always been used in the past. The absence of commutator and brushes and convenience of total enclosure to protect from moisture and lesser weight give these motors advantages, but in the past their limited speed characteristics have made them inferior to the d.c. motor. The enormous improvement in a.c. motors in the last few years has overcome this handicap.

The use of the gyro for stabilizing ships is becoming practical and popular. One of the several methods used for controlling the gyroscope and causing it to come into action at the proper instant is by the use of one of the new electron tubes, the thyratron or grid glow tube. A very small pendulum on the ship may actuate the grid or trigger of one of these tubes and the tube itself will set in motion electrical machinery of hundreds of horsepower, if necessary, to do the work desired. A demonstration of this combination was made before the American Society of Naval Engineers.

A novel electric ferry was put into operation across the Sacramento River (Calif.). The ferry is driven by electric motors which take their power from an overhead trolley wire spanning the river. When it is necessary for a boat to pass up or down the river the trolley wire is lowered to the bottom of the river and this automatically cuts off power from the trolley wire.

The sonic altimeter (described in the 1931 YEAR BOOK) has been applied to navigation in the form of a sonic locator. The interrupted whistle note is sent out in a definite direction and if there is an obstacle, such as a ship or land, an echo comes back and the time required for the sound to go out and back indicates the distance of the object which is automatically indicated in feet.

**ELECTRICAL TRANSMISSION AND DISTRIBUTION.** The most important and most interesting subjects of study and investigation continue to be stability of systems and lightning protection. Forward steps are being

taken each year and new facts and theories have been added this past year. Installation of a newer high speed Oscillograph which automatically makes a record whenever trouble occurs has given valuable information and the installation of accurate high speed relays and high speed circuit breakers has reduced the trouble from instability.

Lightning is being investigated with a new instrument, a Surge Crest Ammeter, which will give a record of the maximum instantaneous current which flows as a result of a stroke of lightning, specifically the current which flows in a transmission tower when it or the ground wire is struck by lightning. The instrument consists of a small bar-shaped magnet made up of thin laminations of a special composition of cobalt steel having a very high magnetic retentivity. This is placed in a definite position with respect to one of the tower legs. When the tower is struck the instantaneous unidirectional current flowing in the leg magnetizes the bar to a definite degree depending upon the magnitude of the current. An inspector finds by testing with an ordinary compass that the bar has been magnetized, takes it to a laboratory where its magnetism is measured in a special device which indicates the value of the current necessary to produce that degree of magnetization.

All transformers to be placed on high-voltage lines are tested beforehand with a lightning surge generator which will impress any voltage desired as high as 10 million volts with a definite surge, for instance one in which the potential rises to its specified maximum in one-half a micro-second. At especially exposed places the transformers or insulators are protected by special devices which by-pass the lightning discharge to ground around the apparatus to be protected and then clear the ground afterward leaving the circuit in working condition. These are of two types: one of the de-ion type described before and the other of the expulsion type in which the gases formed by the arc act with explosive force to blow the gases away and let in fresh de-ionized air. Each of these will short and open the circuit within an interval of one-sixtieth of a second. Of more specifically technical interest is the improvement derived from connecting the ground side of the lightning arrester on the primary or high tension side to the neutral of the low tension side if the latter is well grounded. This completely by-passes the transformer and its auxiliary apparatus.

In the art of high voltage cables there were no unusual developments. A short cable transmission at 115,000 volts rated at 114,000 kv-a. was installed crossing the Columbia River under the water to save a long overhead span (Portland, Ore.). The insulation on this was 0.55 inch thick and the armor consisted of hard drawn copper wires instead of steel, thereby reducing the losses 30 per cent. In the research on cables it has been found possible to considerably reduce the thickness of insulation due to improvements in quality and technique. Thus a present day cable for 132 kv. would have the same thickness as a 66-kv. cable of a few years ago. A cable for 220 kv. is now a practicable thing if economically justified.

The use of secondary networks was well established some years ago and the use of primary networks is growing very rapidly. A considerable saving in copper or energy is effected thereby and

it is more adaptable to unexpected growth in load than the radial system which it supplants.

Primary networks at 4000 volts have been installed in many cities of about 50,000 population and in Boston and Pittsburgh. Its success results from the recently developed devices: Network protector, automatic regulator and improved relays. Factory built substations are now available which include the transformer and all protecting and regulating devices which it is merely necessary to set up on the site and connect the primary and secondary terminals to the two existing networks, the device having been tested at the factory.

In a test a single-phase circuit breaker operating on the de-ion principle has opened a circuit carrying 118,000 amperes at 7600 volts or about 900,000 kv-a. in one sixtieth of a second. Three of these in a three-phase circuit would interrupt 2,700,000 kv-a. Circuit breakers of both the de-ion and oil blast types are available which will interrupt 2,500,000 kv-a.

A new line of high speed direct-current circuit breakers was brought out for use in high-voltage railway work, particularly in connection with mercury vapor rectifiers. They are of the air break type, will open the circuit and bring the current on short circuit to zero in about one-sixtieth of a second. Some of the circuit breakers for direct current were interesting because they used silver for the main contacts and carbon alloy for the arcing contacts. The silver reduces the heating and is less likely than copper to oxidize and deteriorate the contact.

A new departure was the installation in Boston of a set of Phanotron rectifiers to convert from a.c. to 250 volts d.c. to be tied into the existing Edison three-wire system. This rectifier is rated at 250 volts and 600 amperes and consists of six tubes. The advantage is that such a converter may be installed close to the load centre with a minimum distance of distribution at 250 volts and all the rest of the distance is traversed at 13,800 volts. This minimizes the voltage drop and power losses and gives good regulation of voltage. Also this installation does not involve any difficulty of synchronizing or instability as do synchronous converters which are now universally used for the Edison three-wire system.

New types of supervisory control were developed. These are to enable a "power dispatcher" to read instruments and operate switches in one or more distant stations or sub-stations. This particular form called the Polarcode uses only two wires to the distant station and makes it possible to perform 25 different operations instantly without the lapse of time required for dialing and selecting. It will operate the gates of a water wheel, observe the voltage of the generator, connect to line, regulate the load, read the temperature of the generator or its bearings, and give many other pieces of information.

**ELECTRIC LIGHT AND POWER INDUSTRY.** The output of energy of the electric light and power stations in 1932 was 77.5 billion kw.-hr., a decrease of about 10 per cent from 1931. The gross revenue was \$1,979,000,000, a decrease of 8 per cent. From these figures we see that the average price received per kw.-hr. was 2.56 cents. New plant capacity added was 600,000 kw., mostly in steam plants. The amount of coal used in the plants using coal was 1.51 lb. per kw.-hr., 3 per cent less than last year. Statistics show

that the average ratio of operating expenses to gross revenue was 43 per cent and that taxes took 10 per cent of the gross revenue.

New technical advances were the two new installations of mercury boilers and turbines at Kearny, N. J., and Schenectady, N. Y., the new 150,000 kw. turbine for steam at 1200 lbs. for Chicago, and the idea of the outdoor unit or integral power plant as exemplified at Schenectady. Here a unit consists of the turbine, its special boilers and controlling apparatus completely separated from any other unit or boiler. It is stated that a steam plant using steam at from 600 to 1200 lbs. can be built for from \$60 to \$80 per kw. and can generate energy for 0.3 cents per kw.-hr. for power station costs only. It is estimated that a mercury turbine plant would cost about \$75 per kw.-hr. and can deliver a kw.-hr. for 10,000 b.t.u. at a cost not yet known for lack of experience.

Among the financial and political activities were the investigation of the public utility holding companies by the Federal Government, the decision of a court that a holding company should not borrow money from one of its operating companies and the decision of a Federal Court that the rate for gas set by the Kansas Public Service Commission was unjust and confiscatory. The receivership for the Midwest Utilities Corp. involving many of the Insull properties was an outstanding piece of bad news about the utilities.

**ELECTRIC LIGHTING.** There were 546 million incandescent lamps sold in the U. S. in 1932, a decrease of 2 per cent from 1931. There was a noticeable increase in the percentage of lamps sold for operation at 120 volts instead of 115 volts. A new lamp of only 3 watts rating at 115 v. was added to the available choice. This is convenient for sign lighting. A new line of incandescent lamps of a low price-range was brought out to compete with importations. These run from 7.5 watts to 60 watts, have a life one-half that of the standard grade, an equal efficiency, and sell for 10 cents apiece. There were many small lamps of Japanese make put on the market at a low price. An authoritative test on these lamps was published which showed that they consumed much more power than they were labeled and were lower in efficiency than American made lamps.

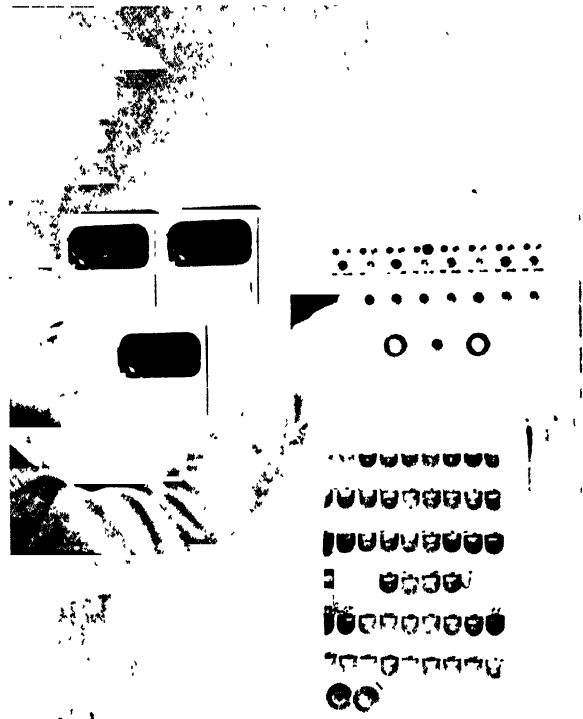
An agreement is being arranged between European and American manufacturers to settle upon a standard base and socket. With the present forms European made lamps will fit in American made sockets but American made lamps will not fit in European sockets.

A new lamp, known as the Photoflood lamp, has been brought out which enables photographers to make movies or take time exposures conveniently indoors and at night. This is made in a bulb of the 60-watt size, operates on circuits of 105 to 120 volts and gives a quantity of light equivalent to a 750-watt lamp with an increased proportion of actinic light due to the higher temperature of operation. This is obtained by the sacrifice of the life of the lamp which is only 120 minutes.

A radically new portable Illuminometer was brought out which requires neither batteries nor standardized lamp. It makes use of what has been named the Photronic Cell which consists of a disk on which has been deposited a light-sensitive material so that when exposed to



*Courtesy of Westinghouse Co*  
 NIGHT ILLUMINATION, 60 WALL STREET,  
 NEW YORK, N. Y.



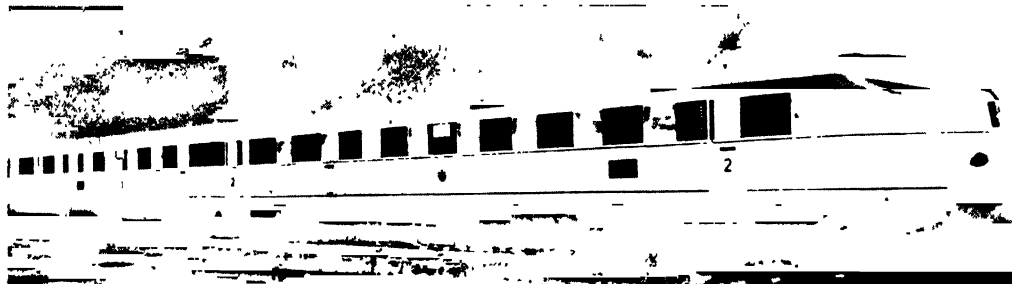
*Courtesy of Westinghouse Co*  
 SUPERVISORY CONTROL FOR PERFORMING MANY OPERATIONS  
 OVER A SIMPLE LINE



*Courtesy of General Electric Co*  
 INDUSTRIAL MOTOR MOUNTED ON A NOISE INSULATING  
 BASE



*Courtesy of Westinghouse Co*  
 ENCLOSED FAN COOLED INDUSTRIAL MOTOR



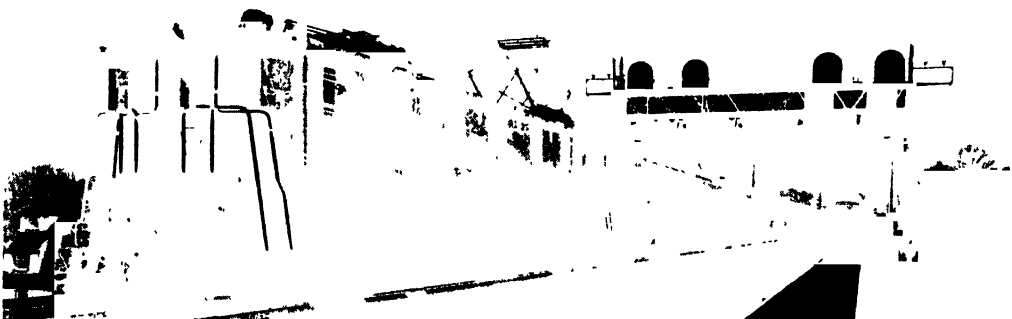
Wide World

REICHSBAHN'S DIESEL ELECTRIC CAR, GERMANY



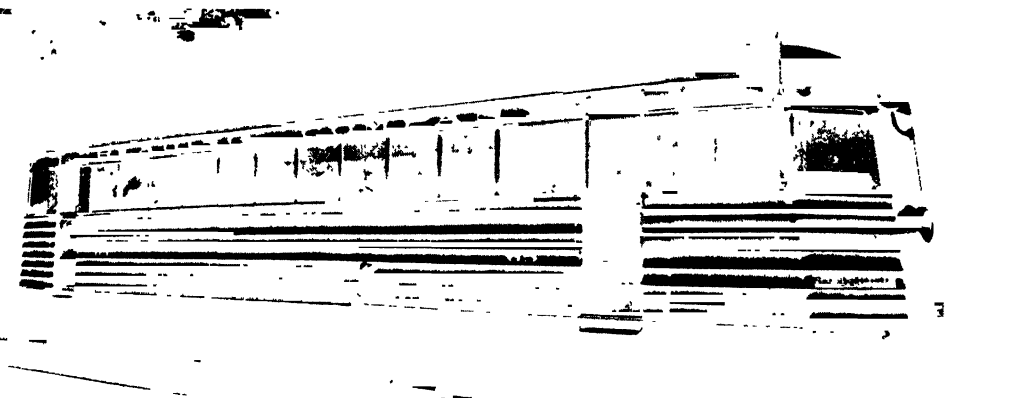
Courtesy of Westinghouse Co

TRUCK SHOWING POWER PLANT AND PNEUMATIC RUBBER WHEELS OF GAS ELECTRIC CAR



Wide World

PENNSYLVANIA RAILROAD'S NEW ELECTRIC ENGINE



Courtesy of Westinghouse Co

GAS ELECTRIC CAR ON PNEUMATIC WHEELS

light an electro-motive force is generated which is proportional to the intensity of the light. The voltage produced is read on a suitable sensitive voltmeter whose scale is calibrated for light intensity in foot-candles. A new pyrometer lamp was produced which will measure the temperature of incandescent masses, as in furnaces, with an accuracy of a few degrees. It consists of a carbon filament in a blackened bulb with small windows diametrically opposite, so, on looking through, the object to be measured and a portion of the lamp filament are both in the field of view, side by side. By varying the current in the filament until the brightness of the two is matched the value of the current in the filament is a measure of temperature.

Ultra-violet lamps for theurapeutic work have been improved, made more convenient for use, cheaper and have been vigorously pushed commercially. The newest lamp, the S-2, being smaller than previous sizes, is more suited to homes, is rated at 130 watts but requires a transformer which is placed in the base of the stand and the whole combination takes 175 watts at 115-120 volts. (Lamp described in 1929 YEAR BOOK.) Another source of ultra-violet light is the Black Lamp which gives light that cannot be seen by the human eye and is made in a black bulb, but it will take photographs and of more importance gives attractive fluorescent light from certain common materials.

The new music hall in Rockefeller Center has the most elaborate system of lighting and control yet installed. It is an enlargement of the system described in the 1931 YEAR BOOK. All the lighting of stage and auditorium is controlled from an organ console in a pit in the orchestra in front of the audience. Here by touching the key board all degrees of intensity, all groupings, and all color effects are produced. There are 314 separate dimming controls which may be preset for five scenes. The dimming is by saturable reactors in a.c. circuits. For control of color screens there are 91 master or transmitting Selsyn motors and 584 receiving or repeating Selsyns which move the color screens in front of the light sources.

The art of flood lighting of buildings has advanced with the popularity of the practice and considerable expense is incurred for special features of architecture which will contribute to the artistic effect at night. The new building at 60 Wall St., New York, is a good example of modern practice. This building is a little less than 1000 ft. in height and is the tallest building in the lower district. It is brought out at night by 10-inch projectors of 250 watts throwing beams upward on the pilasters and by a large lantern of opal glass, at the top, having 1300 sq. ft. of surface illuminated from inside by 25,000 watts. The Washington Monument is now floodlighted, the main portion by flood lights on the ground near-by rating 5000 watts for each of the four sides. The top is illuminated by two searchlights of 1500 watts placed on other Federal buildings, 765 and 1530 ft. distant and this effect is maintained all night long as a warning beacon to aeroplanes.

**ELECTRIC TRANSPORTATION.** The latest statistics of railroad electrification issued in 1932 show that the United States of America stands first in mileage electrified with 2055 route miles, 3597 miles of main line track and 4911 miles of all tracks. Switzerland came second, Italy third,

and France fourth. In the whole world there are 11,318 miles of main line track operated electrically.

The Pennsylvania R.R. is the most important and while not yet finished it is expected that the New York-Philadelphia section will be completed and in operation in the spring of 1933. The overhead construction is being put up between Philadelphia and Wilmington. The Reading R.R. has added thirty additional two-motor cars with improved design of motors and control equipment. The New York Central has added a 3000 kw. rectifier in its Wakefield Substation and operates it in parallel with a 2000 kw. synchronous converter.

The St. Gothard Ry. of Switzerland has built some single-phase electric locomotives to rate at 7200 h.p. for a two-unit locomotive. Each unit has four driving axles and power will be taken from an overhead trolley at 15,000 volts and 16.7 cycles. The Soviet Government has placed in operation on electric power a heavy grade section of the Trans-Caucasian Ry. between the Caspian and Black Seas. Two 145-ton locomotives for operation on 3000 volts direct current were shipped from this country and six more are to be built in Russia. The Paris-Orleans Ry. of France has ordered built in this country a locomotive of 147.5 tons for high speed passenger service to operate on 1500 volts direct current at 87 miles per hour. It will rate at 3600 h.p.

Improvement continues in the engineering features of the usual urban trolley car, higher speeds are being attained and better schedules by the use of new motors of greater power and no greater weight. Field shunting gives the higher speed with no decrease in acceleration. A speed of 45 m.p.h. is being attained. The new control is of the commutator type with a greater number of steps, the control and power brakes being foot operated.

Diesel electric cars for railroads are now built to run on pneumatic tires on railroad tracks giving the passengers more comfort and reducing maintenance of the equipment. An example is one built for the Reading R.R. having a capacity of 47 passengers and weighing only 11 tons including the 125 h.p. power plant and one motor. The car has two six-wheel trucks, one of which carries the power plant and the other the traction motor.

Air conditioning is popular on main line railways and is now made available for trolley cars. A complete unit is made which takes power from the overhead trolley and supplies conditioned air to the interior of the car. The use of trolley busses or trolley coaches has increased. These take power from a double overhead trolley but require no track. They have a capacity of 30 to 40 passengers.

Signaling on main lines of railways has developed into a new art of electrical communication. The signals are carried right to the cab of the locomotive and placed in front of the engineer and are given by a light or sound device. In the operation of these signal systems there are 12,000 electron tubes in regular service and the records from this service show a life expectancy of 3000 hours for the tubes.

**ELECTRIFICATION OF RAILROADS.** See RAILWAYS.

**ELECTRONIC MUSIC.** See PHYSICS.

**ELECTRONS.** See CHEMISTRY; PHYSICS.

**ELECTRON TUBES.** See DYNAMO ELECTRIC MACHINERY.

**"ELEKTRA."** See MUSIC.

**ELEMENTS.** See CHEMISTRY.

**ELMIRA COLLEGE.** An institution for the higher education of women in Elmira, N. Y., founded in 1852 and operating under its present charter since 1855. The enrollment for the autumn of 1932 was 424. There were 55 members on the faculty. The endowment of the college amounted to \$1,147,248; and the income for the year was \$404,983. There were 35,000 volumes in the library. President, Frederick Lent, Ph.D., D.D., LL.D.

**EMERGENCY FOOD RELIEF.** See FOOD AND NUTRITION.

**EMERGENCY RELIEF.** See UNEMPLOYMENT; UNITED STATES, WELFARE WORK.

**EMERSON, BENJAMIN KENDALL.** An American geologist, died in Amherst, Mass., Apr. 7, 1932. He was born in Nashua, N. H., Dec. 20, 1843, and was graduated from Amherst College in 1865, and with the Ph.D. degree from the University of Göttingen in 1870. After serving as instructor in geology at Amherst he was appointed in 1872 professor of mineralogy and geology. In addition after 1878 he occupied for almost 35 years the corresponding chair at Smith College. From 1890 to 1896 he was assistant geologist and from 1896 to 1920 geologist of the U. S. Geological Survey, for which he prepared a number of valuable geological maps of Massachusetts. He was vice-president of the American Association for the Advancement of Science in 1896, vice-president of the International Geological Congress at St. Petersburg in 1897, and president of the Geological Society of America in 1899-1900. He retired as professor emeritus in 1917 but was engaged until two years prior to his death in chemical and geological research work and writing.

**EMIGRATION.** See IMMIGRATION.

**EMORY UNIVERSITY.** An institution for higher learning in Atlanta, Ga., coeducational only in the upper division of the college and in the graduate and professional schools (except the school of medicine), founded in 1836. The enrollment for the autumn of 1932 was 1189, distributed as follows: college of arts and sciences, 486; school of business administration, 95; graduate school, 71; school of theology, 60; school of law, 63; school of medicine, 221; library school, 44. The enrollment for the 1932 summer session was 665. The faculty numbered 261. The endowment amounted to \$5,171,519, and the income for the year was \$764,091. There were 129,000 volumes in the library. President, Harvey W. Cox, Ph.D., LL.D.

**EMPIRE FREE TRADE.** See GREAT BRITAIN and CANADA under *History*.

**EMPLOYMENT.** See UNEMPLOYMENT.

**ENCYCLICALS.** See ROMAN CATHOLIC CHURCH.

**ENDOWMENTS, COLLEGE.** See UNIVERSITIES AND COLLEGES.

**ENGINEERING.** See BOILERS; BRIDGES; CANALS; DAMS; DYNAMO ELECTRIC MACHINERY; FIRE PROTECTION; GARBAGE AND REFUSE DISPOSAL; PORTS AND HARBORS; RADIO COMMUNICATION; TUNNELS, ETC.

**ENGINES.** See INTERNAL COMBUSTION ENGINES.

**ENGINES, STEAM.** See STEAM TURBINES.

**ENGLAND.** The largest and most densely populated part of the island of Great Britain. See GREAT BRITAIN.

**ENGLAND, CHURCH OF.** The Established Church of England. Its faith is represented in the United States by the Protestant Episcopal Church (q.v.). The King is the supreme governor of the church, possessing the right to nominate to vacant archbishoprics and bishoprics. The King and the First Lord of the Treasury also appoint to certain deaneries, prebendaries, and canonries, and the Lord High Chancellor to certain canonries. For administrative purposes, the country is divided into two provinces: The Convocation of Canterbury and the Convocation of York, each under the control of an archbishop.

The church assembly, established in 1920 "to deliberate on all matters concerning the Church of England and to make provisions in respect thereof," consists of three houses, composed of bishops, clergy, and laity, respectively, the laity being elected every five years by the lay members of the diocesan conferences, which consist of representatives elected by members of the church. Every measure passed by the church assembly must be submitted to an ecclesiastical committee, consisting of 15 members of the House of Lords and 15 members of the House of Commons. This committee reports on each measure to Parliament, and the measure becomes a law if it is passed by both Houses of Parliament. Parochial affairs are managed by parochial church meetings of parishioners and by church councils elected by such meetings.

In 1931 there were 2,428,334 Easter communicants in the 43 English dioceses. Incumbents numbered 12,773 and assistant curacies, 4083. There were baptized during the year 408,458 infants and 10,124 persons of riper years. The total voluntary parochial contributions from all sources amounted to £6,529,160.

The joint conference of representatives of the Church of England and of the Federal Council of the Evangelical Free Churches, with a view to the promoting of Christian unity in England, issued a letter as the outcome of meetings at Lambeth Palace on Oct. 21, 1932. The statement, signed by the Archbishop of Canterbury and the Rev. W. Lewis Robertson, moderator of the Federal Council of the Evangelical Free Churches, recognized that much coöperation had already been established but that there was room for a very great development in that direction.

The Archbishop of Canterbury addressed the General Assembly of the Church of Scotland in May in support of the invitation of the Lambeth Conference of 1930 to the Church of Scotland to enter into free and unrestricted conference with the Church of England and the Episcopal Church in Scotland. The invitation was accepted. The Archbishop of York took part also in a conference of representatives of the three churches in November.

The convocations of Canterbury and York passed resolutions agreeing to the establishment of inter-communion between the Church of England and the Old Catholics, in accordance with the decisions arrived at by the conference at Bonn in July, 1931, between representatives of the Anglican Communion and the Old Catholic Churches. At St. Paul's Cathedral on Sunday, September 18, Dr. Johannes Berends, Bishop of Deventer, together with eight clerical and lay members of *Cor Unum et Anima Una*, the leading



Old Catholic theological society of the Netherlands, communicated at the midday service of Holy Communion. This ceremonial act of intercommunion was arranged in thanksgiving for the decisions arrived at the Bonn Conference.

The church assembly met in session in February, June, and November at the Church House, Westminster. On June 16 Royal assent was given to the fiftieth measure passed by the assembly, i.e. the Benefices (Diocesan Boards of Patronage) Measure, 1932, which had received final approval in the assembly at its Spring session. Other legislative business embraced the Benefices (Purchase of Rights of Patronage) Measure, which received the final approval in November, the Benefices (Application of Income during Vacancies) Measure, and the Clergy Pensions (Widows) Measure. The two latter received general approval, equivalent to second reading in Parliament, and will again come before the assembly in 1933.

At the June session the report of a commission set up by the assembly in 1929 to inquire into the mode in which the principles and practice of almsgiving might best be expounded in this generation was presented. The assembly decided to send the report to the diocesan conferences with a request that it should be discussed and remitted to ruri-decanal conferences and parochial church councils for consideration of the principles enunciated by the commission. The assembly agreed also to set up a commission to examine the relationships of home and overseas church finance, with a view to stimulating contributions to the latter, and requested the archbishops to set up a commission to consider the reform of the constitution of the ecclesiastical commission and Queen Anne's bounty.

The convocations of Canterbury and York each held sessions in January and June. Resolutions were passed asking for the appointment of joint committees to draw up a provisional form of service for unction and imposition of hands and a similar service for imposition of hands without unction. In addition the upper house of Canterbury requested the primate to refer the question of the ministrations of the church to the insane to the committee on spiritual healing. The convocation of Canterbury set up also a joint committee to inquire into the meaning and obligation of the oath of canonical obedience.

The increased interest in the cathedrals of England, to which attention was drawn a year ago, was sustained throughout 1932. Through "The Friends" of various cathedrals and similar bodies much was done to bring the cathedrals more and more into touch with the general life of the church and the nation. During the summer months large numbers of the general public visited the cathedrals. The Duke and Duchess of York attended a special service on November 3 to mark the restoration of Lincoln Cathedral, for which a sum of £130,000 had been raised. The problem of restoration and repair is still a serious one in several of the cathedrals and progress has been made at Chichester, Salisbury, Peterborough, Bristol, and Newcastle, while further repairs have been found necessary to Wakefield and Southwell Cathedrals. The building of Liverpool Cathedral has made considerable advance.

In their second annual report the commissioners appointed under the Cathedrals Measure, 1931, stated that they had been profoundly impressed by the financial embarrassments of most of the cathedrals. The prior claims of the fabric

and the maintenance of services, in some cases the fall in value of agricultural properties, the expense entailed by the upkeep of the precincts with large and often historically valuable residences, and, above all, the great rise in prices which had taken place since the amounts deemed suitable for stipends and other requirements were fixed, threatened to frustrate the laudable aims which the Cathedrals Measure sought to attain.

The number of candidates for ordinations from Advent, 1931, to Advent, 1932, was 585, the highest number since the year 1914. The Bishop of Manchester, chairman of the central advisory council of training for the ministry, stated at the summer session of the church assembly, that one problem which the church was facing at that moment in some dioceses was not that there were not enough candidates for Holy Orders nor an ability to train them, but that in the present economic stringency the saturation point of capacity to absorb them had been almost reached.

The church assembly at its Spring session passed a resolution regarding the work of the central council for women's church work as being of great value and commending it as worthy of the support of the church. The lower house of the convocation of York considered, at its January sitting, the functions of deaconesses and, while approving of deaconesses being entrusted with certain work in assisting parish priests, reserved its opinion with regard to preaching and the reading of morning and evening prayer and the litany in church until the matter had been fully considered by the commission referred to above. The church assembly at its Autumn session expressed the opinion that, seeing that the laity were deeply concerned about the proposed permission to deaconesses to minister in the ordinary services in church (other than Holy Communion), it was desirable that the house of laity should have an opportunity of expressing an opinion as to the acceptability of such ministry to the laity generally before such ministry is permitted.

At the 105th Islington Clerical Conference at Church House, Westminster, which discussed "Protestantism Today," Prebendary Hinde announced the opening of a new Evangelical Theological College at New Barnet. The fourteenth Conference of Evangelical Churchmen at Oxford in April dealt with "The Way of Renewal" and adopted a resolution on intercommunion, recognizing the great need of reunion with Free Churchmen and believing that unity is promoted by giving sacramental expression to fellowship already existing. "The Reformation" was the subject at the nineteenth Conference of Modern Churchmen at Bristol in September. The Anglo-Catholic Congress Committee has been engaged throughout the year in connection with the celebration of the centenary of the Oxford Movement from July 8 to July 17, 1933.

Among the anniversaries celebrated during the year was the 1500th of the coming of St. Patrick, which was marked by a special service at Armagh in June at which the Archbishop of Canterbury preached and which was attended by the Primus of Scotland, the Primate of Wales, the Primate of All Ireland, the Primate of Ireland, and the Moderator of the Presbyterian General Assembly. In July the Archbishop of York took part in a commemoration service in connection with the 800th anniversary of the foundation of Rievaulx Abbey, while the Duke and Duchess of York were

present at a similar service to mark the 800th anniversary of Fountains Abbey. Another notable celebration was the Wren Tercentenary at St. Paul's Cathedral.

Several changes took place in the episcopacy during 1932. The Rt. Rev. C. F. Garbett, D.D., was translated from Southwark to Winchester, which see became vacant by the death of the Rt. Rev. F. Theodore Woods, D.D. The Rt. Rev. R. G. Parsons, D.D., Suffragan Bishop of Middleton, became Bishop of Southwark, the Rev. G. F. Fisher, M.A., headmaster of Repton, was appointed Bishop of Chester, following the resignation of the Rt. Rev. H. L. Paget, D.D., and the vacancy in the see of Lincoln, due to the retirement of the Rt. Rev. W. S. Swayne, D.D., was filled by the translation of the Rt. Rev. F. C. N. Hicks, D.D., from the Bishopric of Gibraltar.

The officers of the church assembly in 1932 were: chairman, the Archbishop of Canterbury; vice-chairman, the Archbishop of York; secretary, Sir Philip W. Baker-Willbraham; assistant secretary, Guy H. Guillum Scott; chairman of the house of bishops, the Archbishop of Canterbury; chairman of the house of clergy, the Dean of Norwich; chairman of the house of laity, the Earl of Selborne. Headquarters are at 8 Dean's Yard, Westminster, S. W. 1, London.

**ENGLISH ARCHITECTURE.** See ARCHITECTURE.

**ENGLISH LITERATURE.** See LITERATURE, ENGLISH AND AMERICAN.

**ENGLISH STUDIES.** See PHILOLOGY, MODERN.

**ENROLLMENT IN COLLEGES.** See UNIVERSITIES AND COLLEGES.

**ENTOMOLOGY, ECONOMIC.** In the field of applied entomology the year 1932 was marked by the appearance in North America of several Old World pests of importance, particularly a European sawfly in the spruce forests of Quebec, and the spread of other long established major forms into new territory. The latter included an outbreak of the pink bollworm in Florida, of the gipsy moth in Pennsylvania, of the alfalfa weevil in the San Joaquin valley of California as well as the continuous extension of others. Marked success has followed application of the biological method of insect control, through the establishment of natural insect enemies, especially that attending work with the citrophilus mealy bug in the citrus orchards of California and the citrus black fly in Cuba. Work with insecticides which has resulted in the discovery of more effective compounds that can be used with a reduced hazard to human life and at a reduction in cost is of far reaching importance.

**CODLING MOTH.** The codling moth was reported as from moderately to very abundant throughout the greater part of the country. It was particularly abundant in the central States having been more so in Illinois than at any time during the last 10 years. The fact that it was unusually destructive in Kansas was attributed to the heavy carry-over of moths from the preceding season, weather conditions favorable to the moth, and a very light set of fruit. Four years of work in Pennsylvania with codling moth bands had shown by the close of 1931 that properly prepared beta-naphthol, red-engine oil bands of corrugated strawboard prepared at a meagre cost prevented at least 95 per cent of the expected emergence of midsummer moths. Its toxicity persisted throughout the season, in large part pre-

venting emergence of moths from overwintering larvae.

**ORIENTAL FRUIT MOTH.** This moth was much more serious than usual as a result of the short crop of peaches and is on the increase throughout the Middle Atlantic, South Atlantic, and East Central States. Its spread continued having been found for the first time in Kansas. The work of colonizing the important fruit moth parasite *Macrocentrus ancylivora* in the eastern States over a period of three years has resulted in its becoming more abundant and widespread than ever before. In several peach growing localities it gives promise of becoming as valuable a check on the fruit moth as it continues to be in southern New Jersey and Delaware. Several parasites imported from Europe were liberated in various peach sections of the United States. Large scale bait-trap control work indicates in both Indiana and Georgia experimental areas that a reduction of 50 per cent or more in fruit infestations is possible by baiting large areas with traps in half of the trees.

**MEXICAN FRUIT FLY.** The Mexican fruit fly which was first discovered in southern Texas in 1927 appeared in the lower Rio Grande Valley in the late winter and early spring of 1932 in greater numbers than in any previous season. The infestation while still too light to cause direct damage of economic importance was scattered over a distance of approximately 70 miles, extending from Mission eastward to Brownsville. Fifty-two groves were found infested in Hidalgo County and nine in Cameron County. The mild winter and the large amount of fruit left on the trees until late in the season are considered to have been important factors in the increase. Outstanding in importance was the discovery that nicotine sulphate is an effective poison for use in place of the arsenical bait spray for the adult flies and a spray consisting of nicotine sulphate 0.5 per cent, molasses 10 per cent, and water 89.5 per cent, was used extensively in combating the pest.

**JAPANESE BEETLE.** The spread of the Japanese beetle, which has been continuous since its discovery in New Jersey in 1916, has in recent years increased in rapidity until at the end of the season of 1932 the area of continuous infestation covered some 7000 square miles. The practicability of traps as a supplement to lead arsenate application in reducing or checking infestation at points isolated from continuous infested zones was amply demonstrated. Placed during the summer outside the quarantined area, they captured Japanese beetles as far north as Augusta, Maine, Concord, N. H., White River Junction, Vt., and Detroit, Michigan. At a public conference held on March 25 to consider the advisability of revoking the quarantine maintained against the pest almost unanimous sentiment was expressed in favor of the restrictions and a decision, to such effect, was announced on June 7. An extension of the quarantine to cover parts of New Hampshire, Vermont, and enlarge the regulated areas in Virginia, Maryland, Massachusetts, New York, and Pennsylvania to become effective Jan. 1, 1933, was announced late in December.

**EUROPEAN CORN BORER.** Conditions favored the hibernation of the European corn borer, and its survival in the western area of its distribution was practically 100 per cent. It met with favorable conditions during the spring, but excessive heat and drought during July and August de-

stroyed the eggs and young larvæ on the corn leaves and prevented a notable increase. The two-generation strain spread in 1931 from the New England States southward and was found generally though sparsely scattered throughout the greater part of New Jersey and for shorter distances in other directions, resulting in a modification of the Federal quarantine, effective February 5. The spread of the one-generation strain occurring from New York State westward was less extensive, and the regulated area extended included only limited additions in sections of Indiana, Ohio, Pennsylvania, and West Virginia. Isolated infestations were found at one point in eastern Virginia, one in Kentucky, one in southwestern Indiana, and two in Wisconsin. Attempts were made to eradicate these infestations and they were not included within the quarantined area. The domestic quarantine and restrictions that had been maintained against the borer were revoked as of July 15, due to the failure to obtain funds sufficient to maintain effective control. All Federal restrictions on interstate shipments under that quarantine were cancelled on that date. In November the borer was found on five farms in two counties on the eastern shore of Maryland.

**MEXICAN BEAN BEETLE.** The winter survival of the Mexican bean beetle was the highest on record and three times as heavy as that of the previous year which also was a record year. This survival resulted in heavy beetle infestation and the extension of its range, particularly northward into Vermont, New Hampshire, and Maine. It spread westward into Illinois and now occupies the central part of that State 30 to 50 miles from the Indiana State line. It was well established over the southern quarter of Michigan. Work with various insecticides was continued, but the spray application of magnesium arsenate remains the most effective, with synthetic cryolite spray the best substitute.

**GIPSY MOTH.** Wind spread of first-stage gipsy moth caterpillars from territory to the east of the 30-mile-wide barrier zone along the New York-New England border was responsible for the infestation of new territory in southwestern Massachusetts and northwestern Connecticut. This necessitated more intensive scouting and treatment, including spraying. The eradication campaign against infestation discovered on Long Island in December, 1929, progressed satisfactorily. Late in July an infestation was discovered in an outstanding mountain district near Pittston, in northeastern Pennsylvania, which covered an area more than 8 miles long and 4 miles wide.

**MEXICAN BOLL WEEVIL.** The boll weevil continued to be the most important pest of cotton from middle Texas eastward. The very mild winter of 1931-32 allowed it to remain active and even in some areas to continue breeding throughout the usual hibernation period resulting in a carryover of from 4 to 18 per cent or the greatest recorded in 17 years, the average for which is about 1 per cent.

**THURBERIA WEEVIL.** The thurberia weevil which thrives under arid conditions that are fatal to the Mexican boll weevil and has long existed on thurberia plants which grow in canyons in the mountains of southern Arizona has in recent years adapted itself to cultivated cotton. The attempt to prevent its spread from eastern Arizona to other arid localities in western Texas, New Mexico, and Arizona where cotton is grown under irrigation was pressed. The finding of in-

festations in two fields in Pinal County led the State authorities to extend the quarantine line.

**ALFALFA WEEVIL.** The alfalfa weevil which has been present in the northeastern edge of California east of the Sierras for many years was discovered in the northern end of the San Joaquin Valley on May 12 and was later found to infest the alfalfa area in five counties. Steps were at once taken to introduce a well-established insect enemy of demonstrated utility from Nevada, where the parasite is well established. This parasite, *Rhyssalus curculionis*, introduced from Europe in 1911, is now considered as one of the controlling factors in much of the older infested territory.

**PINK BOLLWORM.** The pink bollworm, which next to the boll weevil presents the most serious menace to the American cotton crop, was discovered in June to infest cotton in southern Florida. Following the initial discovery of its occurrence in a two-acre plot of cultivated cotton at the Federal Plant Introduction Gardens near Miami, it was found infesting all of the wild cotton growing along the shore territory from Miami to Key West. Since the infested region was some 400 miles from cotton growing areas, there was considered to be little danger of spread to cultivated cotton. At a meeting of Federal and State officials of near-by cotton-growing States held on June 11 it was decided to take immediate steps to eradicate the infestation and to prevent any spread during the eradication work. The removal of wild cotton plants was immediately commenced by Federal and Florida State officials cooperating. Early in October it was found infesting cotton at several points in northern Florida and on October 29 six counties of north central Florida were placed under a quarantine in addition to five counties in southern Arizona, seven counties in southern New Mexico, and 16 counties and parts of one additional county in western Texas. In the Valley of the Upper Rio Grande and notably the Big Bend area it increased in 1932 and the infestation was heavier than ever before, following the considerable increase in 1931. This is the only district in the country where it has increased sufficiently to become a real factor in commercial cotton production.

**DATE SCALE ERADICATION.** The eradication of the date scale in the extreme Southwestern States approached completion and apparently had already succeeded in Arizona. In California two infested date palms were found on two properties in the Coachella Valley and 14 infested date palms and 43 other palms on seven properties in the Imperial Valley.

**GRASSHOPPER MENACE.** Grasshoppers representing several species which caused such unprecedented devastation in the Great Plains States the preceding year were again the source of much loss. The devastation threatened by the widespread egg deposition that took place in the fall of 1931, of which nearly 100 per cent survived the winter, was checked by the cool and backward spring in South Dakota, Nebraska, and Iowa, as well as in other States, causing the grasshoppers to hatch out from 2 to 4 weeks later than in 1931. During the late spring, and particularly May and June, there were abundant driving rains over much of the infested area which served to destroy many at or shortly after their hatching out and delay the hatching of others well into or through June. Such conditions were favorable to the growth of abundant roadside and grassland

vegetation where the hatching was taking place and held the young grasshoppers long enough to permit the small grain crops to mature and be harvested in good condition. The very abnormal climatic conditions which produced the natural control must be looked upon as strictly providential. The excessive rainfall with the resulting destruction of young grasshoppers did not extend to North Dakota and Minnesota, where growing crops were subjected to the full attacks of the insects. The control obtained in these States was due altogether to the very extensive distribution of poison bait throughout the more heavily infested sections. In some instances, single applications of the bait covered the ground with what amounted to almost a mulch of dead grasshoppers. The results of such poisoning fully demonstrated the utility of this means of control. Experimental work led to the important discovery that when eggs are covered with four inches of soil there is no spring or summer emergence.

**NEW INSECT PESTS IN THE UNITED STATES.** From time to time new insects appear or are recognized for the first time through their becoming of importance by the attack of economic plants or animals. Some may be indigenous forms that have adapted their habits to attack new food plants and others may have been unwittingly introduced from abroad. Among such is the gladiolus thrips, *Taeniothrips gladioli*, which first appeared in the United States in 1931 and has caused serious damage in the North Eastern and North Central States by its attack upon the flowers and foliage. It was quite generally reported in 1932 as damaging gladioli from New England through the Middle Atlantic States and in Tennessee and Minnesota. The pear-leaf-curling midge, *Dasyneura pyri*, a European pest of considerable importance, was discovered in May, 1931, attacking pears in orchards in the Hudson Valley of New York. A lily bulb thrips, *Liothrips vanecckei*, introduced from the Old World and first reported in the United States from New York in 1925, has become quite generally distributed and the source of some injury. The well known cottony cushion scale was found in 1931 to have been introduced into Puerto Rico. A new curculionid weevil, *Anacetrinus subnudus*, appeared in Louisiana as an enemy of sugar cane. A European sawfly, *Diprion polytomum*, was discovered in the Gaspé Peninsula of the Province of Quebec in November, 1930, partially defoliating stands of white and black spruce. In an airplane survey made in 1931 it was found to infest more than 2000 square miles in a territory where some 6 per cent of the trees had already been killed by the eastern spruce beetle.

**INSECTICIDES AND INSECT CONTROL.** Progress continued to be made in the search for new and improved insecticides. Rotenone has been found to be 15 times more toxic than is nicotine, which has been one of our most important insecticide materials, and 30 times as toxic as lead arsenate, to certain caterpillars and at the same time harmless to man and domestic animals when taken by the mouth. It appears to approach the nearest of any known material to the requirement for an ideal insecticide. The use of pyrethrins which are effective contact insecticides and are non-poisonous to man appears to be limited by their high cost. The discovery of rotenone in the devil's shoestring, a weed of the pea family found quite generally distributed in the eastern United States, was reported in November. It is

believed that the discovery will render it possible to obtain this insecticide from a plant grown easily in the United States and its cost be greatly reduced. Ethylene oxide, ethylene dichloride, and propylene chloride alone or preferably in admixture with carbon dioxide are the newest, most effective and probably the safest materials for fumigating foodstuffs. A mixture of three parts by volume of ethylene dichloride and one part by volume of carbon tetrachloride previously reported as effective against stored product pests has now been shown to serve as a safe, convenient, and practical household fumigant for clothes moths and carpet beetles. Work brought to a conclusion after several years of effort has shown that carbon disulphide can be used as a practical, efficient means of control for wireworms when a dose of at least one ounce is placed at a depth of 4 inches in a loose damp soil with a diffusion distance of 17 inches.

**PARASITES AND INSECT CONTROL.** One of the outstanding successes in the natural control of economic insects was registered in the suppression of the citrus black fly in the American tropics through the introduction and establishment of important Malayan insect parasites and predators. For many years a serious obstacle to the citrus industry in Cuba and elsewhere in the American tropics following its discovery in Jamaica in 1913, its threat to the citrus industry of the United States led to the introduction of insect enemies of which the wasp-like parasite *Eretmococcus serius* has effected commercial control in most of the groves in Cuba where early liberations were made. The Sicilian mealybug parasite *Leptomastidea abnormis* introduced into California in 1914 and into Florida in 1917 to combat the citrus mealybug was found parasitizing the Mexican mealybug in greenhouses at Urbana, Ill. The woolly aphis parasite *Aphelinus mali* introduced into Oregon from Michigan in 1929 has now become thoroughly established in over 40 Hood Valley orchards and is spreading rapidly. The continued control of the citrophilus mealybug by the two wasp-like parasites introduced into California from Australia which became generally established by 1929 was reported in March. The annual saving to the citrus industry brought about by these parasites in Orange County alone was found in the course of a survey to be more than half a million dollars. The discovery that a wasp-like parasite *Perilitus* attacks adult flea beetles was reported, field collections in Ohio having shown a parasitism of approximately 70 per cent.

**NECROLOGY.** The year saw the passing of the dean of American entomologists in the death of Dr. W. J. Holland at his home in Pittsburgh on December 13, at the advanced age of 84. Dr. Holland, who at the time of his death was Director Emeritus of the Carnegie Museum of Pittsburgh, was best known as author of *The Butterfly Book* and *The Moth Book* which contain descriptions and colored plates illustrating nearly all of the North American forms of butterflies and a large proportion of the larger moths. The death of Sir Ronald Ross, famed for his discovery of the transmission of malaria by the anopheline mosquitoes, occurred in London on September 16, in his 76th year. Prof. Anthony Spuler, well known as an investigator of fruit insects in the State of Washington, was accidentally drowned on May 30, at the age of 42.

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**ENTOMOLOGY**, INTERNATIONAL CONGRESS OF. See ZOOLOGY

**EPIRUS**. See GREECE.

**EPISCOPAL CHURCH**. See PROTESTANT EPISCOPAL CHURCH.

**EPWORTH LEAGUE**. See METHODIST EPISCOPAL CHURCH.

**ERITREA**, *ä'rë-trë'a*. An Italian colony on the African coast of the Red Sea, extending 670 miles from Cape Kasar to Cape Dumeirah on the Strait of Bab-el-Mandeb. Area, 45,754 square miles; population (1931 census) 621,776. The capital is Asmara, with a population of 23,500 (3500 Europeans). Massawah is the principal trade centre, with a population of 12,275. The natives are chiefly Coptic Christians and Mohammedans. The culture of coffee, cotton, tobacco, flax, bananas, and agave (a fibre plant) has been successfully introduced. Gold in appreciable quantities was found around Asmara during 1932 and the Bank of Italy purchased 25 pounds of Eritrean gold. The local trade is almost entirely confined to camels, oxen, sheep, goats, and their products.

Imports by sea and land in 1930 were valued at 176,814,828 lire (about \$9,194,370) and exports at 74,982,297 lire (\$3,899,000). The lire averaged \$0.0521 in 1931. The budget for the 1931-32 fiscal year estimated colonial revenue at 51,085,630 lire, the contribution from the Italian government at 27,700,000 lire, civil expenditures at 35,346,580 lire, and military expenditures at 15,739,050 lire. There is a military force of 200 Italian officers and 4000 native troops. King Victor Emmanuel visited Eritrea during the summer. Governor in 1932, Riccardo Astuto.

**EROSION**. See SOILS.

**ESKIMO**, ORIGIN OF. See ANTHROPOLOGY.

**ESSAYS**. See LITERATURE, ENGLISH AND AMERICAN; FRENCH LITERATURE; GERMAN LITERATURE; ITALIAN LITERATURE; SCANDINAVIAN LITERATURE; SPANISH LITERATURE, ETC.

**ESTONIA**. A republic on the eastern shore of the Baltic, bounded by the Gulf of Finland on the north, Union of Soviet Socialist Republics (Russia) on the east, and Latvia on the south. Capital, Tallinn (Reval).

**AREA AND POPULATION**. The total area is about 18,358 square miles and the estimated population in 1931 was 1,120,000 (1,107,059 at the 1922 census), of whom about 87.7 per cent were Estonians, 1.7 per cent Germans (Balts), and 10.6

per cent Russians and others nationalities. The populations of the chief cities at the 1922 census, with 1930 estimates in parentheses, were: Tallinn (Reval), 122,419 (131,429); Tartu (Dorpat), 50,342 (60,933); Narva, 26,912 (25,205); Pärnu, 18,499 (20,885). Births averaged 19,653 annually for the period 1926-30 and deaths, 18,393. Five-sixths of the population are Lutherans.

**EDUCATION**. Primary education is free and compulsory. In 1929-30, there were 1292 primary schools, including 29 private schools; 78 middle schools (25 private), and various special and professional schools. Tartu (Dorpat) University had 3474 students in 1930 and the Technical Institute at Tallinn, 539. At the 1922 census, 5.6 per cent of the population over ten years of age were illiterate.

**PRODUCTION**. About 70 per cent of the population is engaged in agriculture and dairy farming. Arable land in 1930 totaled about 2,537,000 acres; meadow and pasture, 4,379,000 acres; forests, 2,220,000 acres. At the beginning of 1931, there were 33,093 workers employed in 757 large and medium-sized industrial enterprises, the chief industries being the production of textiles, paper, and timber. Production of the chief crops, in metric tons, in 1931 was: Wheat, 46,000; rye, 147,000; barley, 128,000; oats, 164,000; mixed grain, 92,000; flax fibre, 5647; flax seed, 6400; potatoes, 854,000.

Production of the chief crops in 1931, in bushels except as indicated, was: Wheat, 1,738,000; rye, 5,820,000; barley, 5,918,000; oats, 11,296,000; potatoes, 31,398,000; linseed, 253,000; flax fibre, 269,100,000 pounds. Livestock in 1931 included 669,000 cattle, 479,000 sheep, 323,000 swine, and 207,000 horses. Industrial production in 1930 included: Cotton fabrics, 24,617,000 yards; cotton yarn, 10,644,000 pounds; wood pulp, 17,682,000 metric tons; cellulose, 56,253,000 metric tons; paper, 77,152,000 pounds; sawn timber, 9,573,000 cubic feet; matches, 119,000,000 boxes; hides and skins, 612,000; oil shale, 498,000 metric tons. The number of registered unemployed was 9055 on Dec. 31, 1931, and about 5000 on June 30, 1932.

**COMMERCE**. Imports in 1931 were valued at 61,224,000 crowns (98,369,500 in 1930) and exports at 71,073,000 crowns (96,433,800 in 1930). The crown, or kroon, equals \$0.268 at par. Dairy produce, timber, textiles, and paper were the leading exports; grain and flour, raw cotton, fish, textile products, metals, and machinery were the leading imports. The United Kingdom and Germany are Estonia's leading customers, while imports are supplied chiefly by Germany, the Soviet Union, the United Kingdom, Poland, and Sweden.

**FINANCE**. Budget operations for the three years 1930-31 to 1932-33 are shown in the accompany-

#### ESTONIAN BUDGET OPERATIONS

	Revenues		
	1930-31 (actual)	1931-32 (budget)	1932-33 (budget)
Current accounts ..	83,520,000	83,831,000	77,738,000
Capital accounts ..	13,659,000	6,453,000	4,718,000
Total .....	97,179,000	90,284,000	82,456,000
	Expenditures		
	1930-31 (actual)	1931-32 (budget)	1932-33 (budget)
Current accounts ..	83,013,000	80,614,000	73,501,000
Capital accounts ..	13,955,000	9,430,000	8,755,000
Total .....	96,968,000	90,044,000	82,256,000

ing table, in Estonian crowns (kroons), worth \$0.2680 at par. The fiscal year ends March 31.

The total public debt Mar. 31, 1931, was equivalent to \$33,193,000, including the internal debt of 5,319,000 kroons (\$1,425,000).

The foreign debt on Jan. 1, 1931, was distributed as follows: Owed in United States, \$16,466,012; in United Kingdom, £1,211,224; in Sweden, 8,357,408 kronor.

**COMMUNICATIONS.** Estonian railways (extending 1175 miles in 1930) and the telegraph and telephone systems are state owned. Highways in 1930 totaled 14,424 miles. A total of 2648 vessels, of 978,047 tons, entered the ports during 1930, and 2637 vessels, of 970,302 tons, cleared. Tallinn (Reval) is the chief port. The merchant marine (1931) comprised 93 steamers of 70,353 tons, and 280 sailing vessels, of 25,018 tons.

**GOVERNMENT.** According to the constitution of Dec. 21, 1920, executive power is in the hands of a state head or "State Elder" and a ministry, both chosen by and responsible to the State Assembly; legislative power, in the hands of the State Assembly of 100 members elected for three years on the basis of proportional representation and by direct, universal, and secret suffrage. Provision is made for referendum and legislative initiative. The composition of the State Assembly following the elections of May 11-13, 1920, was as follows: Socialists, 25; Farmers Union, 24; Settlers, 14; Radicals, 10; Populists, 9; Workers' party, 6; Minority Nationals, 5; Christian party, 4; and Houseowners, 3. Prime Minister and State Head at the beginning of 1932, Konstantin Päts (Agrarian), leading a coalition of Agrarians, Socialists, and others formed Feb. 12, 1931. For 1932 changes, see *History*.

**HISTORY.** Three cabinet overturns and the election of a new State Assembly featured Estonian political developments during 1932. The drastic measures adopted by the Päts Cabinet in 1931 in an effort to maintain the gold standard achieved their major object but failed to improve perceptibly the economic condition of the country. To improve the situation of the farmers, the government early in the year took steps to reduce the legal interest rate from 11 to 8 per cent. The opposition of industrial workers to the government policy of reducing salaries and curtailing budget expenditures led to mass meetings of the unemployed in Narva, Parnu, and Tartu on January 10. Later in the month the coalition supporting the government was weakened by a reshaping of the political parties and on January 29 the Päts Cabinet resigned.

It was February 21 before a new cabinet was formed under former State Head Jaan Teemant (Agrarian). Composed of representatives of the new Agrarian party (a coalition of Agrarians, Settlers, and Houseowners) and of the new National Centre party (coalition of Workers, Nationalist, and Christian parties), the Teemant Cabinet was merely a stopgap affair. It held office until the State Assembly, elected May 21-23, appointed a new government on July 21, which was headed by Karl Einbund (Agrarian), a former Minister of Interior. It was the 25th ministry to hold office since Estonian independence was proclaimed in 1918.

The May elections resulted in a gain of four seats for the Agrarian party, a loss of two seats by the National Centre, a loss of three seats by the Socialists, and a gain of three by the Russian minority party. The composition of the new As-

sembly was: Agrarian, 42; Centre, 23; Socialist, 22; Left parties, 5; Russian minority, 5; German minority, 3. Failing to maintain a working majority in the State Assembly, the Einbund Ministry resigned late in October and on November 1 a National cabinet was formed representing a coalition of the Agrarian, Socialist, and Populist parties. The leading figures in the new government were: Konstantin Päts (Agrarian), State Head; August Rei (Socialist), Minister of Foreign Affairs; and Ado Anderkopp (Populist), Minister of Justice and Interior. The economic programme of the Päts Cabinet called for a considerable extension of governmental control over privately-owned enterprises.

With the exchange of ratification documents at Tallinn Aug. 18, 1932, an Estonian-Soviet non-aggression pact signed May 4 and a conciliation convention signed June 16 both went into effect. In September, 1932 the Estonian government notified the U. S. Treasury Department that it would take advantage of the option granted in the debt-funding agreement by postponing for two years the payment of principal on its debt to the United States, \$90,000 of which was due Dec. 15, 1932.

**ETHIOPIA (ABYSSINIA).** A landlocked empire of East Africa, bounded by the Anglo-Egyptian Sudan on the west, Eritrea and French and British Somaliland on the north and northeast, Italian Somaliland on the southeast, and Kenya Colony on the south. Capital, Addis Ababa, with a population of about 65,000. Emperor in 1932, Haile Selassie I.

**AREA AND POPULATION.** With an area of about 347,490 square miles, approximating the combined area of Texas and New Mexico, Ethiopia has a population of approximately 10,000,000. The Abyssinians proper, Christians of Hamitic origin who constitute the ruling race, number less than 3,000,000. The Gallas, comprising two-thirds of the population, Somalis, and Danakil are other important tribes. Besides the capital, Dire Dawa, with about 40,000 inhabitants, and Harar, with 30,000, are the chief cities.

**PRODUCTION.** Agriculture and stock raising are the principal industries. The chief export products, in order of importance, are coffee, hides and skins, beans, flour, wax, civet, and ivory. Coffee is cultivated in Harar Province, eastern Ethiopia, but grows wild in the western districts. Grain, cotton, sugar cane, dates, and grapes are grown for local consumption. Valuable forests and mineral deposits remain largely unexploited due to lack of transportation facilities. The minerals found include iron ore, placer gold, potash, coal, copper, silver, and platinum.

**COMMERCE.** Foreign trade is carried on chiefly over the Franco-Ethiopian Railway from Djibuti on the coast of French Somaliland to Addis Ababa. In 1931, exports via this route totaled 27,792 metric tons (24,950 in 1930) and imports amounted to 32,685 metric tons (42,162 in 1930). Over other trade routes, via the Anglo-Egyptian Sudan, French and British Somaliland, Eritrea, and Kenya Colony, exports in 1930 were reported at about 8300 metric tons (7180 in 1929) and imports at 14,000 tons (16,364). The leading imports were cotton piece goods, kerosene, salt, sugar, and building materials.

**FINANCE.** Government revenues consist chiefly of taxes in kind and cash; the former are roughly estimated at between \$5,000,000 and \$6,000,000 annually, and the latter around \$1,000,000. The

Maria Theresa silver dollar (thaler) is the only currency in general use; the exchange value depreciated from \$0.30 in January, 1930, to \$0.2145 in December, 1931. On Oct. 12, 1931, the government took over the Bank of Abyssinia and the name was officially changed to the Bank of Ethiopia.

**COMMUNICATIONS.** The only railway is that from Djibuti to Addis Ababa, a distance of 488 miles. A highway (35 miles long) from Dire Dawa, on the railway, to Harar was completed in 1931 and work was begun on a projected 175-mile highway from Addis Ababa to Jiren in Jimma Province. Primitive roads and caravan tracks total about 2050 miles. A bus line between Addis Ababa and Addis Alem (40 miles to the west) was inaugurated in 1931. Telegraph and telephone lines linked the capital with the other leading cities.

**GOVERNMENT** Ethiopia is an hereditary and virtually absolute monarchy, although after 1907 the ruler was assisted by a cabinet and, after 1910, by a council of elders. On July 16, 1931, Emperor Haile Selassie I promulgated a constitution, establishing a two-chambered parliament with responsible Ministers to carry out its decisions, subject to approval of the Emperor. Members of Parliament were to be designated by the Provinces, subject to royal consent. The Crown was secured to the ruling dynasty.

**HISTORY.** Considerable discontent was manifested by the powerful nobles and tribal chieftains during 1932 at the centralizing policy of the Emperor, who was gradually taking over many of the powers formerly exercised by rulers of various regions. In view of this discontent the escape in June of Lij Yasu, the former Emperor, from the custody of his cousin Ras Kassa, who had held him as a state prisoner since 1921, was considered significant. Lij Yasu fled to the Province of Gojjam but on the orders of the Emperor was arrested June 11. Later Ras Hailou, governor of Gojjam, was arrested on a charge of plotting against the Emperor and was convicted by 500 peers and the Ethiopian Parliament. The Emperor commuted the death sentence but banished the prisoner and confiscated all his feudal rights and privileges, appointing Ras Emerou as Governor of the Province. On October 10, it was reported that the son of Ras Hailou had revolted against the Emperor and seized Debra Marcos, the former residence of his father. The revolt was subsequently crushed.

The Emperor's turbulent subjects embroiled him in difficulties with several foreign governments during the year. Addison E. Southard, United States Minister in Addis Ababa, was knocked down in a scuffle in a village near the capital January 18 after his automobile had struck and slightly injured a woman. On representation of the American State Department, the Ethiopian government tendered apologies and sentenced ten of the natives involved to the equivalent of life imprisonment. Secretary Stimson asked for a measure of clemency for those sentenced. On March 21 and 22, some 600 Ethiopians of the Gila Anuak tribe raided the Upper Nile Province of the Anglo-Egyptian Sudan, carrying off 800 cattle and 82 natives.

Early in the year Lords Noel-Buxton and Polwarth visited Addis Ababa to investigate slavery in Ethiopia on behalf of the Anti-Slavery and Aborigines Protection Society of Great Britain. In response to their representations, Emperor

Haile Selassie promised to bring slavery, which was an integral part of the social life of the country, to an end within 15 or 20 years. As steps toward the abolition of slavery through propaganda, rather than by force, the Emperor set up over 50 special slavery courts, brought Deputies from the Provinces to hear slavery reforms discussed in Parliament, and emancipated outright a few hundred slaves. He had furthermore adopted most of the transitional measures suggested by the Temporary Slavery Commission of the League of Nations in 1925.

The reconnaissance report of the American engineers who surveyed the Lake Tsana dam site in 1930 and 1931 was submitted to the government early in 1932, but no decision was made regarding further development of the project.

**ETHNOGRAPHY.** See **ANTHROPOLOGY**.

**ETHNOLOGY.** See **ANTHROPOLOGY**.

**EUBCEA.** See **GREECE**.

**EUCHARISTIC CONGRESS, THIRTY-FIRST.** See **ROMAN CATHOLIC CHURCH**; **IRISH FREE STATE** under *History*.

**EUGENE MUSEUM OF ART.** See **ART MUSEUMS**.

**EUGENICS, THIRD INTERNATIONAL CONGRESS OF.** See **CHILD WELFARE**.

**EUGENICS IN ZOOLOGY.** See **ZOOLOGY**.

**EUROPEAN FEDERAL UNION.** See **UNITED STATES OF EUROPE**; **INTERPARLIAMENTARY UNION**; **INTERNATIONALISM**; **LEAGUE OF NATIONS**.

**EUROPEAN SAWFLY.** See **ENTOMOLOGY, ECONOMIC**.

**"EUTROPOTROPISM."** See **GEOLOGY**.

**EVANGELICAL CHURCH.** A denomination formed by the union of the Evangelical Association and the United Evangelical Church. The former was the outgrowth of a movement started in 1800 by the followers of Jacob Albright for the religious and spiritual awakening of the German communities in Pennsylvania. In 1892 a number of ministers and members organized themselves into a separate denomination, known as the United Evangelical Church. At length the growing conviction that the two churches should be reunited led to the appointment of commissions which drew up the so-called enabling act. The new organization was officially established in Detroit, Mich., in 1922.

In 1932 the denomination had 25 conferences in the United States, two in Canada, one in Japan, three in Germany, and one in Switzerland. There was a total membership of 265,245, of whom 227,472 were in the United States and Canada. Churches numbered 2579, of which 2078 were in the United States and Canada; they were served by 1959 itinerant preachers and 459 local preachers. The enrollment in 2777 Sunday schools was 373,545. The Christian Endeavor Society membership was 64,790. There were also 1180 women's missionary societies in the United States and Canada with a membership of 35,973, working under the general direction of the board of missions. The total value of all church property was \$36,621,889, while the amount of money raised during the year was \$5,568,825.

The chief schools of the denomination are: North Central College and the Evangelical Theological Seminary in Naperville, Ill.; Western Union College in Le Mars, Iowa; Albright College and the School of Theology in Reading, Pa. It maintains also two orphanages and five old people's homes in the United States, as well as



several hospitals. Official periodicals are the *Evangelical-Messenger* and *Christliche Botschafter*, published in Cleveland, Ohio. A quadrennial general conference was held in Milwaukee, Wis., in October, 1930. All questions of law in the interval between general conference sessions are decided by the board of bishops, which in 1932 consisted of Bishops L. H. Seager, M. T. Maze, J. F. Dunlap, J. S. Stamm, G. E. Epp, and S. J. Umbreit. Headquarters are at the Evangelical Press, 1900 Superior Avenue, Cleveland, Ohio, and in Harrisburg, Pa.

**EVANGELICAL SYNOD OF NORTH AMERICA.** THE. A religious communion strictly evangelical in principle as historically crystallized from the Reformation of the sixteenth century and as embodied in the Reformed and Lutheran doctrinal statements, accepting these statements as far as they agree. When they disagree the Evangelical Synod adheres to the pertinent passages of Holy Scripture and avails itself of the liberty of conscience prevailing in the Evangelical Church. The communion was founded in 1840 at Gravois Settlement, Mo., and was consolidated in 1877 with similar communions. It is organized into 20 districts and has a synodical administration, with legislative powers vested in the biennial district conferences and the quadrennial general conference; the congregations are self-governing in strictly local affairs.

The Evangelical Synod of North America, in 1931, had 1244 congregations, 1197 pastors, and 259,896 individual members, also 1160 Sunday schools with an enrollment of 210,346. Money raised by the congregations for all purposes amounted to \$5,099,461, while the total value of church property was \$44,070,192. The home mission board, which reported a total income of \$115,526, employed 113 pastors in 126 fields in the United States. The foreign mission board, which reported a total income of \$175,904, employed 36 missionaries and 345 native helpers in India and 12 missionaries in Honduras.

The denomination supports three educational institutions: Eden Theological Seminary in Webster Groves, Mo.; Elmhurst College in Elmhurst, Ill.; and Oakwood Institute, Cincinnati, Ohio. It publishes also the following periodicals: the *Evangelical Herald*; the *Tidings*; the *Light Bearer*; and *Der Friedensbote*. The Rev. C. W. Locher, D.D., was president in 1932. Headquarters of the synodical administration and of the administrative boards are in the Evangelical Synod Building, 1720 Chouteau Avenue, St. Louis, Mo.

**EVERMANN, BARTON WARREN.** An American ichthyologist, died in Berkeley, Calif., Sept. 27, 1932. He was born in Monroe Co., Iowa, Oct. 24, 1853, and was graduated from Indiana University with the B.S. degree in 1886 and the Ph.D. degree in 1891. After serving for 10 years as teacher and superintendent of schools in Indiana and California, he was made in 1886 professor of biology at the Indiana State Normal School. Two years later he entered the service of the U. S. Bureau of Fisheries, becoming ichthyologist in 1891. During 1902-03 he was also chief of the division of statistics and methods of fisheries and during 1903-10 had charge of the division of scientific inquiry. From 1910 to 1914 he was chief of the Alaska Fisheries Service of the U. S. Bureau of Fisheries. He had previously served in 1892 as a United States fur-seal commissioner and had been made in 1908 chairman of the fur-seal board.

After 1914 he was director of the Museum of the California Academy of Sciences, and after 1921 director of the Steinhart Aquarium in San Francisco. He lectured at Stanford University during 1893-94, at Cornell during 1900-03, and at Yale during 1903-06. He was president of the Biological Society of Washington (1902-04), the Western Society of Naturalists (1915-17), the Pacific Fisheries Society (1917-19), and the Pacific division of the American Association for the Advancement of Science (1922), and at the time of his death was chairman of the committee on Conservation of the Marine Life of the Pacific. His works include: *Animal Analysis* (1886); *Report upon Ichthyological Investigations in Montana, Wyoming, and Texas* (1892); *Studies of the Pacific Coast Salmon* (1894-97); *The Fishes of Porto Rico* (1900); *Lopho, the Quail* (1902); *American Food and Game Fishes* (1902); *Nerka, the Blueback Salmon* (1902); *Modesty Itself, the Brown Towhee* (1903); *The Alaska Salmon Fisheries* (1903); *Fishes of the Philippines* (1906); *The Golden Trout of the Southern High Sierras* (1906); *The Fishes of Alaska* (1907); *The Fishes of Peru* (1915). In collaboration with S. E. Meek he wrote *A Revision of the Genus *Gerrus** (1886); with O. P. Jenkins, *The Fishes of the Bay of Guaymas, Mexico* (1891); with David Starr Jordan, *The Fishes of North and Middle America* (4 vols., 1896, 1900), and *The Aquatic Resources of the Hawaiian Islands* (1903); and with H. Walton Clark, *Lake Mawinkuckee, a Physical and Biological Survey* (1920).

**EVOLUTION.** See ZOÖLOGY.

**EXCAVATIONS, CLASSICAL.** See ARCHÆOLOGY.

**EXCHANGE, FOREIGN.** See FINANCIAL REVIEW.

**EXCISE TAX.** See TAXATION.

**EXHIBITIONS.** See ART EXHIBITIONS.

**EXPEDITIONS.** See ANTHROPOLOGY; ZOÖLOGY.

**EXPERIMENT STATIONS.** See AGRICULTURAL EXPERIMENT STATIONS.

**EXPLORATION.** Exploration and allied activities were carried on extensively during 1932, considering the unfavorable conditions resulting from the world depression. The Smithsonian Institution at Washington sent out or participated in 25 expeditions, which visited 13 States in America and several European countries, besides Canada, Alaska, Mexico, Haiti, Jamaica, British Guiana, and Southwest Africa. Other scientific institutions carried on their researches on a somewhat smaller scale. Expeditions to the Arctic and Antarctic regions are discussed under POLAR RESEARCH, while anthropological and archaeological investigations are described under their separate headings.

As in 1931, the unknown interior of the Arabian peninsula was again the scene of the outstanding exploration of 1932. The Englishman, H. St. John Philby, arrived in Mecca early in April after traversing a vast extent of the Ruba-el-Khali, or Great Southern Desert of Arabia, and rediscovering two sites of great historical interest. The Ruba-el-Khali was first crossed by Bertram Thomas in 1931 (see 1931 YEAR BOOK). Leaving Hofuf in Hasa, near the Persian Gulf, early in January, Mr. Philby reached the distant outpost of Jabrin on January 21. From there he struck southward into the desert in search of ancient and immensely deep wells at the oasis



of Magainma, which Major R. E. Cheesman, the first European to reach Jabrin, had heard of there in 1924. Philby found Magainma, where a well 171 feet deep provided excellent water. To some archaeologists, the name Magainma suggested an identification with the capital of an ancient kingdom called Magan, mentioned in Babylonian inscriptions.

Continuing southward across the Ruba-el-Khali, Mr. Philby discovered what he described as the long-sought site of the legendary city of Ubar (Wabar). It consisted of two meteorite craters. Turning westward, he reached the water-hole of Shanna touched by Thomas in 1931 and continued in a northwesterly direction through some 350 miles of waterless territory. On March 15, his caravan reached Sulaiyil, in the Wadi Dawasir, from where he proceeded to Mecca.

**NORTH AMERICA.** Notable progress was made in aerial survey work in various parts of the continent. The Maine coast was mapped for the U. S. Geological Survey by Capt. A. W. Stevens and Lieut. J. F. Phillips, U. S. Army Air Corps. Flying at 20,000 feet, with a five-lens camera capable of covering an area 20 miles wide by 75 miles long at each exposure, they surveyed an area of 3600 square miles in 15 hours. The U. S. Navy's third aerial survey expedition to Alaska mapped 4500 square miles of the Alaskan coast from Chignik Bay to Resurrection Bay. The Hydrographic Office of the Navy completed a 25-year survey of Cuban waters and published a new chart of the results. It also surveyed, by sea and air, some 1700 square miles of the coastal waters of Venezuela and Panama. See PHOTOGRAPHY.

Dr. John M. Cooper, anthropologist and ethnographer of the Catholic University of America, traveled during the summer by open boat from Moose Factory some 300 miles northward along the east coast of James Bay. Both peaks of Mount McKinley, Alaska, were climbed for the first time by one expedition on May 7 and May 9. The party consisted of Harry J. Liek, superintendent of Mount McKinley Park, Alfred D. Lindley, and two associates. On the descent from the second peak they found the body of Theodore Koven, who with Allen Carpe, was lost while conducting a cosmic ray expedition a short time before. An effort to map the glacial area between the Mount Fairweather, Alaska, range and the sea was made during the summer by a group of Harvard students led by H. B. Washburn, Jr.

**SOUTH AMERICA.** Exploration in South America during the year was featured by the extensive work of the German Andes Expedition. The expedition returned to Hamburg on December 6, after combining mountain climbing with the exploration and mapping of the high Andes and other scientific research. Members of the expedition climbed the peaks of Aconcagua (23,100 feet); Hualcan (about 20,000 feet), where Herr Hoerlin remained for eight days to measure cosmic rays; and Tchopikalki (about 21,650 feet). They discovered a path into the legendary Quitarosa Valley and in it many previously unknown Inca ruins.

A British expedition, headed by Robert Churchward, spent nearly four months in the Matto Grosso region in search of Col. P. H. Fawcett, who disappeared while exploring that region in 1925. They returned to Para, Brazil, in October without finding a clew to the whereabouts of the missing explorer. Ralph F. Donaldson and Stephan Rattin led two other parties in search of

Fawcett. The Brooklyn Museum Brazil Expedition, led by Desmond Holdridge, concluded 15 months of exploration and research in Northern Brazil. They explored the Marajo burial grounds in the delta of the Amazon and penetrated to the Sierra Parima Mountains. Their work served to corroborate Dr. Herbert Dickey's report that the source of the Orinoco River was some 50 miles southeast of this range. They found hundreds of square miles of virgin grass lands in the Amazon basin, capable of agricultural development. Commander G. M. Dyott, accompanied by Capt. E. Erskine, a retired British Army officer, and Walter Lewisohn of New York, surveyed the possibilities of colonization in the forest region of Ecuador.

Professor J. W. Gregory's geological reconnaissance of the main Andean range in Peru was ended by his death in the rapids of the Pongo de Mainique while descending the Urubamba River by canoe. Many of the specimens and other valuable material collected by his expedition was lost when his canoe capsized. The San Blas Indians of Panama, and natives of the interior of Ecuador and Brazil were studied by the Latin-American Expedition, Inc., of which Dr. Matthew W. Stirling, Chief of the Bureau of Ethnology, U. S. National Museum, was a member. Two scientists of the Carnegie Institution of Washington, Drs. Ralph W. Chaney and Erling Dorf, found in the highlands of Venezuela a temperate rain forest, similar to those which flourished in western North America in remote ages. Dr. Herbert S. Dickey was in the field with another party, but entered no unexplored territory.

**AFRICA.** The Belgian Scientific Mission to the Ruwenzori Mountains, Belgian Congo, headed by Comte Xavier de Hemricourt de Grunne, made a complete exploration of the zoological, botanical, and geological aspects of the western slopes of the range. They ascended Alexandra and Margherita peaks and finding that the summit of Mount Stanley was divided into three peaks, equidistant from one another, they named the highest peak (16,733 feet) Albert Peak in honor of their King. The party returned to Belgium by airplane in September. They announced November 21 that they had discovered gold and had brought back enough specimens to cover the cost of the expedition. The Umberto Peak in the Ruwenzori range (15,754 feet) was climbed for the first time since 1906 by Dr. Noel Humphreys, of Great Britain, and Harry Tunmer, a South African.

Major R. A. Bagnold again headed a motor expedition into the Southern Libyan Desert. Leaving Cairo September 27 with four cars, the expedition covered over 6000 miles, of which 2000 miles were through uninhabited territory. They touched the "Unknown Oasis" of Oweinat and continued west to Tekro in French Equatorial Africa, returning to Cairo at the end of November. They reported traces of paleolithic man in various parts of the desert. Two young Englishmen, William Donkin and Norman Pearn, crossed the Sahara by camel during the summer, covering the 1700 miles from Tuggurt in Algeria to Kano in French West Africa in four months. Taudeni, the slave-worked salt-mining centre of the Sahara, was visited for the first time by Europeans when two French Reserve Officers, Leo Gerville-Reache and J. Roger-Mathieu, made the dangerous trip across uncharted sands from Colomb Bechar, Morocco, by motor car. They

completed the round trip in ten days, as compared with the two months ordinarily required by caravan.

**ASIA.** On Feb. 12, 1932, the Citroen-Haardt Trans-Asiatic Expedition, begun in 1931, successfully reached Peiping after traveling in 315 days from the Mediterranean to the Yellow Sea. For further information of this expedition see under **GEOGRAPHIC SOCIETY, NATIONAL.**

A number of expeditions were in the Himalayas. A German-American expedition, headed by Wilhelm Merkl, of Munich, and including Rand Herron and Elizabeth Knowlton of New York and Boston, attacked the unclimbed peak of Nanga Parbat (26,630 feet) in the western Himalayas, but were forced to withdraw at the 23,000-foot level. They made two ascents of Chongra Peak (21,013 feet). A Britisher, Hugh Ruttledge, in May and June explored the col at the head of Sunderdhunga valley in an effort to find a shorter route to Nanda Devi Peak in the Garhwal Himalayas, which has repulsed nine separate assaults. Finding the Sunderdhunga col impassable, the party withdrew and ascended the Pindari valley from which they attempted to climb an unnamed peak 21,624 feet high. They were again forced to withdraw when within 3000 feet of the summit. A group of German and American scientists representing the Philadelphia Academy of Natural Sciences and led by Brooke Dolan, 2d, returned in June, 1932, from a year's work in Tibet and western China. They brought back many specimens of rare animals and birds and 28,000 feet of motion-picture film.

An unheralded feat was the ascension of Mount Minya Konka, a previously unscaled granite peak about 24,000 feet high in the western Chinese Provinces of Sikong, by three American youths, Richard Burdsall of Port Chester, N. Y.; Terris Moore, of Philadelphia; and Theodore Young, a Chinese born in Honolulu. The party, which also included Arthur Emmons of Dover, Mass., left Shanghai in July and spent several months in the Minya Konka country before making the climb in October and November. In his third expedition to the Karakoram mountains, P. C. Visser discovered new and gigantic glaciers. A Soviet expedition, headed by Nikolay Krylenko, conducted a geographical and geological exploration of the almost inaccessible Garmo Peak in the Eastern Pamir. They extended the map of the Eastern Pamir made by the German scientist Finsterwalder in 1928 and discovered a new pass uniting the valley of Garmo with the valley of the Vanch River.

At the end of the year, preparations were under way for a new British Everest expedition, the Tibetan government having given its permission. Hugh Ruttledge was named leader of the party of eleven. Besides this effort to scale the world's highest mountain on foot, preparations were under way to fly over the summit of Everest (29,141 feet) by airplane, with the Marquis of Clydesdale as chief pilot. See **GEOGRAPHICAL SOCIETY, AMERICAN**; **GEOGRAPHIC SOCIETY, NATIONAL.**

**EXTENSION WORK IN AGRICULTURE.** See **AGRICULTURAL EXTENSION WORK.**

**EXTRADITION.** See **LAW IN 1932.**

**EXTRAGALACTIC SYSTEMS.** See **ASTRONOMY.**

**FAILURES.** See **BANKS AND BANKING**; **BUSINESS REVIEW**; **FINANCIAL REVIEW.**

**FALKLAND, fôk'lând, ISLANDS.** A British crown colony in the South Atlantic 300 miles

east of the Strait of Magellan, consisting of: East Falkland, 2580 square miles; West Falkland, 2038 square miles; including in each case various adjacent small islands, about 100 in number. In addition to these are South Georgia, about 1000 square miles, and other dependencies, including the South Shetlands, the South Orkneys, the Sandwich group, and Graham Land, together with all unknown seas and lands of the Antarctic Ocean extending as far as the South Pole. Title to the Falkland Islands also is claimed by Argentina. Population (census of 1931) was 2392, exclusive of the whaling settlement of South Georgia which had 562 inhabitants including only one female. Stanley, the capital and chief city, had 1213 inhabitants in 1931.

Sheep raising, whaling, and seal hunting are the chief occupations. A total of 606,882 sheep were pastured on about 2,248,000 acres in 1930. In the same year 611,497 barrels of whale oil were exported and sealing operations yielded 12,962 barrels of oil. Exports in 1931 totaled £1,895,420; imports, £422,163; revenue, £120,530; expenditure, £103,805. There is no public debt. Governor in 1932, Sir James O'Grady.

**FAR EASTERN AREA.** See **SIBERIA.**

**FAR EASTERN INQUIRY COMMISSION.** See **LEAGUE OF NATIONS.**

**FARM ACTIVITIES.** See **AGRICULTURE**; **AGRICULTURAL EXTENSION WORK**; **AGRICULTURE, UNITED STATES DEPARTMENT OF**; **COÖPERATION**; **DAIRYING**; **HORTICULTURE**; **LIVESTOCK**, etc.

**FARM BOARD.** See **AGRICULTURE** and **UNITED STATES under Administration.**

**FARM BUREAU.** See **AGRICULTURAL EXTENSION WORK.**

**FARM COÖPERATIVES.** See **AGRICULTURE.**

**FARMERS' COÖPERATIVE ASSOCIATIONS.** See **COÖPERATION.**

**FARMERS' NATIONAL GRAIN CORPORATION.** See **AGRICULTURE.**

**FARM FAMILY FOOD SITUATION.** See **FOOD AND NUTRITION.**

**FARM LAND.** See **SOILS.**

**FARM RELIEF.** See **AGRICULTURE**

**FARMS, FARMING.** See **AGRICULTURE**; **AGRICULTURAL EXTENSION WORK**; **AGRICULTURE, U. S. DEPT. OF.**

**FAROE ISLANDS, fâr'ô; fâr'ô.** A group of 21 islands belonging to Denmark and lying midway between the Shetlands and Iceland. Area, 540 square miles; population in 1930, 24,200. The capital is Thorshavn, with 3200 inhabitants. Sheep farming and fishing are the main occupations. Administration is under a prefect named by the Danish King. There is a local parliament (Lagting) of 23 elected members, which elects one representative to the Danish Landsting (upper chamber). The people elect one deputy to the Danish Folketing (lower chamber). An autonomist movement has been gaining ground in recent years. The Faroe Lagting elected in 1927 included 10 autonomists, 10 unionists, 2 Social Democrats and 1 independent. Prefect in 1932, H. Ringberg. See **DENMARK.**

**FASCISM.** See **FINLAND, ITALY, GERMANY, AUSTRIA, HUNGARY, JAPAN under History**; **CELEBRATIONS.**

**FEDERAL CAPITAL TERRITORY, AUSTRALIAN.** An area of 940 square miles within the state of New South Wales, set aside in 1909 as the site of a Federal capital for the Australian Commonwealth. Estimated population on Mar. 31, 1932, was 9245 (exclusive of full-blood abo-

riginals), of whom about 7045 resided in Canberra, the seat of the Federal government since May 9, 1927. See AUSTRALIA.

**FEDERAL COUNCIL OF THE CHURCHES OF CHRIST IN AMERICA.** An organization established in 1908 by 28 Protestant denominations to act for them in matters of common interest. At the end of 1932 it included most of the major Protestant denominations of the United States, as follows: Northern Baptist Convention; National Baptist Convention; Free Baptists; Seventh-Day Baptists; Churches of God in North America (General Eldership); General Council of the Congregational and Christian Churches; Disciples of Christ; Evangelical Church; Evangelical Synod of North America; Friends; Methodist Episcopal Church; Methodist Episcopal Church, South; African Methodist Episcopal Church; African Methodist Episcopal Zion Church; Colored Methodist Episcopal Church in America; Methodist Protestant Church; Moravian Church; Presbyterian Church in the United States of America; Protestant Episcopal Church; Reformed Church in America; Reformed Church in the United States; Reformed Episcopal Church; United Brethren in Christ; United Presbyterian Church of North America; United Lutheran Church in America. Of these, all were full and official members with the exception of the United Lutheran Church, whose relationship was consultative, and the Protestant Episcopal Church, whose national council coöperates in certain specified areas of work.

The total number of local churches included in the constituency of the Federal Council, according to the *Yearbook of the Churches*, 1932, was 110,665. Clergymen numbered 134,246, while the total communicant membership (persons 13 years of age or over) was 21,059,315.

The council, made up of members designated by the several denominations to act for them, met for its quadrennial session in Indianapolis, Ind., Dec. 6-9, 1932. In accordance with the new plan of organization adopted at that session, the executive committee, of about 80 members, was to meet monthly, unless otherwise determined by its own vote, usually in New York City. It was to include two representatives officially appointed by each of the denominations, with an additional representative for every 500,000 of the communicant members after the first 500,000. It was to include also, as consultants, representatives of the coöperative agencies carrying on specialized work for the churches, among which are the Home Missions Council, the Council of Women for Home Missions, the Council of Church Boards of Education, the American Bible Society, the Student Volunteer Movement for Foreign Missions, and the International Council of Religious Education.

Under the new plan the work of the council, formerly entrusted to commissions, was organized into eight major departments, under the direction of the executive committee. The tasks of these departments may be summarized as follows:

The department of evangelism develops a united approach to the evangelistic work of the churches.

The department of social service is the centre through which the churches deal unitedly with social issues, giving particular attention to the developing of better relations in industry. It serves also as a connecting link between the

churches and the national social agencies, such as the American Red Cross, the child welfare organizations, and the U. S. Bureau of Public Health. During 1932 it carried on an educational campaign in the field of Christian family life, including a study of "mixed marriages."

The department of research and education issues a weekly information service bulletin, in which contemporary social questions are discussed from the standpoint of Christianity. In addition it makes special studies, the outstanding one in 1932 being an inquiry into the relation of church and state, including a consideration of the controversial question of church activities in the field of political problems.

The department of race relations furthers efforts of the churches in promoting coöperation and good will between the white and colored peoples in the United States.

The department of international justice and good will endeavors to mobilize the Christian forces to abolish war by building up effective international agencies for coöperation. During 1932 it devoted its attention especially to the development of a good will project between children of the United States and China, to the promotion of the reduction of armaments, to support of American membership in the Permanent Court of International Justice, and to a solution of the war debts problem.

The department of relations with churches abroad fosters coöperation between the religious bodies of the United States and those of other lands.

The radio department sponsors nationwide religious broadcasts, including three Sunday afternoon messages each week and a devotional service each week-day morning.

The field department establishes and strengthens the organized coöperation of churches in local communities.

The programme of the council is carried on in part with funds contributed by individuals interested in the work and in part by appropriations from the various denominations. The official organ is the *Federal Council Bulletin*, issued monthly and furnishing general religious news.

As a result of the reorganization plan adopted at the Indianapolis meeting the council was hereafter to meet biennially instead of quadrennially. The officers elected for 1933-34 were: President, the Rev. Albert W. Beaven, president of the Colgate-Rochester Divinity School, Rochester, N. Y.; and vice-president, the Rev. Lewis Seymour Mudge, stated clerk of the Presbyterian Church in the United States of America. They were also to serve as chairman and vice-chairman of the executive committee.

The council's national offices are at 105 East Twenty-second Street, New York City, the general secretary being the Rev. Samuel McCrea Cavert. Regional offices are maintained in the Woodward Building, Washington, and at 77 West Washington Street, Chicago. See PEACE.

**FEDERAL FARM BOARD.** See AGRICULTURE; UNITED STATES under Administration.

**FEDERAL INCOME TAX.** See TAXATION.

**FEDERAL POWER COMMISSION.** See WATER POWER.

**FEDERAL PRISONS.** See CRIME.

**FEDERAL RECEIPTS AND EXPENDITURES.** See PUBLIC FINANCE.

**FEDERAL RESERVE BANKS.** See BANKS AND BANKING.

**FEDERAL WATER POWER ACT.** See WATER POWER.

**FEDERATED MALAY STATES.** A group of Malay states under the protection of Great Britain, constituting a large part of the Malay Peninsula. They comprise:

State	Area sq miles	Population (1921)	Capital
Perak .....	7,875	599,055	Taiping
Selangor .....	3,195	401,009	Kuala Lumpur
Negri Sembilan ..	2,573	178,762	Seremban
Pahang .....	14,006	146,064	Pekan
Total .....	27,649	1,324,890	

The 1921 population included 510,821 Malays, 494,548 Chinese, 305,219 natives of India, 5686 Europeans, and 3204 Eurasians. The 1931 census population totaled 1,711,793. The principal cities are Kuala Lumpur with 111,738 inhabitants in 1931 and Ipoh, with 53,863. Port Swettenham is the principal port. In 1930, there was a total of 1475 schools, with an average attendance of 92,439.

**PRODUCTION.** Tin mining and the growing of rubber are the chief industries. The production of tin for the Federated Malay States in 1932, under the quota system, was limited to 38,904 metric tons, which was about 56 per cent of the 1929 (quota basis) production of 69,366 metric tons. On Jan. 1, 1932, there were 1188 tin mines in operation of which 784 employed less than 50 men and no machinery. In December, 1931, a tin duty of 5 cents per picul (133.3 pounds) was imposed on all shipments from the Federated Malay States to provide revenues for tin research. The leading agricultural products are rice, coconuts, rubber, sugar, tapioca, pepper, gambier (a wood extract used in tanning and dyeing), and nipa palms. The forests produce resins, canes, and gutta-percha. Gold and coal are mined extensively; lead, iron, copper, tungsten, manganese, silver, zinc, plumbago, mercury, and arsenic deposits have been found.

**COMMERCE AND FINANCE.** Excluding bullion and specie, imports in 1931 were valued at £12,390,142 (£19,602,382 in 1930) and exports (including reexports) at £14,604,001 (£24,926,067 in 1930). Revenue in 1931 amounted to 52,348,659 Straits dollars; expenditure, 62,163,328 Straits dollars. The public debt on Jan. 1, 1932, was 96,185,714 Straits dollars (80,185,714 in 1930). Ships numbering 13,021 with a total tonnage of 8,485,778, and exclusive of native craft, entered and cleared the ports of the Federated Malay States in 1930. The Straits dollar (par value, \$0.5678) exchanged at \$0.5244 in 1931.

**COMMUNICATIONS.** Railway mileage open for traffic in 1931 totaled 1089 miles. All railways are government owned or controlled. During 1932 a new \$8,000,000 railway terminal system was completed on Singapore Island. Roads surfaced with broken stone extended 2780 miles (1930) and there were 3052 miles of bridle roads and paths.

**GOVERNMENT.** The states are governed by the Federal Council in matters common to the four states. State councils legislate in individual state matters. The Federal Council consists of the Governor of the Straits Settlements (who is *ex officio* High Commissioner) as President, 13 government officials, and 12 unofficial members who are nominated by the High Commissioner with the approval of the King. There is a native ruler,

assisted by a British Resident, in each of the four states. High Commissioner in 1932, Sir Cecil Clementi. See BRITISH MALAYA.

**FEDERATION OF LABOR.** See LABOR, AMERICAN FEDERATION OF.

**FELLOWSHIPS.** See PAINTING; UNIVERSITIES AND COLLEGES.

**FENCING.** Joseph C. Levis, of the Boston Athletic Association, was the outstanding fencer in 1932, winning the national foils championship and then reaching the final strip in the foils competition in the Olympics at Los Angeles and by so doing helped the United States reach higher than ever before in Olympic competition. In the Olympics, Levis was beaten by Gustavo Marzi of Italy for the individual foils title. Previously he surprised everyone by defeating Lt. George C. Calnan, U.S.N., six times champion, for the national title. In the Olympics Calnan, who took the Olympian oath of amateurism for the entire band of athletes competing in the games, gained sixth place in the foils. Dr. John R. Huffman, of the New York Athletic Club, who retained his national sabre title, also placed sixth with his weapon. Leo Nunes, also of the New York Athletic Club, won the national épée championship, displacing Miguel A. deCapriles, professor of economics at New York University, who did not even reach the final strip. Another outstanding achievement for the United States in the Olympic games was the gaining of third place by the American foils team, of Calnan, Levis, Hugh Alessandrioni, and Dernel Every, behind France and Italy. To retain his national sabre crown Huffman defeated Norman Cuthbert Armitage.

The defeat of Miss Marion Lloyd at the hands of Miss Dorothy Locke was the feature of the national women's foils competition. Miss Lloyd, Miss Locke, and Miss Muriel Guggolz teamed to win the national women's team title for the Salle D'Armes Vince. Miss Guggolz won the national junior foils championship.

Yale gained most of the intercollegiate honors at the tournament held in New York City in April, winning the three-weapon championship, the épée team title, the individual foils and épée crowns. The members of the intercollegiate three-weapon championship team were Archibald Busby Jr., John Potter and Norman Bullard, foils; Joseph B. Ullman and Frank Walter, sabres; Rockwood Chin and George W. Thompson, épées. Chin and Thompson teamed to win the épée team title for Yale. Charles Murray, George Lathrop and John Honeycott made up the Army foils team, winner in that division, and sabre team honors went to the Naval Academy team of Andrew Adams Jr. and William Dimitrejevic. Potter was crowned individual foils champion, Chin épée champion and Maurice E. Kaiser, of the Navy, individual sabre champion.

The national three-weapon title went to the Fencers Club team of Alessandrioni, Tracy Jaeckel and Armitage. Huffman won the President's Three-Weapon tournament, practically a national championship. The Fencers Club captured both the national senior foils team and épée team honors. The team for the former was composed of Alessandrioni, Calnan and Every, and the épée team had Calnan, Jaeckel and Lt. Gustave Heiss as members. The sabre team honors went to the New York Athletic Club trio—Huffman, Nunes and Nicolas Muray. Ensign

John Howard of the Fencers Club captured the national junior foils crown; Lieutenant Heiss, the épée title; Lt. Fred R. Weber, the sabre title; and the University Fencers Club team of Jose R. D. de Capriles, Gilbert Weil and Albert di Giacinto, the junior foils champion team championship; the Fencers Club trio—Heiss, Jaeckel and Denholm D. McKie—the épée team laurels; and the New York Athletic Club team of Lorain Berz, Bernardo de la Guardia and Vito La Rocca, the junior sabre team honors.

**FENN, WILLIAM WALLACE.** An American theologian, died in Cambridge, Mass., Mar. 6, 1932. He was born in Boston Feb. 12, 1862, and was graduated from Harvard University in 1884, receiving the S.T.B. degree in 1887. Entering the ministry of the Unitarian church, he held pastorates in Pittsfield, Mass. (1887-91) and Chicago (1891-1901). He was also lecturer on Biblical literature at the Meadville Theological School (1892-1901, 1905-07) and preacher to Harvard (1896-98, 1902-05). After 1901 he was Bussey professor of systematic theology at the Harvard divinity school and was dean from 1906 to 1922. He was the author of *Lessons on Luke* (1890); *Lessons on Acts* (1894); *The Flowering of the Hebrew Religion* (1894); *Lessons on Psalms* (1900); *Theism and Immortality* (1921); and *The Christian Way of Life* (1924).

**FERRIÉ, GEN. GUSTAVE AUGUSTE.** A French military engineer, died in Paris, Feb. 16, 1932. He was born at Saint Michel-de-Maurienne, Nov. 19, 1868, and attended schools in Digne and Draguignan and the École Polytechnique in Paris. Entering the engineering corps of the French Army, he followed with interest Marconi's early experiments with wireless telegraphy, which he applied and developed during the next 40 years not only for military but non-military purposes in France and her colonies. Under his direction the Eiffel Tower was equipped as a wireless station, and he devised the system of time signals from that tower. Also, he was responsible for the establishment of the powerful stations at Lyons and Croix-d'Hins. He invented the electrolytic detector and various other devices, and was a pioneer in the theory of television and wireless photographic transmission. At the time of his death he was general inspector of the French military telegraph services and transmissions. He was president of the committee on longitudes of the International Astronomical Union and presided during 1921-29 over a series of international technical commissions at Paris, Washington, and elsewhere. He was also a member of the Academy of Sciences of the French Institute and an officer in various orders, including the Legion of Honor, British Order of St. Michael and St. George, Order of the Crown of Italy, Order of the Star of Rumania, Order of Leopold of Belgium, and Order of the Rising Sun of Japan.

**FERTILIZERS.** Due to the continued low purchasing power of agriculture, the total consumption of fertilizers for the year in the United States dropped considerably below the previous low consumption recorded for 1931. According to the Bureau of Foreign and Domestic Commerce the consumption of artificial fertilizers in Germany, considered to be the world's largest consumer market, declined 14 per cent in nitrogen, 18 per cent in phosphoric acid, and 23 per cent in potash during the nine months' period ended Mar. 31, 1932. Fertilizers suffered the most substantial decline of all groups of the chemical

industry in Germany, with a value loss of 32 per cent and a quantity decrease of 24 per cent. There was, in general, a further sharp decline in the world production of fertilizers over the previous year, due both to decreased consumption and increased international competition, which again was accompanied in most quarters by marked declines in wholesale prices, especially in the nitrogen and phosphate industries. The potash industry, particularly in Europe, was experiencing considerable difficulty in maintaining prices in the face of decreased exports and increasing reserve supplies. Importers of sodium nitrate to the United States announced a new schedule of prices for fall delivery representing a decrease of about 30 per cent. According to the National Fertilizer Association, the foreign market for ammonium sulphate almost vanished, whereas the imports to the United States from Germany, England, Poland, Belgium, Holland, and Japan more than quintupled for the year ended July, 1932, and the price dropped nearly 44 per cent.

Shipments of superphosphates to consumers and dealers in the United States for the first six months of 1932 were 40 per cent less than for the same months of 1931. Several of the principal fertilizer consuming nations, previously large importers of phosphates, became exporters and the United States exports of phosphate rock dropped to a low figure during the year ended July, 1932, according to the National Fertilizer Association. The production and consumption of superphosphate were very nearly balanced in Spain, according to the Bureau of Foreign and Domestic Commerce, and the efforts of the New Zealand government to aid primary production by granting a subsidy on the purchase of phosphatic fertilizers resulted in a satisfactory increase in the use of superphosphate at a reduced price to farmers.

Total sales of German potash for the first half of the year were only about 16 per cent under the corresponding period of 1931, and the turning point in sales for the better was reached in September, 1932. The production of superphosphates in France was badly affected by subnormal consumption and increased foreign competition, and prices in consequence were low. Sales of nitrogenous fertilizers were maintained but the output was curtailed and price drops prevented by the establishment of import licenses in both France and Japan. According to the National Fertilizer Association, the October tag sales of fertilizers in the 16 tag sale States of the United States showed an increase over the sales of October, 1931, indicating that a turning point for the better was reached.

Owing to the increasing acuteness of the competition in international trade in fertilizers and the necessity for retrenchment in many quarters, several of the larger chemical companies of the United States and of European countries were reorganized to consolidate the resources and activities of their existing subsidiaries and several of the fertilizer producing nations took governmental action to rehabilitate and protect their industries. The German government authorized the extension of credit guarantees aggregating 14,200,000 marks on purchases of fertilizers by farmers during the fall season. The Chilean government increased from 10 million pesos to 25 million pesos, the credit available to aid the independent sodium nitrate producers. The Polish

government set up a fund of about \$673,000 as a guarantee against losses on domestic sales of fertilizers up to 15 per cent of the credits extended. A tentative agreement for the control of nitrogen production, price, and allotment of export during the year July, 1932, to July, 1933, was reached by Chilean and European nitrate producers. Each country reserved its domestic market for itself and all exports from European countries were to be handled through a central office. The Polish government approved a five-year commercial agreement between German and Polish potash producers by which the Polish producers were to receive a quota of 4 per cent in the world market, which has been dominated by Franco-German interests. The National Technical Committee of the Italian fertilizer trade voted the formation of an association to organize and direct the movement of trade in fertilizer materials through dealers and to protect the interests of individual fertilizer merchants. An agreement was entered into by the Chilean and French governments under which 40 per cent of the amount due on whatever allotment is fixed for the importation of Chilean nitrate into France the coming year will be paid in pesos, thereby liquidating frozen commercial credit in Chile.

The development of better methods of fertilizer production continued, and the fertilizer industry was taking advantage of these developments, especially of new fertilizers, including the more concentrated materials. The research programme of the Bureau of Chemistry and Soils was concentrated largely on the development of promising new processes, the improvement of old methods, the production of new materials, the investigation of various raw materials, and the determination of the properties of new products suggested for fertilizer use. The position of the United States continued to improve with reference to its supply of raw materials, maintaining its independence in phosphate supplies and reaching a strong position in regard to nitrogen. Much was still to be desired in regard to potash.

In spite of the general world overproduction, European countries were continuing plans to increase their production of nitrogen, expansion being in progress especially in Latvia, Hungary, Bulgaria, and Greece. The Netherlands became a world factor in the ammonium sulphate industry and trade, occupying third place in the world trade. New plants for the manufacture of nitric acid, synthetic ammonia, employing the Montecatini process, and ammonia nitrate began operation in France, and the production of cyanamid was begun in a new plant in Italy. Norway continued to be an important producer and exporter of nitrogen and the first nitrogen fixation plant in the Southern Hemisphere was nearing completion in South Africa.

Progress continued in the development of synthetic fertilizers, especially in the United States, with reference to the fixation of atmospheric nitrogen and information continued to accumulate regarding the catalysts and catalytic reactions involved, thereby enabling the industry to choose catalytic materials for various industrial chemical processes more effectively. The work of the year supported the theory that the iron catalysts are particularly active in ammonia synthesis. The commercial utilization of gases in reactions at high pressures and temperatures, as in

the synthesis of ammonia, created a demand by the industry for more accurate physical data. During the year information accumulated on the solubility of nitrogen in water at wide temperature and pressure ranges which was of importance in the process used in gas purification. The Bureau of Chemistry and Soils also succeeded in calculating from compressibility data the heat capacities and the cooling by expansion of gases, thereby obviating direct measurements and making possible a very appreciable annual saving to the industry. Information continued to accumulate on the conditions favorable to urea synthesis from ammonia and carbon dioxide. It was demonstrated that the product, obtained either by employing double the amount of ammonia in the conversion or by adding ammonia after the conversion, may be utilized directly as a nitrogen constituent in preparing mixed fertilizers. This resulted in considerable economy in producing urea for fertilizer use and permitted the direct addition of larger amounts of nitrogen to mixed fertilizers, thereby producing a more concentrated material.

The supply of nitrogen produced by industrial processes continued to be but a small part of that constantly being fixed in the soil by natural agencies. The Bureau of Chemistry and Soils estimated that at least 2,500,000 tons of nitrogen are now fixed annually in the soils of the United States by organisms, which is worth \$350,000,000 annually. Marked progress was made during the year in determining the nature of the chemical reaction involved in the first step in the process of nitrogen fixation by bacteria. Humus also was found to stimulate the growth of nitrogen fixing bacteria, due primarily to its iron content. Agriculture continued to be the largest user of nitrogen and led also in the variety of forms used.

In spite of the natural potash resources and the progress made in their exploitation, the United States continued to be dependent largely on imports of potash. However, the status of domestic materials gave assurance that a shortage such as that of the war years would never occur again. The Federal five-year programme of potash exploration stimulated private exploration and actual exploitation of potash salts in the Permian Basin of New Mexico and Texas, and demonstrated the presence of great reserves of polyhalite and of at least one rich body of sylvite in the same general region. The production of potash from the waters of the Dead Sea in Palestine steadily increased, it being estimated that the output during the year would reach a total of from 3000 to 4000 tons. Russia made steady progress in the development and exploitation of the extensive potash deposits in the Ural district, especially in the vicinity of Solaminsk, and the production of potassium sulphate for the export trade was begun in a new plant in the province of Limbourg in Belgium. Progress continued in the development of acid extraction methods of recovering potash from minerals. Satisfactory extraction of Wyoming leucite was possible by treatment with cheap industrial nitric acid resulting in potassium and aluminum nitrates. A method of separating these products from impurities was developed resulting in potassium nitrate and high grade alumina. The practicability of a commercial method applicable likewise to Georgia shale also was demonstrated, and the nitration of

cement potash, a new product collected from cement kilns, was found to proceed with facility and yield a product containing 18 per cent potash and 9 per cent nitrogen. Information continued to accumulate on cheap and efficient blast furnace processes for the volatilization of potash from various minerals, especially leucite, alunite, and New Jersey greensands.

The production of superphosphate in the United States during the first half of 1932 was 44 per cent less than for the same period of 1931, and Italian production declined 37 per cent during the first quarter. The Netherlands became a leading world producer of superphosphate and began the manufacture of ammonium phosphate. Large fields of high grade lime phosphate were discovered in northeast Transvaal. However, efforts were continued in the United States to develop methods for more economically converting phosphate-bearing minerals into suitable available fertilizer materials with the conservation of important by-products. It appeared possible to eliminate artificial drying in the manufacture of triple superphosphate by treating the wet product of acid treatment of the raw rock with anhydrous ammonia. Such procedure resulted in superphosphates containing up to 30 per cent or more of available phosphoric acid and up to 10 per cent of ammonia. The furnace extraction methods used in potash manufacture again were applied successfully to the production of phosphoric acid with certain improvements, it being found that blast temperature is the determining factor in the cost of the process.

The Department of Agriculture and the State Agricultural experiment stations continued the experimental comparison on prominent soil types of new concentrated fertilizers with fertilizers of ordinary strength. The development of the mechanical placement of fertilizers also continued. Progress was made in unifying fertilizer control practices in the northeast and middle Atlantic States with special reference to the substitution of the term nitrogen for ammonia in guarantees, the use of even units, and adoption of the order nitrogen, phosphorus, potassium in fertilizer formulas.

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anamid Company, New York, 1932; *Handbook of Fertilizers* by A. F. Gustafson, New York, 1932; *Fertilizer Suggestions for Idaho Farmers*, Idaho Agricultural College Extension Bulletin No. 88, Moscow, 1932; *Manures and Fertilizers—Their Nature, Functions and Application*, by F. T. Shutt, Canadian Department of Agriculture, Bulletin No. 145, Ottawa, 1932; *The Influence of Fertilizers on Crop Quality* by B. L. Hartwell, Washington, D. C.; *Fertilizer Materials and Mixed Fertilizers* by A. W. Blair, New Jersey Agricultural Experiment Station Bulletin 541, New Brunswick, 1932; the *Use of Fertilizers in Tropical and Subtropical Agriculture*, by A. Jacob, London, 1931; and *Die Analysenmethoden der Dungemittel* by A. Suchier, Berlin, 1931.

**FESSENDEN**, REGINALD AUBREY. An American electrical engineer and inventor, died in Flatts Village, Bermuda, July 22, 1932. He was born in Bolton, Quebec, Canada, Oct. 6, 1866, and attended Trinity College School, Port Hope, Ont. From 1887 to 1890 he was head chemist at the Edison laboratory in West Orange, N. J., where he conducted experiments to discover some substance which should have the properties of India rubber but be fireproof. He then became associated as chief electrician with the branch of the Westinghouse Electric & Manufacturing Co. in Newark, N. J. In 1892 he was appointed professor of physics and electrical engineering at Purdue University, and two years later was called to the Western University of Pennsylvania (later the University of Pittsburgh) as professor of electrical engineering. From 1900 to 1902 he was a special agent for the U. S. Weather Bureau, in charge of investigations in wireless telegraphy as an aid to the collection of daily weather reports. He then became general manager of the National Electric Signalling Co. of Washington, which had been organized to manufacture certain of his inventions, including a high-frequency alternator and high-frequency arc. After 1910 he was physicist and consulting engineer for the Submarine Signal Co. of New York City.

Radiotelephony was made possible by Fessenden's discovery of a system of modifying the frequency or intensity of continuous sound waves, his early experiments being carried out at Brant Rock, Mass., where on Dec. 23, 1900, he is credited with making the first actual transmission of human speech through the ether. The apparatus was gradually improved until by 1905 it was operated within a 25-mile radius of Brant Rock and by 1907 it was possible to talk with Washington, D. C., 400 miles distant. The principle as applied to radio-frequency amplification is known as the heterodyne effect. He also carried out at Brant Rock experiments with his wireless telegraph system which is today in successful operation on many steamship lines. In 1929 he received the *Scientific American* gold medal. Outstanding among his 300 inventions are a device for submarine telephony and telegraphy, which can also be used as a position finder and fog signal; iceberg detector; fathometer; compressed air condenser; wave meter; umbrella antenna; phantom antenna for wireless telegraphy; induction furnace; dirigible torpedoes; gun sights; subterranean water reservoir method of storing power; and low-pressure steam method of generating energy from solar and space radiation. He was a frequent contributor to scientific periodicals.



**FESTIVALS.** See MUSIC.

**FICTION.** See FRENCH LITERATURE; GERMAN LITERATURE; ITALIAN LITERATURE; LITERATURE, ENGLISH AND AMERICAN; PHILOLOGY, MODERN; SPANISH-AMERICAN LITERATURES, etc.

**FIELD ATHLETICS.** See ATHLETICS, TRACK AND FIELD.

**FIJI, fē'jē, ISLANDS.** A British Crown colony, comprising a group of about 250 islands (80 inhabited) in the South Pacific (15° to 20° S. latitude, and 177° E. to 178° W. longitude). The island of Rotuma (12° to 15° S. latitude, and 175° to 180° E. longitude) is included in the colony. Area, 7083 square miles; population on Jan. 1, 1932, was estimated at 185,573 including 93,414 Fijians; 76,772 Indians; 5058 Europeans; 1503 Chinese, and 8826 others. The capital Suva, on the south coast of Viti Levu, had 12,982 inhabitants in 1921.

Bananas, coconuts, maize, sugar cane, tobacco, rice, pineapples, cotton, and timber are the principal products. In 1931 imports were valued at \$929,514, and exports at £1,000,187; revenue amounted to £565,393 and expenditure to £605,973. The public debt on Jan. 1, 1932, was £936,608. Steamers entering the ports in 1930 numbered 182 of 744,807 tons.

Executive power is vested in a governor, assisted by an executive council and by a legislative council consisting of partly nominated and partly elected European, Indian, and native members. The Governor is also High Commissioner for the British islands of the western Pacific. Governor in 1932, Sir A. G. M. Fletcher (appointed 1929).

**FILIPINO IMMIGRATION.** See IMMIGRATION.

**FILMS.** See MOTION PICTURES.

**FILTRATION.** See SEWERAGE AND SEWAGE TREATMENT.

**FINANCE.** See PUBLIC FINANCE, and sections under *Finance* in Countries and States.

**FINANCIAL REVIEW.** Although the year 1931 had been, financially speaking, remarkable for its transformations and experiences, the 12 months of 1932 were, if anything, even more striking to the careful student of private finance. At the opening of the year the usual predictions on the part of "leaders" that there would be early recovery gave hope to some; but a more thoughtful consideration of the entire situation shortly showed that such forecasts could be true only in the event that certain well-defined policies on the part of the government and of the community were early placed in application. Further consideration of conditions soon afforded convincing proof that no such speedy action was to be had either from the government or from the financial public, owing to uncertainty and doubt how far it was safe to count upon definite prospects, or how far wise to apply well-defined remedies. What did become evident, before the first few months of the year in finance had passed, was that the country at large could not be expected again to become willing or active investors, without the laying of an entirely new and much sounder foundation for the reestablishment of confidence on the part of the rank and file of the community. During the year, the appearance of serious fears with regard to the soundness of the currency system—the President himself going so far as to assert that the country had been within 30 days of "going off the gold standard"—naturally increased the anxiety of the situation.

While the spectacular events of the preceding year involving as they had the financial collapse of Great Britain and Germany were not paralleled, the steady advance of currency difficulties, both in the Western nations and in the Orient, proved unmistakable and disturbing elements in the year's developments. More and more, during the year, nations tended to separate from one another; and, through moratoria, currency and exchange restrictions, banking interference or prohibitions upon the movement of funds, and in other ways, to break off definite financial relationships. The result was to drive international trade to lower and lower levels, to disturb exchange, to bring about abnormal movements of gold, and to curtail the balance or equilibrium of business which had been previously established. In consequence, security markets were disturbed and depressed as in no former time, and remittances and movements of moneyed capital became more troublesome to obtain and difficult to effect in practice. It was also true that the flotation of international issues and sales of securities became harder and harder to arrange, as the year advanced, and the tendency to hoard, at some times pronounced, became, if not more noticeable, more deeply-rooted. All these conditions tended to make the year one of extreme depression and disturbance in every branch of finance and investment. The shrinkage of business activity and extended failures, both of financial and business institutions, were among the most distressing factors of the period.

**STOCK EXCHANGE ACTIVITY.** Transactions on the New York Stock Exchange for the year 1932 totaled 425,234,294 shares as compared with 576,921,426 shares for the preceding year, and 810,626,276 for 1930. Total bond sales amounted to \$2,973,725,895 as against \$3,075,347,100 in 1931 and \$2,779,000,350 in 1930. The number of days when abnormal turnover occurred was small, and at no time was there the hysterical trading that had frequently characterized the market during recently-preceding periods. Nevertheless, during the summer months, several weeks of very active business passed and there were some 25 three million share days, with 12 when four million or over were sold and 3 on which over five million shares changed hands.

As for the two years preceding, a good deal of the business done, even on the more restricted basis that prevailed during much of the year, was for the purpose of realizing or liquidating the assets of banks and other sellers who were obliged to obtain cash. Accordingly, the New York Stock Exchange again passed through a period of lean earnings and seats, though not as low as in former months, sold at a bottom price of \$68,000 while closing the year at about \$115,000. The year's highest price was \$185,000. Consolidations and failures were again a characteristic feature of the time, and the retirements from the exchanges for one cause or another during the year were larger than usual, there being but 1171 offices left out of 1347 in force at the opening of the year.

Three general periods in the history of the year may be noted, the first extending from the beginning of January to about midyear, the second extending through the summer quarter, and the third during the fourth quarter. During the first half year, constituting the earliest of these periods, the trend of prices was quite consistently downward, with the result that the record



low prices of the year were reached in June. The influences preëminent during the first half-year were largely psychological—the depression due to the feeling that economic conditions were crumbling, the doubt and lack of confidence due to feeling that the banking situation was unsound, and that losses of gold would cause trouble, as well as other similar factors. No new industrial factors of highly significant nature had made their appearance. But the whole tendency was toward a sacrifice of securities, even at prices that in no respect corresponded to cost of production or to probable cost of reproduction of the plants and enterprises they represented.

given cause for attack. The movement was explained by its friends, therefore, on the ground that it was a forecast or anticipation of much improved business conditions, which (it was said) would shortly supervene. The date for such improvement was, as usual, set somewhat ahead, but it was asserted that it would probably make itself apparent, to some extent at least, during the autumn.

Autumn prices, however, showed no influence of the kind predicted. There was no addition to the volume of production in staple industries and, where such volume did show itself, it was merely of the "seasonal" scope that had been

## ANALYSIS OF CHANGES IN MONETARY GOLD STOCK

[From Federal Reserve Bulletin]

(In millions of dollars)

Month	Gold stock at end of month	Increase in stock during month	Analysis of changes Net gold import	Net release from earmark <sup>a</sup>	Domestic production, etc. <sup>b</sup>
1932—January	4,416	— 44.2	— 73.0	25.4	3.4
February	4,354	— 62.3	— 90.6	26.4	1.9
March	4,390	36.0	— 24.7	58.3	2.4
April	4,367	— 23.1	— 30.2	4.0	3.2 <sup>c</sup>
May	4,152	— 214.1	— 195.5	— 22.1	3.6 <sup>c</sup>
June	3,919	— 233.9	— 206.0	— 28.8	0.9
July	3,977	57.9	— 3.4	56.2	5.2
August	4,088	111.7	6.1	100.5	5.1
September	4,193	104.8	27.9	72.3	4.6
October	4,264	70.8	20.6	45.8	4.5
November <sup>d</sup>	4,388	73.8	19.9	48.6	5.3
December	4,508	168.0	95.6	71.0	1.4
Total (12 mos.)		— 47.4	— 451.5	457.5	41.4

<sup>a</sup> Gold released from earmark at Federal reserve banks less gold placed under earmark

<sup>b</sup> This figure, derived from preceding columns, represents the excess of domestic production over nonmonetary consumption of gold—chiefly consumption in the arts. In any given month, however, it may be predominantly affected by the fact that on the final day of the month (<sup>a</sup>) gold bullion or foreign gold coin recently imported may not yet have reached a reserve bank or the Treasury, and (<sup>b</sup>) gold bullion recently withdrawn from stock for export may not yet have been actually exported. The figures are subject to certain unavoidable inaccuracies in official reports of gold imports and exports

<sup>c</sup> \$15,649,000 of gold bullion imported on April 30 from France was not purchased by the New York Assay Office until May 1.

<sup>d</sup> Preliminary figures.

During the second period a new situation developed. The ending of the gold export episode due to the withdrawal of almost all foreign balances coincided with a favorable outcome at the Lausanne conference, where the European nations had succeeded in agreeing upon a general basis of understanding as to the terms of settlement of the prewar debts, and had thus opened the way to an apparent adjustment of the international debt question. At the same time, politicians, anxious to have the community hopeful in outlook, were exerting themselves to bring about an attitude of more courage, and were endeavoring, as far as possible, to have the market factors favorable to higher prices. Then also, the efforts of the Reconstruction Finance Corporation to sustain institutions that were encountering difficulty had about reached the peak of their prestige, and had not yet started on the down grade. Altogether, factors thus tended to bring about a rebound of values from the extremely low level to which they had fallen during the preceding months. Accordingly, the midsummer period enjoyed an unexpected advance in which stocks and bonds, in many cases, gained fully 50 per cent in value, and bade fair to attain a higher level of worth that would retain some elements of permanence. Apparently this movement was not based upon any tangible factors, so far as business or production were concerned, and accordingly had to suffer from the doubts raised by hostile critics, who saw in it the artificiality that had, in the past, so often

noted in former autumns. On the other hand, an unexpectedly large world outturn in cotton, wheat, and some other articles brought a sharp downward movement of commodity prices, which was reflected in the stock market as a depressant of security values. By midautumn, all securities had lost about one-half of the gain of the summer and stood at a point about midway between their June lows and the midsummer highs. For the remainder of the year, the trend was on the whole, downward, under the influence of indisposition on the part of the United States to make any adjustment for the immediate future, at least in the international debt relations whose adjustment was deemed a necessity for the working out of the Lausanne agreements. Security loans, which had risen during the summer, fell off again, and reached a new low point.

Advances of banks upon commercial paper steadily declined. Many new reductions or suspensions of dividends were announced. There was no realization, in any essential respect, of the hopeful forecasts that had been offered during the premature boom of the summer months.

STOCK EXCHANGE INVESTIGATION. One factor that unquestionably hurt the stock market, and indeed the entire securities situation, was the initiation and conduct by the Senate Banking and Currency Committee, of an inquiry into speculative methods and conditions, undertaken with the intent, originally, of meeting the wishes of the President, who had had the opinion that low prices on the New York Stock Exchange

were the result of the manipulations of short sellers. He had, at first, wished to have the inquiry limited to a study of short selling as such, but when this was brought to the attention of the Banking Committee, the undertaking was broadened into a study of market conditions in general. The outcome was a series of hearings lasting during the months of April, May, and June, and a continuance over the summer holiday season, with the intent of renewal later. While the committee did not reach the point of announcing its findings in any formal way, the hearings (which were public) brought up the details of various old scandals, and uncovered some that had been less widely known. The revelations concerned operations on the part of corporate executives and market operators which were in the nature of breaches of confidence, or questionable dealing, even when judged by the rather loose code of conduct prevalent in Wall Street.

tax-free; and in (as already stated) the issues, both short- and long-term, of the Federal government which were bought chiefly by banks as a means (they thought) of keeping "liquid," and retaining their funds in unquestionably salable form. A good deal was done in the way of necessary renewals and refundings, while some refinancing was effected with the aid of the Reconstruction Finance Corporation which induced holders of railway securities to renew or extend issues by giving aid, usually to the extent of one-half of amounts due while informing old holders that their only alternative would be a receivership, in which they would unquestionably suffer. These conditions gave to the whole new-issue state of things a sporadic character, and an uncertainty that was notable. The facts are reflected in the accompanying tabular view, which sets forth the main classifications of securities which were sold during the course of 1932.

SUMMARY OF NEW FINANCING  
[Long-term; i. e. 1 year or more. In millions of dollars]

Year and month	NEW ISSUES						Refund- ing issues, domestic and for- eign
	Total, domestic and foreign	Total *	Domestic State and municipal	Corporate Bonds and notes	Stocks	Foreign	
1923 .....	4,437	4,016	1,043	1,976	659	421	682
1924 .....	5,557	4,588	1,380	2,200	829	969	759
1925 .....	6,201	5,125	1,352	2,452	1,153	1,076	925
1926 .....	6,314	5,189	1,344	2,667	1,087	1,125	1,046
1927 .....	7,556	6,219	1,475	3,183	1,474	1,337	2,220
1928 .....	8,040	6,789	1,379	2,385	2,961	1,251	1,858
1929 .....	10,091	9,420	1,418	2,078	5,924	671	1,422
1930 .....	6,909	6,004	1,434	2,980	1,508	905	711
1931 .....	3,099	2,860	1,235	1,240	311	229	949
1931							
October .....	45	45	16	14	4	...	1
November .....	112	110	54	26	24	2	21
December .....	123	123	44	28	89	...	21
1932							
January .....	184	184	138	42	4	...	14
February .....	73	73	35	35	4	...	21
March .....	162	162	109	47	1	...	29
April .....	71	71	30	15	...	...	72
May .....	91	91	84	7	...	...	32
June .....	78	78	74	4	...	...	64
July .....	106	104	25	62	1	2	57
August .....	63	60	34	25	2	3	108
September .....	75	73	63	6	...	2	76
October .....	94	94	36	47	2	...	28

\* Includes issues of Federal land banks and Federal intermediate credit banks, not shown separately.

Sources.—For domestic issues: Commercial and Financial Chronicle; for foreign issues (issues publicly offered) annual totals are as finally reported by Department of Commerce, while monthly figures are as compiled currently and are subject to revision.

Suggestions, frequently made, that the net outcome might be the initiation of anti-stock exchange legislation of a drastic sort in Congress, although not substantiated in any positive or concrete fashion, were a disturbing element in the price situation.

NEW ISSUES. The new issue problem was naturally a difficult one in a situation which recognized only government securities as the type of credit, and was disinclined to give weight to any, save the most gilt-edged among former market favorites. Investors, generally speaking, were not disposed to subscribe for offerings, even of what would previously have been considered "high-grade" domestic securities,—save under pressure. The only exception was to be found in some very exceptional State and municipal issues, generally those which possessed the additional element of attraction that they were

MOVEMENT OF GOLD. The year 1932 was, beyond doubt, one of the most striking and disturbing periods, so far as concerned the movement of gold, that had been suffered by the gold using world-community. During the preceding year Great Britain had abandoned, for the time being at least, the gold standard, while France, alarmed by her own losses on balances carried in London banks, was doubly overcautious with reference to the safety of balances still held by her in foreign markets. Late in the year 1931, the French government, as it later was demonstrated, had reached the conclusion that the Bank of France should withdraw the balances held by that institution abroad, and Premier Laval had notified the Governor of the Federal Reserve Board to that effect during an official visit here in October, 1931. These withdrawals, already referred to in other connections, took

place during the first six months of 1932, and resulted in a movement out of the country amounting in all to about \$475,000,000 of gold. The conclusion of these shipments left the situation quieter for a time, but it was not long before the fact that the United States remained, of course, a creditor of the world, both on merchandise and on investment account, led to a renewal of the inward movement of former years. This inward movement was enlarged by special conditions growing out of the Japanese operations in China and Manchuria, accompanied by large purchases of war supplies, with payment made through specie shipments to the United States. The drift thus set up continued during the later autumn, and culminated in the requirement by the United States of resumption of payments on war debts owing to the close of the moratorium which had been declared by President Hoover in June, 1931. This resumption, and the difficulty of making settlement in any other fashion necessitated large shipments during December and the net outcome of the year's operations was to leave the country with

a large holding of gold on December 31, the total being about \$4,500,000,000. One effect of these shipments, and of other uncertainties in the holding of gold throughout the world generally, was seen in an unmistakable reduction of confidence in the gold standard itself, and a lessening of the disposition to reintroduce it which had pretty well established itself after the return of Great Britain to gold in 1925.

**INTERNATIONAL BALANCE.** Conditions tending to establish totally new relationships in the international trade position of the United States had become fairly well marked during the two years after the panic of 1929. They were, generally speaking, the rise of isolationist and nationalist philosophies in foreign countries, reflected in hostile tariff duties paralleling those of the United States, and in the gradual re-establishment of domestic industries in various foreign countries rendering it impossible to purchase as liberally of foreign products as had been the case during and after the World War. Along with these influences, went the tendency to refuse foreign financing in the financial markets

ESTIMATED BALANCE OF INTERNATIONAL PAYMENTS OF THE UNITED STATES: CALENDAR YEARS 1930 (REVISED) AND 1931 (SUBJECT TO REVISION)  
[In millions of dollars]

Classes of international transactions	1930 (revised)			1931		
COMMODITY TRADE	Credits	Debits	Balance	Credits	Debits	Balance
Merchandise exports and imports (as reported) . . . . .	3,843	3,061	+ 782	2,424	2,090	+ 334
Silver . . . . .	54	43	+ 11	27	29	- 2
Bunker coal and oil sales to foreign vessels . . . . .	44	10	+ 34	30	6	+ 24
Ship chandling, ship repairs, and tonnage dues . . . . .	46	81	+ 15	36	23	+ 13
Sale of vessels . . . . .	3	3	.....	1	3	- 2
Unrecorded parcel-post shipments . . . . .	18	..	+ 18	20	..	+ 20
Adjustments for differences in year-end lags . . . . .	87	..	+ 87	85	..	+ 85
Other merchandise adjustments . . . . .	..	146	- 146	..	103	- 103
Total commodity trade (as adjusted) . . . . .	4,095	3,294	+ 801	2,623	2,254	+ 369*
MISCELLANEOUS INVISIBLE ITEMS						
Freight payments and receipts:						
Ocean and Great Lakes traffic . . . . .	106	201	- 95	85	167	- 82
Railway earnings on transit shipments, etc. . . . .	49	33	+ 16	32	7	+ 25
Foreign inland freight on United States imports . . . .	..	17	- 17	..	15	- 15
Tourist expenditures:						
Canada . . . . .	72	266	- 194	57	239	- 182
Mexican border . . . . .	13	56	- 43	9	44	- 35
Overseas, including West Indies (Canada excluded) . .	72	489	- 417	46	287	- 241
Ocean-borne passenger traffic (by "substitution") <sup>b</sup> . .	49	..	+ 49	..	..	..
Earnings of long-term private investments:						
Received from American investments abroad . . . . .	838	..	+ 838	563	..	+ 563
Paid to foreign investors in the United States . . . .	..	227	- 227	..	100	- 100
Earnings of short-term interest and commissions:						
Collected from foreigners abroad . . . . .	78	..	+ 78	111	..	+ 111
Paid to foreigners abroad . . . . .	..	73	- 73	..	26	- 26
Immigrant remittances . . . . .	33	199	- 166	10	173	- 163
War-debt receipts of United States Treasury:						
Interest . . . . .	164	..	+ 164	92	..	+ 92
Principal . . . . .	77	..	+ 77	21	..	+ 21
Other United States Government receipts, United States						
Government payments, and foreign representations here	46	127	- 81	33	131	- 98
Missionary and charitable contributions, etc. . . . .	..	49	- 49	..	39	- 39
Motion-picture royalties . . . . .	90	6	+ 84	70	4	+ 66
Insurance transactions . . . . .	70	70	..	70	70	.....
Minor miscellaneous items.						
Imports of Canadian electric power . . . . .	..	4	- 4	2	4	- 2
Newspapers and periodicals . . . . .	5	3	+ 2	5	3	+ 2
Patents and copyright sales and royalties; legal fees . .	15	15	.....	15	15	.....
Advertising . . . . .	4	40	- 36	4	18	- 14
Cablegrams, radiograms, and telephone services . . . .	21	15	+ 6	22	17	+ 5
Total of miscellaneous items . . . . .	1,802	1,890	- 88	1,247	1,359	- 112
MOVEMENT OF PRIVATE LONG-TERM CAPITAL						
New American investments abroad:						
1. Foreign securities publicly offered here (par value) <sup>c</sup> . . . . .	..	1,087	- 1,087	..	280	- 280
2. Deduct for refunding to Americans . . . . .	182	..	+ 182	56	..	+ 56
3. Deduct for American underwriters' commissions . .	23	..	+ 23	6	..	+ 6
4. Deduct for securities issued below par . . . . .	43	..	+ 43	5	..	+ 5
5. Add new direct investments abroad by Americans . . . .	..	253	- 253	..	196	- 196
6. Add foreign stocks and bonds bought from foreigners in small lots . . . . .	..	360	- 360	..	347	- 347

## ESTIMATED BALANCE OF INTERNATIONAL PAYMENTS OF THE UNITED STATES: CALENDAR YEARS 1930 (REVISED) AND 1931 (SUBJECT TO REVISION)—(Continued).

Classes of international transactions	1930 (revised)			1931		
	Credits	Debits	Balance	Credits	Debits	Balance
<b>MOVEMENT OF PRIVATE LONG-TERM CAPITAL—</b> (Continued).						
Reductions of previous American investments abroad:						
7. Bond-redemption payments received from foreigners .....	123	....	+ 123	114	....	+ 114
8. Sinking-fund payments received from foreigners ..	127	....	+ 127	143	....	+ 143
9. Resale to foreigners of direct investments .....	51	....	+ 51	5	....	+ 5
10. Foreign stocks and bonds resold to foreigners ....	806	....	+ 806	659	....	+ 659
New foreign investments in the United States:						
11. Direct investments .....	19	....	+ 19	10	....	+ 10
12. American stocks and bonds sold to foreigners ....	941	....	+ 941	589	....	+ 589
Reductions of previous foreign investments in the U. S.:						
13. Redemption and sinking-fund payments to foreigners .....	....	77	— 77	....	50	— 50
14. Purchase of American properties from foreigners ..	....	....	....	....	1	— 1
15. American stocks and bonds bought back from foreigners .....	....	833	— 833	....	495	— 495
Total of private, funded-capital items .....	2,315	2,610	— 295	1,587	1,369	218 <sup>a</sup>
<b>MOVEMENT OF SHORT-TERM CAPITAL</b>						
Net change in international banking accounts, as revealed by questionnaire .....	....	485	— 485	....	765	— 765
<b>PURE CASH ITEMS</b>						
Gold shipments .....	116	396	— 280	467	612	— 145
Changes in earmarked gold, by months .....	26	22	+ 4	463	142	+ 321
United States paper currency .....	20	....	+ 20	....	10	— 10
Total of gold and currency .....	162	418	— 256	930	764	+ 166
Grand total, all items <sup>a</sup> .....	8,374	8,697	— 323	6,887	6,511	— 124 <sup>f</sup>

<sup>a</sup> For purpose of comparison with estimates of previous years the miscellaneous short-term credits are carried in this table as "adjustments for differences in year-end lags."

<sup>b</sup> Largely a deduction from American tourist expenditures.

<sup>c</sup> Issued outside our balance-of-payment area. Usually statistics of public offerings include those of all Territories and possessions, although Hawaii, Puerto Rico, and Alaska are parts of our customs area.

<sup>d</sup> Estimated net export of long-term private capital.

<sup>e</sup> The total of the first two columns of each year is the "international turnover."

<sup>f</sup> Preliminary discrepancy, due to net errors and omissions.

of the United States which still further curtailed foreign buying-power. The year 1932 did not reveal new phases of this general situation, but merely a continuous aggravation of those already developed. Spread of moratoria and suspensions of payment on bonds sometimes en-

curities. This, in turn, tended to restrict the foreign trade still further, and exports sank practically to low level.

The export and import operations of the United States, by months, are presented in the accompanying table.

MERCHANDISE EXPORTS AND IMPORTS  
[In millions of dollars]

Month	Merchandise exports					Merchandise imports					Excess of exports				
	1928	1929	1930	1931	1932	1928	1929	1930	1931	1932	1928	1929	1930	1931	1932
January ...	411	488	411	250	150	338	369	311	183	136	73	119	100	66	15
February ...	371	442	349	220	154	351	369	282	175	131	20	72	67	49	23
March .....	421	490	370	226	155	380	384	300	210	131	40	106	69	26	24
April .....	364	425	332	215	135	345	411	308	186	127	19	15	24	29	9
May .....	423	385	320	204	132	354	400	285	180	112	69	— 15	35	24	20
June .....	389	393	295	187	114	317	353	250	173	110	71	40	44	14	4
July .....	379	403	267	181	107	318	353	221	174	79	61	50	46	6	27
August .....	379	381	298	165	109	347	369	218	167	91	32	11	79	—	2
September ...	422	437	312	180	132	320	351	226	170	98	102	86	86	10	34
October .....	550	529	327	205	153	355	391	247	169	106	195	137	80	36	47
November ...	545	442	289	194	139	327	338	204	149	104	218	104	85	44	35
December ..	476	427	275	184	136	339	310	209	154	97	136	117	66	30	39
Year .....	5,128	5,241	3,843	2,424	1,618	4,091	4,399	3,061	2,091	1,323	1,037	842	785	334	295

tirely, sometimes merely in gold, on the part of South American states, rendered the problem more and more difficult to deal with as the year proceeded, and tended to drive the exporting power of the United States to lower and lower levels. The nation, however, reduced its importations in much the same proportion as it did its shipments, so that at nearly all times there was a technically favorable balance, with a necessity on the part of foreign countries of liquidating some balance in this market in gold, or through borrowing, or by the sale of previously-held se-

FOREIGN EXCHANGE. Foreign exchange generally, during 1932, underwent a disorganization and disturbance that was almost unprecedented, with "pegging" and control of exchange on a scale that had not been known since the World War and that threw out of relationship to one another nearly all the major exchanges. Their artificiality and the application of "exchange control" in various important directions would alone have sufficed to render the quotations, even upon the chief markets, largely out of harmony with realities, and hence untrustworthy. Ac-

## RANGE OF FOREIGN EXCHANGE RATES BY WEEKS IN 1932

Week ended:	London		Paris		Berlin		Norway		Sweden		Denmark		Belgium	
	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
January 9 .....	3.41½	3.35	3.91¼	3.91¾	23.80	23.62	18.64	18.44	19.09	19.04	18.78	18.68	13.91½	13.87½
February 6 .....	3.46¼	3.44½	3.93½	3.93	23.78	23.70	18.82	18.79	19.39	19.34	19.09	19.00	13.95	13.93½
March 5 .....	3.51½	3.48½	3.94½	3.93¼	23.82	23.74	19.16	18.90	19.35	19.22	19.33	19.18	13.93¼	13.91
April 2 .....	3.83½	3.72	3.94¾	3.92¾	23.90	23.75	20.59	19.81	20.70	20.15	21.19	20.75	13.97½	13.95
May 7 .....	3.69	3.65¾	3.94¾	3.94	23.84	23.77	18.74	18.60	18.84	18.83	20.14	20.04	14.04½	14.00
June 4 .....	3.70½	3.68¼	3.95½	3.94¾	23.75	23.64	18.51	18.39	19.04	18.94	20.24	20.19	14.00½	13.99¼
July 2 .....	3.61¼	3.56¾	3.93¾	3.92¾	23.80	23.66	17.82	17.64	18.55	18.29	19.67	19.49	13.93¼	13.90¼
August 6 .....	3.52¼	3.44¾	3.91¾	3.91¾	23.81	23.73	17.62	17.29	18.07½	17.78	18.94	18.54	13.87	13.86
September 3 .....	3.47½	3.46½	3.92¼	3.91½	23.80	23.77	17.43	17.36	17.83	17.80	18.04	17.69	13.88	13.86
October 1 .....	3.46½	3.44½	3.92	3.91¾	23.81	23.78	17.43	17.39	17.75	17.69	17.94	17.88	13.87¾	13.86
November 5 .....	3.32½	3.28¼	3.93¾	3.92¾	23.77	23.73	16.86½	16.77	17.45	17.21½	17.26½	17.14	13.93¾	13.90¾
December 3 .....	3.24½	3.14½	3.91¾	3.90¾	23.80	23.74	16.59½	16.36½	17.64½	17.33	16.89½	16.47	13.85½	13.84¾
Year's range .....	3.83½	3.14½	3.95¼	3.90¼	23.90	23.50	20.59	16.36½	20.70	17.09	21.19	16.47	14.05	13.84

Week ended:	Holland		Italy		Austria		Czechoslovakia		Shanghai (dollars)		India		Japan	
	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
January 9 .....	40.22	40.07	5.09	5.07	14.00	14.00	2.96½	2.96½	24.87½	24.37½	25.62½	25.50	36.50	35.25
February 6 .....	40.29	40.23	5.22½	5.01	14.00	14.00	2.96½	2.96½	25.00	24.62½	26.20	26.12½	36.25	35.50
March 5 .....	40.33½	40.19	5.19	5.18½	14.00	14.00	2.96½	2.96½	26.50	25.50	26.45	26.45	33.25	32.50
April 2 .....	40.43	40.37	5.16¼	5.17	14.00	14.00	2.96½	2.96½	24.50	24.00	28.95	28.45	33.75	33.00
May 7 .....	40.61½	40.51	5.16	5.15½	14.00	14.00	2.96½	2.96½	22.25	21.62½	27.56¼	27.45	33.75	32.62½
June 4 .....	40.59½	40.55	5.14	5.13½	14.00	14.00	2.97½	2.97½	22.25	22.12½	27.75	27.70	32.87½	32.25
July 2 .....	40.40½	40.34	5.12½	5.08¼	14.00	14.00	2.96¼	2.96¼	21.00	20.87½	27.06¼	26.93¼	28.00	26.75
August 6 .....	40.25½	40.21	5.10½	5.09	14.00	14.00	2.96¼	2.96¼	21.37½	21.12½	26.56¼	26.31¼	27.37½	25.87½
September 3 .....	40.23	40.20½	5.12¼	5.11¾	14.00	14.00	2.96¼	2.96¼	22.12½	21.75	26.25	26.12½	23.25	22.50
October 1 .....	40.16	40.12½	5.12½	5.12	14.00	14.00	2.96¼	2.96¼	21.62½	21.50	26.18¾	26.18¾	24.12½	24.00
November 5 .....	40.25½	40.20½	5.12	5.11½	14.05	14.05	2.96½	2.96½	21.37½	21.25	25.12½	24.95	21.25	21.00
December 3 .....	40.19½	40.17½	5.09	5.06¼	14.07	14.07	2.96¼	2.96¼	20.62½	20.12½	24.50	24.06¼	20.75	19.87½
Year's range .....	40.61½	40.07	5.22½	5.00¾	14.07	14.00	2.97¾	2.96¼	27.25	19.75	28.95	24.06¼	37.75	19.87½

cordingly, trading in exchange assumed a more speculative character than had been true of it for a long time before.

Naturally, interest in the New York market centred around the movement of francs, marks, and pounds sterling, although at times large operations in Japanese yen were undertaken. The chief decisive factor affecting sterling was the operations of the Bank of England in its pursuit of the "managed money" theory, and the attempt to make the prices of sterling assume a level corresponding to what was believed to be the true interest of Great Britain in foreign trade. On the other hand, francs were affected largely by the artificial movements of gold and investments between the Paris and New York markets, and by the unsettled state of international relations regarding the prospective debt installments. Marks were, of course, the subject of constant regulation and oversight at the hands of the German Reichsbank throughout the period. The rates and quotations in other major exchanges were largely the result of direct control, or the indirect effects of control exerted upon those primary currencies that have already been referred to. Japanese yen depreciated pretty steadily throughout the year, and the question of definite devaluation was under discussion throughout the latter part of the time. Other oriental exchanges suffered, not only from the causes influencing the exchanges, as already set forth, but likewise from the fluctuations in the price of silver bullion which reached very low levels of value during the twelvemonth. In South American exchange, the various moratoria and systems of exchange control mentioned afforded the basis for serious disturbance of the entire structure of quotations, and there was little, if any, pretense of fixation of rates at any time on the basis of open market trading. The accompanying table reflects briefly the course of quotations of the principal exchanges during 1932. For values at par, see under COINS, VALUE OF FOREIGN.

COMMODITY PRICES. Although throughout the year 1932 there was constant expectation, and almost constant prediction of recovery in commodity values, only for brief periods during the summer was there any indication of such a movement. Transitory and unstable changes toward higher levels had no permanent effect upon the general average, although the latter had already been so much reduced during the preceding years as to render the average far less susceptible to influences tending to drive it downward. On the whole, weakness was still most manifest in staple commodity lines in which overproduction was still a controlling influence, while costs of living were considerably less variable than before, although still out of line with wholesale values and with general price averages. The average wholesale index stood, at the close of 1932, at 63, a practically low point for the movement but the range for the year was not more than approximately four points—a fact which strengthened many in the conviction that, in all probability, the downward movement had about reached its close,—though there were no conclusive indications of the time or extent of a probable movement of definite recovery. The net drop for the year was thus about 4 points as compared with 10 points the year previous, and 20 points since the panic of 1929. Middle West wheat price (No. 2 Red) stood at

the close of the year at 46 cents as against 74½ cents a year earlier and corn was 23¼ cents against 38 cents in 1931. Cotton was 6.10 cents as against 6.55 cents for middling upland at the close of 1931, while family beef closing at around \$12.50 showed a decline of near a third from the figure (\$17) which closed the year 1931. Pork which had been \$28.50 at the end of the year 1931 declined to \$15.50 at the end of 1932.

MONEY RATES. The policy of low interest and discount rates, which had been steadily adhered to by Federal Reserve banks during the years since the panic of 1929, was maintained, and the prevailing figure throughout 1932 was kept out of harmony with the true market or commercial rate, apparently in the belief that such low rates tend to support confidence or to bring back a prosperous condition. Rediscount rates were cut to 2½ per cent in New York on June 24. In making loans upon collateral the Reconstruction Finance Corporation early established a figure of 5½ per cent, while actual rates paid in private transactions during the year preceding were often very high and mortgage money, when obtainable, was often exorbitant in charge. The reserve banks during the year introduced one or two reductions closing the 12 months at 2½ per cent in New York and about 1 per cent higher at most of the interior banks. Acceptance rates as usual were materially lower, ranging about 1 per cent against 2 to 2½ per cent previously—a practically unprecedentedly low figure. Call rates in New York were, a great deal of the time, purely nominal with an actual charge at the close of the year of ½ per cent to 1 per cent. In most branches of the money market, it was true, as had been the case for two years, that the real problem of the time was that of negotiating the use of money on any terms. Business men continued to complain not of the rates they had to pay, but of the fact that (as they stated it) they were unable to get accommodation on any terms practically speaking.

Investment returns continued to vary with the utmost breadth. Many securities, as quoted, yielded on the price that had to be paid for them absurdly high figures, such as 8, 10, or 12 per cent, but it remained true that highest-grade bonds of all groups were very low in yield, the best standing at a decided premium even when their nominal coupon rate was not over 4 or 4½ per cent. On none of the various types of issues was the actual or realized rate indicative of anything in a commercial or financial way, inasmuch as the Treasury issues bore a wholly artificial return, while the rates realized by investors in corporate securities were rather estimates of possible risk of non-payment, or of receiverships, than they were of the true investment value of the issues so purchased. The investment market being completely disorganized and condemned to a strictly non-competitive condition, the figures of return and interest in the abstract were largely imaginary, and hence inapplicable to actual conditions.

**FINE ARTS.** See ART MUSEUMS; LITERATURE, ENGLISH AND AMERICAN; PAINTING; SCULPTURE.

**FINEGAN, THOMAS EDWARD.** An American educator, died in Rochester, N. Y., Nov. 25, 1932. He was born in West Fulton, N. Y., Sept. 28, 1866, and was graduated in 1889 from the State College for Teachers at Albany, N. Y., which in 1909 bestowed on him the Ph.D. degree. After

acting as principal of public schools in West Fulton and as school commissioner, Schoharie Co., N. Y., he became in 1892 supervisor of examinations and in 1904 (having been admitted to the New York bar in 1894) chief of the law division of the New York State Education Department. He was assistant commissioner for elementary education of New York during 1908-15 and deputy commissioner of education during 1915-19. He then accepted a call from the Pennsylvania Department of Public Instruction as State superintendent, reorganizing this department and the entire State school system during his four-year term. He was director of local school surveys in Buffalo (1917), Philadelphia (1922), Washington (1923), and Pittsburgh (1927). He was also a member of the National Educational Finance Inquiry during 1921-23, of the President's Advisory Committee on Education, to study the relation of public education to the government, during 1929-31, and of the National Committee on Education and Business in 1931. During 1927-28 he was education director of the Eastman Kodak Co., developing its experimental programme in classroom visual education through motion pictures, and was made president of the Eastman Teaching Films, Inc. He was prominent in the National Education Association, being president of the department of superintendence during 1917-18, a trustee during 1923-26, and chairman of the committee on legislation during 1930-31. After 1927 he was editor-in-chief of the *Winston Loomis Leaf Encyclopedia*. He was the author of *Text Book on New York School Law* (1907); *Judicial Decisions of the State Superintendent of Common Schools, State Superintendent of Public Instruction, and State Commissioner of Education, 1822-1913* (1914); *Teacher Training Agencies* (1914); *Documentary History of the Free School Movement in New York State* (1921); and *Documentary History of the Endeavor to Establish a Township School System in the State of New York* (1921).

**FINLAND.** An independent republic of Europe, bounded on the east by the Union of Soviet Socialist Republics, on the north by the Arctic Ocean and Norway, on the west by Sweden and the Gulf of Bothnia, and on the south by the Gulf of Finland. Capital, Helsinki (Helsingfors).

**AREA AND POPULATION.** With a land area of 132,589 square miles (18,397 square miles of water), Finland had an estimated population on Dec. 31, 1930, of 3,658,125, compared with 3,364,807 on Dec. 31, 1920. The urban population in 1930 totaled 665,835, or 18.20 per cent of the total. Births in 1930 numbered 75,236; deaths, 48,240; marriages, 24,841. Emigration in 1931 was 1018 (3964 in 1930 and 6383 in 1929). The chief cities, with their populations at the beginning of 1931, are: Helsinki (Helsingfors), 241,115; Turku (Åbo), 60,234; Tampere (Tammerfors), 55,514; Viipuri (Viborg), 56,295. Of the 1920 population, 2,754,228 spoke Finnish and 340,963 Swedish. Both are official languages; Swedish names are given above in parentheses. Lutherans at the end of 1930 numbered 3,532,618.

**EDUCATION.** Illiterates comprised only 0.7 per cent of the population over 15 years of age in 1920. In 1930, there were 10,792 elementary schools of all classes, with 357,973 pupils; 279 secondary schools (including teachers' training schools), with 53,407 pupils; and 3 universities, with 6320 students (Finnish universities at

Helsinki and Turku and one Swedish at Turku).

**PRODUCTION.** The 1920 census showed 65 per cent of the population engaged in agriculture and 15 per cent in industry. In 1929, there were 285,448 farms, with 5,411,000 acres, covering only 6.5 per cent of the land area, while forests covered 57,100,000 acres, or 67.2 per cent. The forests, chiefly pine and spruce, are the chief source of industrial wealth; 40 per cent of the forest land is state owned. The chief industries, in order of value of production, are woodworking, paper, food and drink, machinery and shipbuilding, textiles, leather, clay and stone, light and power. Production of mechanical pulpwood in 1931 was 212,000 tons (194,000 in 1930); paper, 325,000 tons (319,000). As compared with 1930, the average export price of sawn timber and cellulose in 1931 fell 20 per cent, and for mechanical pulp, plywood and cardboard 15 per cent.

**COMMERCE.** According to preliminary figures, foreign trade declined sharply in 1931, but the favorable trade balance increased over 1930. Imports aggregated 3,457,640,000 Finnish marks (5,247,671,000 in 1930) and exports 4,455,447,000 marks (5,404,158,000 in 1930). The mark equals \$0.0252 at par and exchanged at \$0.0239 in 1931. The leading 1931 exports were: Pulp and paper, 1,830,309,335 marks (1,840,154,081 in 1930); timber, 1,771,950,683 marks (2,625,281,931); animal foods, 511,602,313 marks (517,628,520). Imports in order of value were textiles, metals, colonial produce and spices, cereals, machinery, minerals and earth, and spinning materials. Great Britain took 1,991,010,362 marks' worth of the 1931 exports, followed by the United States, Germany, and France. Germany supplied imports to the value of 1,207,402,676 marks, followed by Great Britain.

**FINANCE.** Closed accounts for 1930 showed revenue of 4,398,100,000 marks and expenditure of 4,738,700,000 marks. For 1931 budget estimates were: Revenue, 4,400,900,000 marks and expenditure, 4,412,300,000 marks; for 1932, 2,857,700,000 marks and 2,855,600,000 marks, respectively; for 1933, 2,877,362,000 marks and 2,877,336,000 marks, respectively. The 1931 accounts closed with a deficit estimated at 270,000,000 marks.

The public debt on Dec. 31, 1931, totaled 3,242,000,000 marks (foreign funded debt, 2,468,000,000; foreign floating debt, 349,000,000; internal funded loans, 360,000,000, internal short-term credits, 64,000,000).

**COMMUNICATIONS.** Finnish railways on Jan. 1, 1932, extended 3354 miles, all except 158 miles belonging to the state; highways (1930), 29,337 miles; navigable lakes and canals, 2500 miles. The state railways in 1930 carried 21,023,000 passengers and 9,574,000 tons of goods. The air line connecting Helsinki with Stockholm and Tallinn (Reval) carried 3838 passengers, 119,000 pounds of goods, and 60,000 pounds of mail in 1931. The merchant marine on Jan. 1, 1931, included 4802 vessels of 510,080 net registered tons. Entrances in the foreign trade in 1930 numbered 6774 vessels, of 4,421,935 tons; clearances, 6831 vessels, of 4,376,106 tons.

**GOVERNMENT.** Executive power is vested in a president elected for six years by 300 electors, who are chosen by direct election in the same manner as members of the Diet. Legislative power is exercised by the Diet (single chamber) in conjunction with the President. The latter governs through Ministers appointed by him, his decisions being taken in the Council of State of 10 Minis-

ters, who are responsible to the Diet. Members of the Diet are elected for three years by a direct vote of all citizens over the age of 24. The composition of the Diet following the elections of Oct. 1 and 2, 1930, was: Social-Democrats, 66; Agrarians, 59; Finnish Coalition party, 42; Swedish People's party, 21; Finnish Progressive party, 11; Small Farmers' party, 1. President in 1932, Dr. Pehr Evind Svinhufvud, elected Feb. 16, 1931. The cabinet formed Mar. 21, 1931, from a coalition of the bourgeois parties (Agrarians, Finnish Coalition, Finnish Progressive, and Swedish People's parties) was headed by Premier Juho Emil Sunila (Agrarian).

### HISTORY

**ABOLITION OF PROHIBITION.** Finland on Apr. 5, 1932, terminated its 13-year experiment with prohibition. Crowds, orderly but in a jovial mood, celebrated the day by filling the liquor shops opened, under strict government control, for the sale of strong drink. The overwhelming victory of the wets in the referendum of December, 1931 (see 1931 YEAR BOOK) was followed by the enactment of a new liquor law by Parliament on Jan. 30, 1932, which was signed by the President February 9. The measure provided for the supervision of the liquor traffic by a State Alcohol Corporation of ten members, appointed by the government. All liquor was purchased and sold through the Corporation, which was capitalized at 30,000,000 marks; all except two shares were owned by the government. Sales were permitted only on weekdays and it was stipulated that 35 per cent of the profits of the trade were to be spent for "temperance purposes." There was no limitation upon individual purchases.

Six months after the new law went into effect, an effort was made to assay its results. It was discovered that legal liquor sales had not eliminated the bootleggers, whose prices were lower than those of the State Alcohol Corporation. The government nevertheless hesitated to order a price reduction, for fear that consumption would increase. There was little or no increase of drunkenness as a result of the abandonment of prohibition, according to most observers, although this was attributed in part to the decline of purchasing power during the depression. There was much complaint at the strictness of the government's control and the high prices charged. Dispensaries were closed on Saturday, Sunday, and Monday as well as on days preceding and following all holidays. Moreover, the charge made for ordinary French wine was almost as high as that for good Scotch whisky, with the result that there was heavy consumption of strong liquors. Sales of beer were comparatively small; they brought in only about 5 per cent of the monopoly's income during the month of April. On September 23 Parliament passed a bill extending amnesty to some 20,000 persons convicted of minor prohibition offenses and they were immediately pardoned by the President.

**THE FASCIST REBELLION.** The increasing lawlessness of the anti-Communist Lapuan movement evidenced during 1931 culminated early in 1932 in a direct threat to the government. With Communism routed and suppressed, the Lapuans gradually expanded the original aims of their movement to include the eradication of Socialism and the revision of the Constitution along Fascist lines. A number of Socialist clubs and workingmen's halls were forcibly closed and

crimes against anti-Lapuans become increasingly numerous. The government, which had been placed in power chiefly through Lapuan support, was now forced to turn against them. On January 30, an order was issued to the provincial governors directing them to take energetic measures to repress lawlessness. The Lapuans replied by demanding the dismissal of Minister of Interior Baron E. von Born and Gen. B. Jalander, Governor of Uusimaa Province. When their demands were rejected they mustered about 4000 men at Mantsala, 40 miles from Helsinki, and threatened to march on the capital.

Supported by the army and the militia and by the bulk of public sentiment, the government took steps to meet the projected onslaught, but did nothing to precipitate a clash. By March 5, the Mantsala rebellion had collapsed without a struggle and the following day six of the ring-leaders were arrested. These included Gen. M. Wallenius, former Chief of the Army General Staff and the kidnaper of former President Stahlberg in 1930, and Vihtori Kosola, the chief Lapuan leader. The rank and file of the rebels were dispersed and in April the government prepared a bill extending general amnesty to all except some 100 military and civil leaders.

The Fascist movement was not suppressed, however. On June 14 a new revolt took place at Mantsala, where the demands of Lapuans for a Fascist government were coupled with requests for government aid for distressed farmers. Government troops were dispatched to the region and the excited peasants were again dispersed and their leaders arrested. On July 17, the Lapuans made an unsuccessful attempt to kidnap Minister of Defense Lahdensuo. Thereafter restlessness among the farmers declined, particularly after the government in September prepared a comprehensive plan of public relief, calling for the expenditure of 350,000,000 marks over the period of one year for public works and improvements. Chief among the public works projects announced was a modern arterial highway about 1050 miles long, connecting Helsinki with Abo, the chief port.

Trial of the leaders of Mantsala rebellion ended on November 21 with the sentencing of 52 defendants to penal servitude or imprisonment for terms ranging from two to 30 months. Some of the most prominent defendants, including Generals Wallenius and Kosola, received suspended sentences, being bound over for three years.

**SUNILA CABINET RESIGNS.** The Sunila ministry resigned on December 7, when President Svinhufvud refused to permit the Agrarian majority in the Cabinet to introduce in Parliament a bill fixing the legal rate of interest on private loans. The bill restricted interest on loans granted by others than banks or financial institutions to a maximum of 7 per cent for three years. It also forbade foreclosures of mortgages during the three-year period without special sanction. The bill was opposed by the other parties and by the officers of the State Bank, on the ground that it would upset the equilibrium of the money market.

**FOREIGN RELATIONS.** Relations between Finland and the Soviet Union, which became exceedingly strained in 1931, improved the following year. A treaty pledging both powers to non-aggression and the peaceful settlement of mutual disputes was signed at Helsinki on Jan. 21, 1932, and went into effect with the exchange of ratifications August 9. Toward the end of the year,



however, there was a revival of anti-Soviet feeling, attributed to the increased activity displayed by the Soviet secret service in Northern Europe. The Finnish police arrested about 100 Communists, many of whom were convicted of high treason.

Consult Malbone W. Graham, "Security in the Baltic States," *Foreign Policy Reports*, vol. vii, no. 25, Feb. 17, 1932, pp. 443-45.

**FIRE ASSURANCE, FIRE INSURANCE.**  
See INSURANCE; FIRE PROTECTION.

**FIRE PROTECTION.** For the first time since the establishment of municipal fire protection on its present basis, public fire department costs were very generally scrutinized during 1932, and reductions were made in many cities by decreasing the compensation of the men, decreasing the personnel or both. This movement has not progressed far enough to permit appraisal of its results, which must await further experience. The movement for reduction of fire department costs, along with other municipal expenditures operates in two ways, resulting in some cases in a reduction of fire protection facilities without regard to the needs of the community, and in other cases in intelligent consideration of the fire problem of the city as a whole, with resultant increased fire protection efficiency.

The 2 per cent decrease in the 1932 fire loss, as compared with 1931, indicates no significant change in the factors influencing the fire loss as discussed in the 1931 YEAR BOOK. Increasing seriousness of the incendiary fire problem has been offset by the decline in burnable values and the vigilance of fire protection authorities.

**THE 1932 U. S. FIRE LOSS.** The total estimated fire loss in the United States for the year 1932 was \$442,143,321. This amount is based on figures compiled by the National Board of Fire Underwriters.

The accompanying table gives the annual fire loss record by years since 1916:

1916 .....	\$ 258,377,952	1925 .....	\$ 559,418,184
1917 .....	289,535,050	1926 .....	561,980,751
1918 .....	353,878,876	1927 .....	472,933,969
1919 .....	320,540,399	1928 .....	464,607,102
1920 .....	447,866,677	1929 .....	459,445,778
1921 .....	495,406,012	1930 .....	501,980,624
1922 .....	506,541,001	1931 .....	464,633,265
1923 .....	535,372,782	1932 (Est.)	442,143,321
1924 .....	549,062,124		
		Total ..	\$7,670,871,768

#### COMPARATIVE MONTHLY LOSS ESTIMATES DURING 1930, 1931, AND 1932

Month	1930	1931	1932
January ...	\$ 42,344,035	\$ 44,090,449	\$ 39,224,783
February ...	43,206,940	41,776,051	39,824,632
March .....	42,964,392	44,074,362	49,189,124
April .....	43,550,996	41,423,764	43,822,233
May .....	38,415,142	37,835,273	39,270,524
June .....	31,818,266	33,368,378	34,338,670
July .....	34,847,750	33,024,594	32,982,434
August .....	36,043,679	31,917,630	31,425,931
September ...	35,230,456	33,202,986	30,972,318
October .....	36,838,614	35,501,530	30,734,458
November ...	35,682,577	35,287,641	31,167,708
December ...	42,669,915	40,514,368	39,190,506

Total 12 months. \$463,612,762 \$452,017,026 \$442,143,321

Adjusted loss figures. \$449,739,132 \$464,633,265 .....

**LARGE LOSS FIRES, 1932.** During the year 1932 according to the National Fire Protection Asso-

ciation there were 44 fires involving an individual loss estimated at \$250,000 or over, an increase of one fire over the previous year. The geographical distribution of these fires shows a decrease of large loss fires in the South and Middle Western States, with a corresponding increase in the far West and along the Atlantic seaboard.

The chief factors that are indicated by the reports as being responsible for the large losses of 1932 are summarized in the table which follows. In most instances more than a single factor was involved.

	No. of fires
Inferior construction .....	17
Highly combustible contents or excessive amounts of burnable materials .....	13
Headway of fire when discovered .....	9
Lack of adequate public or private protection ...	9
Inadequate water supplies .....	9
Ineffective fire fighting .....	8
Failure of private fire protection ..	4
Fire department delayed in getting to work ..	2
Misuse of private mains .....	1
Inefficient fire fighting .....	1
Point of origin of fire difficult of access ....	8
Fire under pier .....	4
Fire inaccessible to hose streams .....	2
Cellar fire difficult to locate .....	2
Unprotected vertical openings ..	5
Large quantities of flammable liquids .....	5
Lack of exposure protection .....	4
Delayed alarm .....	4
Dust explosion .....	3
Delayed fire department response .....	2
Forest fire swept into town .....	1
Unfavorable weather conditions .....	1

In 1931 the number of large loss fires was fairly equally divided between the various classes of occupancy. In 1932 the fires in miscellaneous occupancies exceeded those in mercantile establishments and industrial properties. The total estimated loss in these fires for 1932 was \$19,981,000, a decrease of \$5,407,000, or approximately 21 per cent from 1931.

Occupancy	No of fires	Estimated loss
Mercantile establishments	7	\$ 2,523,000
Wholesale (warehouses) 2	650,000	
Retail .....	5 1,873,000	
Industrial plants .....	9	2,473,000
Grain elevators .....	2	866,000
Grain elevator and packing plant .....	1	2,000,000
Miscellaneous occupancies ..	22	8,319,000
Piers and wharves ..	2 1,600,000	
College buildings ...	3 1,450,000	
Dwellings .....	2 875,000	
Churches .....	3 858,000	
Boatyard .....	1 838,000	
Resort hotels ...	2 500,000	
Amusement pier .....	1 400,000	
Power plant .....	1 400,000	
Dredge .....	1 400,000	
Apartment building ..	1 350,000	
River steamships ..	1 350,000	
Office building and church ..	1 300,000	
Institution (Soldiers' Home) ..	1 250,000	
Public building (City Hall) .....	1 250,000	
Railroad shop .....	1 250,000	
Conflagrations .....	3	3,800,000
Total .....	44	\$19,981,000

**PRIVATE FIRE PROTECTION.** While economic conditions precluded important extension of facilities during the year, private fire protection received a decided stimulus from several deci-

sions reducing the cost of water connections to automatic sprinkler systems. The majority of the larger cities have made no charge for such connections, on the ground that a building equipped with automatic sprinklers reduces the demand on the water system and on the fire department as compared with an unsprinklered building, and that the owner of such a building should not be forced to pay for his contribution to the public safety. The most important development in the field during the year was in San Francisco, where the previous annual charge of \$108 to \$288 for each connection was reduced by the Public Utilities Commission to \$36, representing merely a charge for inspection and maintenance.

**FISKE, CARL RUSSELL.** An American historian, died in Madison, Wis., July 10, 1932. He was born at Central Falls, R. I., Oct. 17, 1876, and was graduated from Brown University in 1897 and with the Ph.D. degree from Harvard in 1900. Called to the University of Wisconsin, he was advanced from instructor to professor of American history. He was also research associate for the Carnegie Institution of Washington (1908-09) and director of the British branch of the American University Union (1919). His works include: *The Civil Service and the Patronage* (1904); *Development of American Nationality* (1913); *American Diplomacy* (1915); *The Path of Empire* (1919); *Guide to the Study of American Diplomacy* (1919); *History of America* (1925); *Rise of the Common Man* (1928).

**FISHERIES.** See ALASKA.

**FISKE, MINNIE MADDERN.** An American actress, died in Hollis, Long Island, N. Y., Feb. 15, 1932. She was born in New Orleans, La., Dec. 19, 1865, the daughter of Thomas Davey, a prominent theatrical manager in the South, and of his wife, Elizabeth Maddern. Her stage career began at the age of three, when she appeared as the Duke of York in a performance of *Richard III* in Little Rock, Ark. Her first appearance on the New York stage was in 1870 as Little Fritz in *Fritz, Our German Cousin*. She subsequently played in *Chicago Before the Fire*, *Richelieu*, and *The Two Orphans*, and even occasionally took old women's parts such as that of the Widow Melnotee in *The Lady of Lyons*. Among the well-known actors with whom she appeared throughout her childhood were Laura Keane, Mrs. Scott-Siddons, John McCullough, J. K. Emmett, James Bennett, Barry Sullivan, and E. L. Davenport. Her education was interspersed between productions, being largely obtained in convents in Cincinnati and St. Louis. She made her appearance as a star in *Fogg's Ferry* at the age of 16, and during the next five years won a comparative degree of success as Mercy Baxter in *Caprice* and Alice Glendenning in *In Spite of All*. On her marriage to Harrison Grey Fiske, the playwright, in 1890, she retired from the stage for a few years.

On her return in 1894 Mrs. Fiske appeared as the heroine in *Hester Crewe*, written by her husband, and in the same year played the part of Nora in *A Doll's House*, the first of a long succession of Ibsen's plays with which she was identified. In 1897 she created a sensation in *Tess of the D'Urbervilles*, based on Hardy's novel. Afterward she appeared in *Divorçons*, *A Bit of Old Chelsea*, *Little Italy*, and *Becky Sharp*, the latter, a dramatization of Thackeray's *Vanity Fair* produced in 1899, being one of her greatest

character portrayals. In 1901 she appeared in *Miranda of the Balcony* and *The Unwelcome Mrs. Hatch* under the management of her husband, with whom she had opened an independent playhouse in New York, the Manhattan, in opposition to the American theatrical "trust." The following year she created a profound impression by her performance in *Mary of Magdala*, adapted from the German of Paul Heyse. She also produced and played in Ibsen's *Hedda Gabler* in 1903, in *Leah Kleschna* in 1904, and in *The New York Idea* in 1906. During 1907-10 she added to her fame as an Ibsen interpreter, appearing in *Rosmersholm* and *The Pillars of Society*. She also created two of her most successful rôles—Nell Sanders in *Salvation Nell* (1908) and Mrs. Bumpstead-Leigh in the play of that name (1910).

During the next decade and a half Mrs. Fiske appeared in *Lady Patricia* (1912); *The High Road* (1913); *Erstwhile Susan* (1916); *Madame Sand* (1917); *Service* (1918); *Mis' Nelly o' New Orleans* (1919); *Wake Up, Jonathan* (1921); *The Dice of the Gods* (1923); *Mary, Mary Quite Contrary* (1923); and *Helena's Boys* (1924), in all of which she displayed her talent as a comedienne of marked intelligence. She then returned to Ibsen and Shakespeare who had earlier called forth her powers of dramatic realism, appearing in *Ghosts* (1927); and *Merry Wives of Windsor* and *Much Ado about Nothing* (1928). Her last appearance in New York was in the comedy *Ladies of the Jury* in 1929. Previous to her death she was appearing on the road in *Against the Wind*. She was the author of several plays, *The Rose*, *A Light from St. Agnes*, *The Eyes of the Heart*, and *Not Guilty*, and collaborated with her husband in writing *Fontenelle*. Outside of her profession she devoted herself to the relief of suffering among children and animals.

**FISK UNIVERSITY.** A coeducational institution for colored people in Nashville, Tenn., founded in 1866. It consists of a liberal arts college, a music school, and a graduate department. The total enrollment of 411 for the autumn of 1932 included 166 men and 245 women. The faculty numbered 40, and there were 14 administrative officers and assistants. The productive endowment for 1931-32 was \$1,509,014 and the total income was \$325,275. The library contained approximately 42,000 volumes. Thomas Elsa Jones, Ph.D., was president; A. A. Taylor, A.M., dean; and Jesse F. Beals, treasurer.

**FIVE-DAY WEEK.** See LABOR; LABOR, AMERICAN FEDERATION OF; SOCIALISM.

**FIVE-POWER DECLARATION.** See MILITARY PROGRESS.

**FIVE-YEAR PLAN.** See UNION OF SOVIET SOCIALIST REPUBLICS.

**FLANDERS.** See BELGIUM under *History*.

**FLAX.** The flaxseed production in 1932 of 13 countries reporting to the International Institute of Agriculture, not including the Soviet Republics, one of the leading producing countries, was estimated at about 85,532,000 bushels. In most of the reporting countries the yields were below those of 1931 and also lower than the average annual production for the five years 1926-1930. Nearly all European countries reported a marked reduction in acreage. The production of India was estimated at 16,440,000 bushels and of Canada at 2,534,000 bushels. The European countries listed produced each less than a half million bushels. Argentina, the world's lead-

ing flaxseed producing country and reporting a yield of 85,461,000 bushels for the crop year 1931-1932, suffered a destruction of the 1932-1933 crop by locusts over an area of more than a million acres. In view of this loss coupled with a reduced sown area from 8,640,000 acres to 7,401,000 acres a harvest of 53,147,000 bushels was estimated. The Soviet Republics produced an average annual yield of 23,456,000 bushels on 4,528,000 acres but the total area sown for fibre and for seed in 1932 was reported as 7,347,000 acres.

The flaxseed production of the United States in 1932 as estimated by the Department of Agriculture was 11,841,000 bushels, grown on 2,087,000 acres at the rate of 5.7 bushels per acre. Due mainly to drought but also to some extent to grasshopper damage a large acreage in South Dakota, North Dakota, and Montana was a total loss. Minnesota stood first in yield with 6,027,000 bushels, and North Dakota second with 4,017,000 bushels. These two States produced over 80 per cent of the country's crop. During the fiscal year ended June 30, 1932, the imports of flaxseed were 13,850,000 bushels, of linseed oil cake 24,119,000 pounds, and of linseed oil 28,000 pounds. The flaxseed production of 1932 was less than half the domestic requirements. The exports during the fiscal period included 189,000 tons of linseed oil cake, 8000 tons of linseed oil cake meal, and 873,000 pounds of linseed oil.

According to estimates published by the International Institute of Agriculture the 1932 acreage of fibre flax in nearly all European countries excepting the Soviet Republics was below the acreage of 1931, and showed a marked reduction as compared with the average area for the five years 1926-1930. Among the leading producing countries Latvia reported a yield of 20,878,000 pounds and Belgium of 14,887,000 pounds of fibre. Lithuania estimated its production of flax and hemp fibre at 27,070,000 pounds. The Soviet Republics reported a yield of 1,202,626,000 pounds in 1931 and an average production of 740,958,000 pounds for the five years 1926-1930.

**FLEMING, WALTER LYNWOOD.** An American historian, died in Nashville, Tenn., Aug. 3, 1932. He was born in Brundidge, Ala., Apr. 8, 1874, and was graduated from the Alabama Polytechnic Institute in 1896 and with the Ph.D. degree from Columbia University in 1904. From 1903 to 1907 he was professor of history at West Virginia University, and from 1907 to 1917 at Louisiana State University. In the latter year he was called to a similar position at Vanderbilt University, where he was also dean of the college of arts and sciences and director of graduate work from 1923 to 1929. An authority on historical subjects pertaining to the South, he wrote *Reconstruction of the Seceded States* (1905); *The Civil War and Reconstruction in Alabama* (1905); *William Tecumseh Sherman as College President* (1912); *The Sequel of Appomattox* (1919); and *The Freedman's Savings Bank* (1927). He also edited Lester and Wilson's *History of the Ku Klux Klan* (1905); *Documentary History of the Reconstruction* (2 vols., 1906-07); and section six of the 12-volume *The South in the Building of the Nation*. He was one of the editors of the *Historians' History of the World* and, from 1914 to 1922, of the *Mississippi Valley Historical Review*.

**FLEMISH AUTONOMY MOVEMENT.** See BELGIUM under *History*.

**FLIES.** See ENTOMOLOGY, ECONOMIC.

#### FLOODS AND FLOOD PROTECTION.

Following an unusually long period of sub-normal precipitation over most of the United States east of the Rocky Mountains, precipitation became nearly normal in August, 1931; and in November, 1931, there was more than the usual precipitation through most of the Mississippi River system, amounting to as much as four times the normal over a large part of this area. In December, 1931, and January, 1932, precipitation was also above normal in most of the Mississippi valley, and much above normal during January in the Red and the Arkansas basins; in February, 1932, the amounts were above normal in portions of the Ohio basin, and in most of the Mississippi valley below Cairo. As a result, many of the rivers in the southeastern States, the Gulf States, and in the eastern and southern parts of the Mississippi system, rose rapidly in the late fall and early winter, and the interior rivers of Mississippi and Louisiana were in high flood for an unusually long time. A noteworthy feature of the floods was the short interval between the ending of the long-continued dry weather and the beginning of rapid rises in the streams of much of the country in the drought-stricken area. Floods in the lower Mississippi basin continued for five months.

Important floods occurred during March in North Carolina and Oregon; severe local floods took place in western Iowa in April. Noteworthy floods occurred in June in the North Canadian River of Oklahoma, and the Columbia River in Oregon and Washington. The former were caused by heavy rains, in which nearly eight inches of rainfall took place in nine hours over a belt 30 miles wide and 70 miles long; the latter were due to melting snow—the accumulated snowfall over the Columbia River drainage area was in many places the greatest in 10 years, but the snow melted so gradually that the flood crest in the lower Columbia was not much greater than the average annual spring crest. A local flood in July on the Paint and Armstrong creeks of West Virginia caused the loss of 18 lives, and \$2,500,000 damage. In August, rains of from 7 to 12 inches in the vicinity of Enid, Okla., and moderately heavy throughout the Cimarron basin, resulted in a flood in the Cimarron River in Oklahoma; over 150 square miles in the cultivated region were under water, and the erosion of the surface soil was a heavy loss to land fertility. This loss is difficult to estimate, and is not included in the table below.

The most noteworthy of all the floods of September and October were those in the lower Rio Grande valley: Torrential and probably unprecedented rains in Val Verde and adjacent counties in Texas during the last two days of August and the first day of September, and heavy to excessive rains over the Rio Grande and tributary watersheds below Del Rio later in September and early in October, caused destructive floods in the lower reaches of the Pecos and Devils rivers, and in the Rio Grande from Del Rio, Texas, to the Gulf of Mexico. The floods began early in September, and lasted well into October in the lower Rio Grande valley. Record-breaking crest stages occurred in practically all of the reach from Del Rio to Brownsville; the loss of property is conservatively estimated to have been more than \$2,500,000 on the American

side of the river, and in addition 10 or 12 lives were lost.

Later in the year the Reconstruction Finance Corporation authorized a loan of some 5½ million dollars to the Middle Rio Grande Flood Control District for flood and irrigation construction. This work has been noted in previous YEAR BOOKS.

While there have been important developments in the great Mississippi flood problem, the act passed by Congress in 1928, still needs clarifying before real progress on this huge project can be made. It will be remembered that the Louisiana courts granted an injunction in the so-called Kincaid case, which resulted in the cessation of all work on the Boeuf and Atchafalaya floodways. It was hoped that the U. S. Supreme Court would clear up this matter and state the objections of the Federal Government in reference to the payment of damages to owners of property within the proposed floodway areas. Unfortunately, the Court dismissed the Kincaid injunction on February 23, with the statement that "the defendant has a plain, adequate and complete remedy at law." In short, owners of such property can appeal to law when and if such damages occur and may or may not secure compensation. This, of course, leaves the matter still undecided and it is propable that Gen. Lytle Brown, Chief of Engineers, will be unwilling to go ahead with construction until the basic question of whether the government is or is not liable for such damages is settled. In the meantime, one of the floodways, the New Madrid-Birds Point, has been completed, although the so-called "fuse plug," or weakened levee construction which will deflect a flood into this channel, has not been constructed.

From the technical standpoint undoubtedly the most important recent development in the Mississippi programme has been the increase in attention given to possibilities of securing increased discharge, and correspondingly decreased flood heights, through channel-straightening operations.

Although the original Jadwin plan involved little change in channel lines some of the alternate schemes proposed contemplated very extensive straightening of existing channels. Tests of models in the Vicksburg laboratory indicate that greatly increased capacity may be secured in this way. Several sites have been selected for actual experiment and the construction of a cut-off across Diamond Point, below Vicksburg, has begun. It seems probable that the plans may be modified so as to include a considerable amount of such straightening, particularly below the Arkansas, if these experiments are confirmed.

Attention has been called under the article DAMS to the work of the Los Angeles Flood Con-

trol District in the San Gabriel Valley. This is a combined flood control and water conservation (for irrigation) programme.

Numerous, though relatively unimportant, floods were in progress at the close of 1932 in the South Atlantic and East Gulf States.

**FLORIDA. POPULATION.** According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 1,488,211, as against 968,470 in 1920. Jacksonville had (1930) 129,549 inhabitants; Miami, 110,637; Tampa, 101,161; Tallahassee, the capital, 10,700.

**AGRICULTURE.** The following table gives the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod. Bu.	Value
Oranges	1932	.....	14,300,000 <sup>a</sup>	\$23,595,000
	1931	.....	13,800,000 <sup>a</sup>	26,220,000
Grapefruit	1932	.....	9,200,000 <sup>a</sup>	10,580,000
	1931	.....	10,200,000 <sup>a</sup>	12,138,000
Corn	1932	687,000	5,840,000	2,453,000
	1931	674,000	5,729,000	2,979,000
Potatoes	1932	23,000	1,541,000	1,603,000
	1931	28,000	3,640,000	3,931,000
Sweet potatoes	1932	25,000	1,500,000	975,000
	1931	21,000	1,638,000	1,786,000
Cotton	1932	91,000	15,000 <sup>b</sup>	480,000
	1931	118,000	43,000 <sup>b</sup>	1,180,000
Peanuts	1932	273,000	113,295,000 <sup>c</sup>	1,699,000
	1931	271,000	157,180,000 <sup>c</sup>	3,772,000

<sup>a</sup> Boxes. <sup>b</sup> Bales. <sup>c</sup> Pounds.

**MINERAL PRODUCTION.** A decline in the production of phosphate rock in 1931 tended greatly to cut down the value of the State's mineral production for that year, since Florida normally produced more than four-fifths of the Union's domestic output of this material. The production of phosphate rock in the entire Union, 2,534,959 long tons, in value \$9,288,485 for 1931, was much less than that of Florida alone for 1930, which was 3,248,071 long tons, in value \$10,790,305. The State was a large producer of fuller's earth, of which its total was 80,619 short tons for 1930, in value \$1,251,653. Its stone quarries, serving chiefly local demand for the less expensive grades, produced 1,796,670 short tons in 1930 and 2,267,140 in 1929; by value, \$1,490,173 for 1930 and \$1,688,224 for 1929. The total value of the State's mineral products, after allowance for duplications, was \$15,484,206 for 1930; for 1929, \$14,803,606.

**FINANCE.** State expenditures in the year ended June 30, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments \$17,868,298 (of which \$4,477,165 was for local education); for interest on debt, \$180,198; for permanent improvements, \$9,800,397; total, \$27,848,893 (of which \$11,222,529 was for highways, \$2,266,812 being for maintenance and \$8,955,717 for construction). Interdepartmental payments were \$596,733 of total expenditure. Revenues were \$26,372,334. Of these, property and special taxes furnished 28.0 per cent; departmental earnings and compensation to the State for officers' services, 8.7; sale of licenses, 52.1 (in which was included a gasoline sale tax that produced \$8,307,711). Funded debt outstanding on June 30, 1931, totaled \$580,000, both gross and net of sinking-fund assets. On an assessed valuation of \$575,753,318 the State levied in the year ad valorem taxes of \$8,071,967. The State had also a contingent liability for \$11,722,686 of debt incurred under district assessment for drainage of the Everglades.

#### LOSSES BY FLOOD IN THE UNITED STATES DURING THE YEAR 1932

Drainage	Reported losses <sup>a</sup>	Lives
Atlantic	\$ 215,960	..
Gulf (except Mississippi River)	4,143,280	10
Mississippi (except Ohio River)	5,423,699	15
Ohio	2,788,256	21
Great Lakes	1,200	..
Pacific	224,250	..
Interior (i.e. Great Basin)	.....	..
Total	\$12,796,645	56

<sup>a</sup> Probably about 75 per cent of actual.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 5628.29. There had been during the year previous an addition of 42.60 new miles and an abandonment of 5.2.

**EDUCATION.** Progress was reported to have been made during the year in the preparation of a revised course of study in the public schools, of which the first draft was completed. During the academic year ended with June, 1932, school instruction was on the whole well maintained in the face of adverse times, but relatively little new school construction was carried on. There were enrolled in the public schools 367,758 pupils. Of these, 291,298 were in common schools or elementary grades; in high schools, 76,460. The year's expenditures for public-school education were: current, \$13,616,893; outlay, \$551,136; service of debt, \$8,057,034. The salaries of teachers averaged, by the year, \$861, as against a monthly \$113.80 reported the year before.

**CHARITIES AND CORRECTIONS.** Central authority over the State's institutions of care and custody, under the system in force in 1932, was exercised by a Board of Commissioners of State Institutions. This body was composed of seven ex-officio members: the Governor, as chairman, and the Attorney-General, Secretary of State, Comptroller, Treasurer, Superintendent of Public Instruction, and Commissioner of Agriculture. It had an executive secretary (J. P. Newell). The five institutions under the supervision of the board were: Florida State Hospital for the Insane, at Chattahoochee (population at the end of 1932, about 3754); Florida Industrial School for Boys, Marianna (about 400); Florida Industrial School for Girls, Ocala (about 91); Florida State Penitentiary, Raiford (about 1622, exclusive of some 1365 convicts in road camps); Florida Farm Colony for the Feeble-Minded and Epileptics, Gainesville (about 492).

**POLITICAL AND OTHER EVENTS.** The State Supreme Court delivered in May a decision relating to the bonds of Sanford, in which it held that liens for State, city, and county taxes ranked at parity with one another, but that liens for special assessments held inferior rank. The State obtained on September 1 from the Reconstruction Finance Corporation a loan of \$500,000 for public expenditure to relieve the needy unemployed. Rollins College dedicated on March 29 the new Knowles memorial chapel and the new Annie Russell theatre. The project to construct across the State, from coast to coast, with a proposed grant of Federal funds, a Gulf-Atlantic Ship Canal was promoted; Gen. Charles P. Summerall was chosen head of an association to further the project. White residents in the vicinity of Pahokee, opposed to the settlement of Filipinos in the neighborhood, drove out a colony of some 30 Filipinos on July 23. The death of Arthur Maillefert, allegedly under barbarous punishment at one of the State's convict camps, gave rise to an agitation against the management of such camps, and to the prosecution of two camp guards; one, G. W. Courson, found guilty of manslaughter, was sentenced, October 29, to 20 years of prison.

**ELECTIONS.** The State voted the Democratic National ticket on November 8 by about 3 to 1, the vote being: Roosevelt (Dem.), 206,307; Hoover (Rep.), 69,170. D. U. Fletcher was reelected to the United States Senate, and five Democrats (one at large) were elected to the House of Rep-

resentatives. Dave Scholtz, Democrat, was elected Governor.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, Doyle E. Carlton; Secretary of State, Robert A. Gray; Attorney-General, Cary D. Landis; Comptroller, Ernest Amos; State Treasurer, W. V. Knott; State Superintendent of Public Instruction, W. S. Cawthon; Commissioner of Agriculture, Nathan Mayo.

**Supreme Court:** Chief Justice, Rivers Buford; Associate Justices, W. H. Ellis, James B. Whitfield, Armstead Brown, Glenn Terrell, Fred H. Davis.

**FLORIDA, UNIVERSITY OF.** A State institution of higher education for men in Gainesville, Fla., founded in 1905. In the autumn of 1932 the registration totaled 2486, distributed as follows: Arts and Sciences, 579; commerce and journalism, 574; engineering, 379; education, 297; agriculture, 197; law, 206; graduate, 150; architecture, 61; and pharmacy, 52. The registration for the summer session of 1932 was 735 men and 964 women. The faculty numbered 52. The cost of operating and maintenance was \$2,330,276; the annual endowment was \$315,488. The library contained 90,000 volumes. President, John James Tigert, LL.D.

**FLORIDA STATE COLLEGE FOR WOMEN.** An institution for the higher education of women in Tallahassee, Fla., founded in 1905. The enrollment for the autumn of 1932 was 1746, distributed as follows: Graduate school, 17; college of arts and sciences, 688; school of education, 765; school of home economics, 197; school of music, 79. The enrollment for the summer session was 955. The faculty numbered 163 members. The income from endowment for the year was \$6150; State appropriations amounted to \$639,197. There were 46,238 volumes in the library. President, Edward Conradi, Ph.D.

**FLORE.** See **WHEAT**.

**FLOWERS.** See **HORTICULTURE**.

**FLUORINE.** See **CHEMISTRY**.

**FOG MENACE.** See **CHEMISTRY, INDUSTRIAL**.

**FOG SIGNALS.** See **LIGHTHOUSES**.

**FOLGER SHAKESPEARE MEMORIAL.** See **SCULPTURE**.

**FOLKLORE.** See **PHILOLOGY, MODERN**.

**FOOD AND NUTRITION.** **FOOD PRICES.** The index number for wholesale prices of foods reported by the Bureau of Labor Statistics, U. S. Department of Labor (*Mo. Labor Rev.*, vol. 35, no. 6, p. 1451), was 60.5 for October, 1932, as compared with 73.3 for October, 1931 (1926=100). Among the principal food groups dairy products showed the greatest decline, the index number falling from 86.1 to 60.5. The index number for meat products fell from 71.1 to 56.4, for cereal products from 70.0 to 64.1, for fruits and vegetables from 68.2 to 52.2, and for other foods from 69.7 to 65.4. The October, 1932, wholesale purchasing power of the 1926 dollar was \$1.53 for all goods, \$1.63 for milk and dairy products, \$1.56 for cereal products, \$1.916 for fruits and vegetables, \$1.773 for meats, and \$1.529 for other foods. *Bradstreet's* food index number based on the wholesale prices per pound of 31 articles of food was \$1.64 for the week ended December 27, as compared with \$1.95 for the week ended December 26, 1931.

The combined retail prices of 42 articles of food, as reported by the Bureau of Labor Statistics (*Mo. Labor Rev.*, vol. 35, no. 6, p. 1448),

were 15.7 per cent lower on Oct. 15, 1932, than on Oct. 15, 1931. The combined index number for all of the articles included was 100.4 as compared with 119.1 for the preceding year (1913=100). The index number for cereals had fallen from 129.8 to 119, for meats from 142.7 to 114.5, and for dairy products from 117 to 93.8. The downward trend, while less than that of 1931, carried the combined average retail prices to the lowest point reached since 1915, with prices from June through October at approximately the 1913 average upon which the index was based. There were wide variations, however, in the relative changes in different foods. A comparison of the October, 1932, prices of 23 individual foods with the 1913 prices of the same foods shows that 13 of these foods were still above the 1913 level. Conspicuous among these were certain meats (steaks, leg of lamb, ham) and tea. Although flour was lower than in 1913 bread was higher. Butter was considerably lower than in 1913, but milk was higher. All cities did not fare alike moreover in the decline of retail food prices. The relative changes in the weighted retail cost of food in 39 cities on Oct. 16, 1932, as compared with the 1913 average reveals that the combined values were at approximately the 1913 level, there were 16 cities in which retail food costs were higher than in 1913, the increases ranging from 1.2 per cent to 10 per cent. In the 23 cities in which the prices were lower than in 1913 the range was from 0.1 to 12.8 per cent. These comparisons are based on figures from the U. S. Bureau of Labor Statistics arranged by the U. S. Bureau of Home Economics.

**THE FARM FAMILY FOOD SITUATION IN 1932.** Since 1929 the spread between the retail prices of food purchased by farm families and the prices received at the farm for the sale of food products has been growing. From 1929 prices as 100, the index for food materials purchased by farmers declined 38.5 per cent in 1932 (average for first 10 months), while the index of prices received from the sale of grains declined 62, of meat animals 58, of fruits and vegetables 46, of dairy products 49, and of poultry products 55 per cent.

The spread between purchase and sale prices and the lack of ready cash have led to a great increase during the past two or three years in the production of food on the farm for home consumption. Preliminary figures from the Division of Crop and Livestock Estimates, U. S. Department of Agriculture, indicated that in 1931 about 12 per cent more wheat was ground at home or exchanged at mill for flour than in 1930, and about 16 per cent more potatoes, over 50 per cent more apples, about 9 per cent more eggs, and about 4 per cent more milk were kept for home consumption. The farm gardens were larger and more productive and farm slaughter of meat animals, especially pork, was greatly increased. Although corresponding figures for 1932 were not available at the time of writing, indications were that the production of these items for home use was even further emphasized. Larger gardens and increased home slaughter of beef, calves, and pork were particularly marked. Meat clubs were more numerous. An extensive canning and preserving programme was carried out and bread making, churning, cheese-making, and other home production activities were revived. In several States interest in the use of home ground corn and wheat was stimulated through the publication of extension bulletins giving di-

rections for the preparation and cooking of these farm products.

**EMERGENCY FOOD RELIEF.** The November, 1932, *Monthly Relief Bulletin* published by the U. S. Children's Bureau stated that reports from 168 agencies in 62 cities of 50,000 or more population showed a total of 944,009 meals provided for homeless and transient persons in September, 1932, as compared with 472,688 meals provided during the same interval in 1931. This is indicative of the situation throughout the country. In many instances the funds available for relief were insufficient to provide adequate diets at minimum cost. For this reason, the U. S. Children's Bureau and Bureau of Home Economics at the close of the year issued for the use of relief agencies revised food budgets in which weekly market orders for families of various sizes were included not only for adequate diets at minimum cost containing ample margins of safety in protective and other foods, but also restricted diets for emergency use containing only the "irreducible amounts" of protective and other foods below which no diet should ever fall. The latter diets were given only as a guide to food purchase when funds were insufficient to provide a fully adequate diet.

**PROGRESS IN NUTRITION. Infants.** Particular attention was given during the year to the deficiencies in both human and cow's milk. Further studies by Macy and her associates on the composition of human milk led to the conclusion (*Am. J. Physiol.*, vol. 100, p. 420) that breast milk produced under favorable conditions is comparatively low in its vitamin G as well as vitamin B content. Gunderson and Steenbock (*J. Nutrition*, vol. 5, p. 199) found it impossible to raise the vitamin B content of cow's milk and goat's milk above comparatively low levels by increasing the vitamin B content of the ration. Evaporated milk was found by Samuels and Koch (*J. Nutrition*, vol. 5, p. 307) to have lost from one-sixth to one-fifth of the vitamin B but none of the vitamin G of fresh milk, but the content of both vitamins was sufficiently low to warrant the conclusion that "undoubtedly it is wise to include other sources of these vitamins in all infant dietaries." The growing practice of giving vitamin B and G supplements such as Vitavose to both breast-fed and artificially-fed infants thus seems to be well-founded.

Vitamin D-enriched milk from cows fed irradiated yeast continued to receive attention in clinical reports, and two other processes for enriching milk in vitamin D for infant feeding came into prominence. In one of these milk is irradiated directly (*J. Biol. Chem.*, vol. 94, p. 749) and in the other is fortified by the addition of a cod-liver oil concentrate (*Science*, vol. 77, p. 19). Considerable interest in the various vitamin D-enriched milks from the standpoint both of infant feeding and of public health control was evident at the 1932 meeting of the American Public Health Association at which a symposium was held on milks of special antirachitic value (*Am. J. Pub. Health*, vol. 22, p. 1215).

Whatever may be the outcome as to the best method of providing infants and young children with vitamin D, it should not be forgotten that cod-liver oil is a valuable source of vitamin A as well as vitamin D and thus has much in its favor over any concentrate of vitamin D alone. Its importance in the diet of infants and young children was emphasized in the food budgets

noted above by the inclusion even in the restricted diets for emergency use of a weekly allowance of 2 or 3 oz. of cod-liver oil for each child under 2 years of age. Salmon oil may prove to be a less expensive oil for the purpose, for Eliot *et al.* (*J. Am. Med. Assoc'n*, vol. 99, p. 1075) found that an oil prepared from the waste products of salmon was nearly as rich as cod-liver oil in vitamin A and richer in vitamin D. Halibut oil, now on the market under the trade name Haliver oil, was found by Emmett *et al.* (*Ind. Eng. Chem.*, vol. 24, p. 1073) to be from 75 to 100 times as rich as cod-liver oil in vitamin A and considerably richer in vitamin D.

**Young Children.** Attention was called by Kugelmaas (*Arch. Pediatrics*, vol. 49, p. 713) to the fact that while infants have been so well supervised nutritionally in the past decade that the average growth curves of the past have been considerably outgrown, lack of supervision of the nutritional status of growing children and adolescents has been conducive of retrograde results in comparison with their nutritional course as infants. This has been recognized in recent attempts to establish better dietary standards for young children.

Quantitative data on food standards and food selection for pre-school children were reported by Sweeney and Chatfield (*U. S. Dept. Agr. Circ.* 203, p. 47) and by Rose *et al.* (*Child Development*, vol. 3, p. 29). The standards in the first publication were based on average values calculated from the daily food intake of children from 2 to 5 years of age at the Merrill-Palmer school in Detroit. For a 3-year-old child the standards adopted were protein 3.5, fat 4, and carbohydrate 12.4 gm., with a total of 99 calories per kilogram of body weight. For calcium and phosphorus the Sherman recommendations of 1 gm. each per day and for iron an allowance of 9 mg. per day or about 0.6 mg. per kilogram of body weight were adopted. In the second study similar data obtained in the nursery school of the Child Development Institute of Teachers College, Columbia University, New York City, were used to calculate the distribution of calories contributed to the dietary by six food groups. According to this classification the suggested distribution of calories for children of the nursery school age is foods from cereal grains 18-20, milk 45-55, fruits and vegetables 16-22, fats and oils 4-8, sugar 1-3, and eggs and meat from 3-5 per cent of total calories. This distribution represents a rather higher proportion of fruits and vegetables and lower of milk than the customary standards for children of this age.

**Adolescents.** The onset of puberty was found by Tupper and Mulier (*Am. J. Diseases Children*, vol. 43, p. 327) to be accompanied by marked but irregular increases in metabolism in both boys and girls, followed by a decrease after puberty was established. This was thought to make the adoption of normal standards for metabolism difficult for this age period. In a series of studies on the food requirements of adolescent girls, Wait and Roberts (*J. Am. Dietetic Assoc'n*, vol. 8, pp. 209, 323, 403) found that the energy intakes of healthy well-nourished school girls from 10 to 17 years of age varied greatly from a minimum of 1649 to a maximum of 2925 calories. The highest figures were for the 13-year-old group. When grouped by physiological ages the energy intake increased until after puberty and then decreased slightly. Great variations were found in

the intake of individuals from day to day, thus showing that a true picture of food intake, at least for this age period, cannot be obtained by a study of a single day, but requires at least four days and preferably a week or more. The protein intakes were found to vary directly with the energy intakes. The common practice of providing from 10 to 15 per cent of the calories in the form of protein was recommended for practical use, provided the calorie consumption is ample.

**Young People.** Studies by Hetler of the protein intake and basal metabolism of young women college students (*J. Nutrition*, vol. 5, p. 69) revealed a somewhat lower protein intake, 0.97 gm. per kilogram body weight, than previously reported by various investigators for men students. The average basal metabolism was 1260 calories per 24 hours, the values averaging over 7 per cent below the usual standards for this age group. An extensive investigation by Stark (*Wis. Acad. Sci., Arts, and Letters, Trans.*, vol. 27, p. 251) of the basal metabolism of young women students from 17 to 21 years of age led to the formulation of new standards for this age group considered to be more satisfactory than those now in use. Observations of food selection in the cafeteria service of one of the western agricultural colleges showed a tendency toward the selection of diets inadequate in calories and in essential food constituents even though proper food could have been selected at the same or lower cost. Analysis of the self-chosen diets of a number of young women students at another institution (*J. Nutrition*, vol. 5, p. 459) revealed marked inadequacies according to accepted standards. In a sorority house in which the diet was particularly deficient there were discovered in the course of a year one case of pellagra, two of tuberculosis, and a number of cases of marked undernutrition. These studies show that freedom of choice of foods by the college student does not always lead to the best diet, and suggest the need for greater supervision of the dietary habits of such student groups.

**Adults.** Rose and associates (*J. Am. Dietetic Assoc'n*, vol. 7, p. 369) have called attention to the lowered energy requirements of most adults "in this age of automobiles and other machines which relieve mankind of much physical labor." In their opinion this decrease in energy requirements necessitates giving increased attention to foods supplying liberal amounts of ash and vitamins without contributing greatly to total calories. As an illustration, commercial preparations of bran were mentioned as furnishing a definite quantity of vitamin B as well as fibre or roughage at a much lower caloric value than whole wheat bread of the same bran content. An exhaustive study by Cowgill and Anderson (*J. Am. Med. Assoc'n*, vol. 98, p. 1866) of the laxative effects of bran in healthy subjects led them to conclude not only that the effect was due to the fibre content of the bran, but also that there is a definite minimum roughage requirement for maintaining the body in a healthy condition, which can be expressed in terms of fibre. This requirement was given as from 90 to 100 mg. of fibre per kilogram of body weight per day, a requirement that can be met not only with bran but with fibre-containing foods such as certain fruits and vegetables.

Data reported by Benedict and Meyer (*Proc. Am. Phil. Soc.*, vol. 71, p. 143) on the basal meta-



bolism of 23 women from 66 to 86 years of age confirmed the general belief that metabolism decreases with age. In comparison with previously reported data for women under 50 years of age, it was evident that even at the same weight elderly women have a definitely lower metabolism per unit weight than do younger women. The basal metabolism figures of 10 women 78 years old or over was close to 1000 calories irrespective of their body weight and this figure was recommended as applicable, without too great error, to all women of this age group.

**DIETARY DEFICIENCY DISEASES.** The emphasis in dietary recommendations for all age groups on the so-called protective foods is the outcome of continued study of the effects upon nutritional status of deficiencies in the mineral and vitamin constituents of the diet. In addition to progress in knowledge of the effects of deficiencies of the various vitamins noted elsewhere (see VITAMINS), research was particularly active on the relation of diet to the nutrition of the teeth and to various anemias.

**Dental Nutrition.** The demonstration by Smith and her associates, noted in the 1931 YEAR BOOK, that mottled enamel is caused by excess fluorine in the drinking water of certain communities was confirmed by a survey of the entire State of Arizona with reference to the extent of mottled enamel and the fluorine content of the water (*Arizona Sta. Tech. Bul.* 43, p. 213). It was found that a concentration of fluorine of from 2 to 3 parts per million was on the borderline of safety and that larger amounts were always associated with mottled enamel in varying degrees. Inasmuch as at the present time the only method of eliminating this disfiguring tooth defect is a change in the water supplies of the affected communities, the problem has become a matter of public health control.

Many studies were reported during the year on the production of dental caries in rats and dogs by various dietary measures, but no satisfactory agreement was reached between the so-called nutritional and local environmental schools of thought concerning the cause and nature of dental caries. Enright and associates (*J. Dental Research*, vol. 12, p. 759), after clinical and laboratory studies covering many years, concluded that "(1) local environmental conditions are the main factors in the active causation of decay of fully erupted enamel and that (2) deficient diet and defective nutrition, by being responsible for the construction of teeth more susceptible to the action of the acids of fermentation, are the most important factors during the period of development of the teeth."

Klein and McCollum (*Science*, vol. 74, p. 662) advanced the opinion that maintaining the phosphorus content of the blood above a certain level is of primary importance in preventing tooth decay. Since this depends upon the level of phosphorus, calcium, and vitamin D in the diet, the theory fits in well with prevalent ideas that vitamin D plays a prominent part in dental nutrition. Mellanby and Pattison (*Brit. Med. Jour.*, no. 3715, p. 507) found that diets rich in vitamin D and containing no cereals checked the spread of dental caries in a group of children better than one correspondingly rich in vitamin D but containing cereals. In Mellanby's opinion (*Brit. Med. Jour.*, no. 3746, p. 749) vitamin D is essential both for the calcification of the teeth and their later resistance to disease, but in addi-

tion cereals contain something, which she calls a toxamine, which counteracts the effects of vitamin D and calcium. In extensive feeding tests on children in three orphanages near New York City, McBeath (*J. Dental Research*, vol. 12, p. 723) was able to reduce the incidence of caries among the children by supplementing the institution diet with various protective foods, and concluded that vitamin D was of importance in that it was the dietary factor most deficient in the institution diet and most markedly increased in the experimental diet. A review in *Nature* (vol. 129, p. 926) of recent literature on dental caries summarizes the present status of the problem thus:

Immunity to caries depends on the teeth being properly calcified and the mouth being immune to the growth of the acid-forming bacillus. Prevention of caries in a susceptible mouth depends on oral hygiene and especially on the regulation of the diet, with the view of increasing the resistance of the teeth. Cereals should be avoided, and a plentiful supply of vitamin D (or vitamins A and D) provided, and the diet should contain an abundance of milk, eggs, potatoes, fish, meat, green vegetables, and fruits.

**Anemias.** With the general acceptance of the theory that copper is essential to iron for hemoglobin formation and thus for the prevention and cure of the so-called nutritional anemias, interest was centred theoretically in the mechanism of the action and practically in the relative anti-anæmic potency of different foods in terms of their iron and copper content. Evidence was reported during the year from several laboratories leading to the conclusion that copper functions through mobilizing the iron reserves in the body. Josephs (*Bul. Johns Hopkins Hosp.*, vol. 49, p. 246) compared the action of iron alone and with copper on a series of anæmic infants and found that up to a certain level of hemoglobin iron treatment alone was effective, but beyond that copper was necessary. Continuing his studies with rats, Josephs (*J. Biol. Chem.*, vol. 96, p. 559) found that copper did not increase the total iron content of the bodies of rats, but only the proportion of iron in hemoglobin as compared with the tissues. Elvehjem and Sherman (*J. Biol. Chem.*, vol. 98, p. 309), following a similar plan except that the liver and spleen were analyzed for iron rather than the whole body, found that when iron alone was fed there was an increase in the iron content of the liver and a very slight increase in the spleen. When iron and copper were fed together or copper alone after a period of iron feeding, the iron content of the liver decreased and the amount of hemoglobin in the blood increased. Of great interest in this connection is the report of Sheldon (*Brit. Med. Jour.*, no. 3749, p. 869) of analyses of the iron and copper content of human livers, including fetuses. He found a gradually increasing storage of both iron and copper in the fetus until birth, after which the values dropped steadily until the age of 12 to 18 months, showing a mobilization of the reserves to compensate for the low value of iron and copper in milk and the necessity for making special provision for these elements after the reserves have been exhausted. Sheldon suggested that since the reserve stores of iron and copper are acquired from the mother, the incidence of anæmia in infants might be lessened by providing more ample supplies of these elements in the diet during pregnancy. A comparison by Coons (*J. Biol. Chem.*, vol. 97, p. 215) of iron retention of a group of women during preg-



nancy with their food consumption led her to conclude that under fairly ideal conditions it is possible for the mother to assimilate during pregnancy enough iron from the food to supply the newborn infant with the needed reserves.

Among the studies reported during the year on the anemia-preventing properties of various foods in relation to their iron and copper content were those of Coulson *et al.* (*Am. J. Pub. Health*, vol. 22, p. 1141) on oysters from all the important producing areas on the Atlantic and Gulf Coasts; Levine *et al.* (*J. Nutrition*, vol. 5, p. 295) on various South Carolina grown vegetables; Rose and Vahlteich on cereal products and liver (*J. Biol. Chem.*, vol. 96, p. 593), and Adolph and Kao (*Chim. J. Physiol.*, vol. 6, p. 257) on soy-bean products. These indicate that with proper attention to food selection it should not be necessary to resort to iron and copper therapy to maintain proper hemoglobin content in the blood. As emphasized editorially in the *Journal of the American Medical Association* (vol. 99, p. 2114) "enthusiasm for the new discoveries must not be permitted to open the door to unfounded therapy."

The important announcement by Castle *et al.* (*J. Am. Med. Assoc'n*, vol. 97, p. 904) of the hypothesis that pernicious anemia is a deficiency disease depending upon the absence in the gastric juice of an "intrinsic" factor which in the normal body combines with an "extrinsic" factor (probably vitamin B<sub>12</sub>) to maintain normal bone marrow activity, was followed by further clinical evidence reported by Strauss and Castle (*Lancet*, 1932, ii, p. 111) that other related anemias such as the macrocytic anemia of the tropics, of sprue, and of celiac disease are due in common to lack of one or the other of these factors. They suggested the possibility of preparing a simple and inexpensive product for the treatment of pernicious anemia by combining hog stomach mucosa with yeast concentrates.

More recently, Morriss, Schiff, *et al.* (*J. Am. Med. Assoc'n*, vol. 98, p. 1080) reported the concentration from normal gastric juice by vacuum distillation of a substance which they considered to be the intrinsic factor of Castle and his associates, a hormone for which they proposed the name "addisin" after Thomas Addison who first described pernicious anemia. Later they announced (*Brit. Med. Jour.*, no. 3753, p. 1050) that the same hormone had been found in the gastric juice of swine, dogs, and cattle and thus is presumably a constituent of the normal gastric juice of all species. Remarkable results were reported in preliminary tests with the use of the active substance obtained from the gastric juice of swine in the treatment of pernicious anemia. The possible adoption of this method of treatment would not remove pernicious anemia entirely from the group of dietary deficiency diseases, for if the theory of Castle *et al.* holds, it will still be necessary to provide an abundance of the extrinsic factor in the form of sources of vitamin B<sub>12</sub>. See also VITAMINS.

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**FOOD PRICES.** See FOOD AND NUTRITION.

**FOOT-AND-MOUTH DISEASE.** See VETERINARY MEDICINE.

**FOOTBALL.** Teams conspicuous for their excellence were plentiful during the 1932 football season, but, as in 1931, the University of Southern California eleven, fashioned by coach Howard Jones, who had almost completely usurped Knute Rockne's place as guiding genius of the game, was superb and stood out a speck above the others. True, the conscientious historian was troubled because the Trojans of Los Angeles did play only one team from outside its sector, but the general high calibre of the Pacific Coast teams, and the manner in which Southern California wreaked havoc there, made it the logical choice for mythical national honors. Southern California downed all early season opponents with ease and then trounced Notre Dame's fine team, 13-0, in December. The Trojans started the year by downing Tulane, New Year's Day in the Rose Bowl, clearly earning the 1931 championship. As 1932 ended they were preparing to meet Pittsburgh, selection from the East, in the Rose Bowl, New Year's Day, 1933.

Pittsburgh's selection as Rose Bowl representative of the rest of the country excited comment. Pittsburgh had a fine team, had trimmed Army and Notre Dame, but had been held to scoreless ties by Nebraska and Ohio State, and many experts held that Colgate should have been invited. Colgate, coached by Andy Kerr, had gone through the season undefeated, untied, and unscored upon, a feat not accomplished by an eleven of major importance since Yale achieved the goal back in the 1880's. Colgate defeated New York University, 14-0, and Brown, 21-0, among others in its march of triumph. Columbia, Fordham, Army, Penn were the other strong teams in the East, with Fordham alleviating the superiority of the Pacific Coast by vanquishing St. Mary's and Oregon State in intersectional battles.

Michigan, winner of the Big Ten Conference title, went through undefeated and earned recognition as one of the most powerful teams in the country. The Wolverines defeated Princeton and Minnesota among other strong teams. The slim margin over Minnesota, 3-0, was practically due to the terrific storm raging over the gridirons of the country that day. Tennessee continued its glorious trail in the South and finished unbeaten with only a tie by Vanderbilt to mar the record. Because of the 20-20 Auburn-South Carolina tie in the final game of the season Tennessee was awarded even ranking with Auburn for Southern honors, with many experts giving the palm to the Volunteers. Auburn, with Jimmy Hitchcock showing the way, was one of the big surprises of the season. The Auburn team was strong, alert, and clever. Louisiana State, coached by Biff Jones, former Army tutor, was another of the strong Southern elevens. Texas Christian carried off the title in the Southwest Conference and Utah won the Rocky Mountain crown for the fifth year in a row. Nebraska was again supreme in Big Six ranks and Oklahoma

A. and M. stood out in the Missouri Valley Conference.

All over the country the somewhat drastic changes in the football rules which were in effect for the first time in 1932 met with mild approval. There was some grumbling at the outset but the malcontents subsided when it became apparent that the changes would make no real difference in play. The new rules had been put in operation early in the year after the rules committee, under the chairmanship of Edward K. Hall, who died in November, had made the changes in an effort to tone down the game and lessen the chance of danger. (Two major college players and forty other lesser known men had died as the result of football injuries in 1931.) The rule that stirred the most comment was that which rendered the ball dead when any part of the carrier's body except his hands or feet touched the ground. The new kickoff rule provided that five men of the receiving side must remain between their restraining line and the next five-yard mark until the ball is kicked. This curbed the wedge play effectively and there were practically no injuries on kickoffs during the college season. In fact, injuries were greatly reduced because of the new rule.

In professional football, the year saw the end of the three-year reign of the Green Bay (Wisconsin) Packers in the National League. The Chicago Bears won the title by defeating the Portsmouth Spartans in the playoff, indoors in Chicago, 9-0. Red Grange, former sensational Illinois University halfback, made the touchdown that gave the Bears the championship.

The end of the season marked the end of the reigns of several of the leading coaches of the country. Mal Stevens, who had coached Yale for four years, resigned in December and Reggie Root, former Yale lacrosse player, University of Mexico coach, and freshman coach at Yale in 1932, was appointed as Stevens' successor. Glenn Scobie (Pop) Warner, one of the bigger figures in the football coaching profession, then resigned at Stanford University and was immediately signed to coach at Temple University, Philadelphia. Major Frank W. Cavanaugh, grizzled coach at Fordham University, retired at the end of the season.

The scores of some important games follow:

Southern California, 13—Notre Dame, 0; Yale, 19—Harvard, 0; Army, 46—Harvard, 0; Fordham, 7—New York University, 0; Pittsburgh, 7—Stanford, 0; Yale, 7—Princeton, 7; Colgate, 21—Brown, 0; Auburn, 20—South Carolina, 20; Notre Dame, 20—Army, 0; Brown, 7—Columbia, 0; Michigan, 3—Minnesota, 0; Columbia, 7—Navy, 6; Army, 19—Navy, 0; Pittsburgh, 12—Notre Dame, 0; Pittsburgh, 18—Army, 15; Oregon, 12—Louisiana State, 0; California, 27—Georgia Tech, 6.

**FORAGE CROPS.** See ALFALFA; HAY, ETC.

**FORDHAM UNIVERSITY.** A Roman Catholic institution for higher education, under the Society of Jesus at Fordham, New York City, founded as St. John's College in 1841. It is the largest Roman Catholic educational institution in the United States. The enrollment for 1932-33 totaled 8078 students, including 1512 in the teachers' college and 715 in the graduate school, and a distribution among the other colleges as follows: Law, 1089; Fordham College, 1437; downtown college, 718; business school, 247; pharmacy, 247; social service, 361; preparatory school, 502. The registration for the summer session of 1932 was 1250. There were 400 faculty

members. The endowment fund amounted to \$493,000. There were 115,000 volumes in the library. President, the Rev. Aloysius J. Hogan, S.J., Ph.D.

**FOREIGN EXCHANGE.** See FINANCIAL REVIEW.

**FOREIGN STUDENTS.** See IMMIGRATION; UNIVERSITIES AND COLLEGES.

**FOREST FIRES, FOREST PROTECTION.** See FORESTRY.

**FORESTRY.** Harassed by the deluge of economic troubles that beset other industries, forestry again suffered severely in 1932. According to a statement issued by the special lumber survey committee of the Timber Conservation Board appointed by President Hoover in 1931, lumber consumption decreased from a total of some 35 billion board feet in 1929 to approximately 12 billion feet in 1932. Aggravating the general situation was the existence of large reserves of lumber accumulated at the beginning of the economic upheaval. The situation was further complicated by the avowed attempt of the Russian government to dump large quantities of pulpwood and other lumber on our eastern markets. American lumber producers contended with considerable strength and justice that they could not be expected to compete with cheap foreign labor. As a result the Revenue Act of 1932 contained a provision for an import tax of \$3 per thousand board feet for all lumber except maple, birch, and beech, and considerable sentiment developed for the complete exclusion of Russian lumber on the ground that it is produced largely by conscript labor.

Withal there were rays of hope in the dark situation. More thought was paid in 1932 to the matter of planting of cut over and other marginal lands that are now producing little or nothing worthwhile and yielding no tax returns. That forestry offers the only sensible plan for treatment of such unprofitable areas was accepted generally, and the sympathetic attitude of President elect Roosevelt toward forestry, as expressed in his acceptance speech in Chicago, was considered highly hopeful by many foresters and conservationists alike. In a letter to the president of The Society of American Foresters, published in the December number of the *Journal of Forestry*, the President elect stated "I believe a great deal can be accomplished by an intelligent reforestation programme, both as an aid to unemployment and as a permanent benefit for our citizens of the present and future." In view of the important part that European forests play in the public welfare, it appears altogether probable that considerable benefit could be derived in America from more intensive utilization and development.

**RUSSIAN LUMBER.** European and American forest industries continued to be alarmed by the large quantities of Russian lumber and lumber products available for export at extremely low prices. Under the stimulus of the 5-year plan, Northern Russia in 1930 doubled its pre-war output of timber and, in view of low wages paid workers, was able to offer lumber at prices impossible to nations with higher wage scales. A popular article in an American journal estimated that there are approximately 2,500,000 square miles of forest land in Russia in which there are some 850,000,000 acres available for cutting, an area equal to the combined cutting possibilities of the United States and Canada. The potential

menace of such a huge timber reserve, when thrown recklessly on the markets of the world, is self evident. Already Russian lumber reaches the ports of North and South America, England, France, Spain, Italy, and other European countries.

**THE NATIONAL FORESTS.** As stated in the annual report of the Forester of the U. S. Department of Agriculture, the net area of the national forests on June 30, 1932 was 161,360,691 acres, an increase of 573,004 acres during the year. Forest purchases in Vermont were consolidated and designated the Green Mountain National Forest. The Shenandoah National Forest in Virginia was renamed the George Washington in commemoration of the bi-centennial anniversary, and the Jefferson National Forest in Montana was rechristened the Lewis and Clark in honor of the intrepid explorers of the Northwest who bore those names. Sales from forests were greatly reduced in 1932 both as a result of decreased demand for products and the policy of the Forest Service in discouraging new lumbering enterprises in the public domain. In a number of instances, unemployment relief organizations were permitted to cut fuel wood in the national forests for distribution to the needy and other measures, such as the building of roads and trails, were pushed with the aid of emergency funds with a view to helping alleviate the unfavorable situation. Forest land reached its lowest value in many years but, unfortunately, the money available for land purchase was also sharply restricted. However, it is noteworthy that sentiment in favor of enlarging the national forest areas continued strong, especially in the eastern States where the National Forest idea is relatively new.

**LUMBER TRADE.** As evidenced in data supplied by the U. S. Department of Commerce in its monthly summaries of foreign commerce covering the ten months ended Oct. 31, 1932, there was a sharp decline in the value of both exported and imported lumber and lumber products in 1932 as compared with the preceding year. The total value of exported unmanufactured wood, sawmill products, wood manufactures, paper base stocks, and paper and its manufactures was only \$51,406,648 in 1932 as compared with \$88,303,757 in 1931. The value of imports of the same items totaled \$139,581,675 in 1932 as compared with \$196,217,388 in 1931. The bulk of the imports was made up of paper base stocks, \$43,930,961, and paper and its manufactures, \$80,331,406, largely brought in from Canada. In view of the fact that the United States contains ample land upon which to grow its lumber needs, the great excess of imports above exports would appear to be a distinct challenge to foresters.

**FOREST PROTECTION.** According to the U. S. Forest Service, the extremely dry summer of 1931 resulted in an extremely hazardous fire situation in the Northwestern States. Even the swamps dried out and burned with huge volumes of smoke that greatly hindered the lookouts in their fire detection activities. In 1931, twenty Forest Service employees were killed while engaged in the suppression of fires. The governors of Montana and Idaho actively participated in the emergency by issuing drastic orders concerning entrance into the forested areas. The Idaho executive declared martial law in a number of counties, calling out portions of the National Guard to enforce his mandates. Rains and

snows in early 1932 were highly beneficial and greatly modified the situation. Up to September 1, the expenditures of the U. S. Forest Service in fire control were only 15 per cent of those of the corresponding period in 1931. New and hopeful features were the distribution in the Northwest in 1932 of 160 new radio sets equipped with transmitters and receivers, and the greater use of aéroplanes to transport men and supplies into comparatively inaccessible regions.

Of less spectacular nature than fire but none the less dangerous was the continued onset of insects and disease. White pine blister rust spread in the commercial white pine forests of northern Idaho and western Montana. Despite the knowledge that the eradication of wild currants and gooseberries would control this disease, foresters were prevented from winning the battle by the very magnitude of the task. Bark beetles also menaced the western pine forests but yielded to the Spartan treatment of cutting the infested trees and removing the bark.

**FORESTRY RESEARCH.** Economic aspects of forestry, as might be expected from the generally unfavorable business situation, received increasing consideration in 1932. The reversion in certain areas, such as the Lake States, of vast acreages of cut over land to the States as a result of delinquent taxes presented a serious land use problem for which no established methods of treatment were available. Studies carried on by the Forest Service in the pine region of the Southeast indicated that a large part of the southern pine area will yield fair returns if kept reasonably well stocked with trees, the present stands being in many cases altogether inadequate.

Erosion surveys carried on in various areas of the United States disclosed the fact that the major rivers, such as the Mississippi, Colorado, and Rio Grande, take tremendous tolls from the agricultural lands. In many cases, it was evident that erosion had increased greatly in recent years, due to overgrazing, destructive lumbering, and fires. Arthur M. Hyde, Secretary of Agriculture, recognized the seriousness of the erosion problem and openly discussed the subject in current periodicals.

In the face of approximately 250 million dollars of imports of pulp and paper in 1931, the Forest Products Laboratory at Madison, Wisconsin, continued its study of the paper-making possibilities of various species. Strong white papers of excellent quality were made from loblolly, longleaf, and slash pines of the South, and considerable work was done with Douglas fir and other western species. The Yale University School of Forestry gained and Massachusetts State College lost by the transfer of the Northeastern regional forestry station from Amherst to New Haven in the early fall of 1932.

**MISCELLANEOUS.** Through the generous support of Edward S. Harkness and John D. Rockefeller, Jr., the Save-the-Redwoods League was enabled to acquire 4892 acres of superb redwood forest in Northern Humboldt County, California. This notable transaction preserved for posterity a noble stand of forest giants whose beauty is enhanced by a goodly mixture of hemlock, spruce, and fir and a luxuriant ground cover of rhododendrons, ferns, and other plants.

The sixtieth anniversary of the establishment of Arbor Day was appropriately celebrated on April 22 at the old home of its originator, Julius

Sterling Morton, at Nebraska City, Neb. A special commemorative stamp, printed in red and illustrating the planting of a tree by two children, was issued by the Federal government.

The British government developed a plan of purchasing desirable forest lands and placing thereon, in small homes, worthy unemployed as caretakers.

Hugh P. Baker, dean of the New York State College of Forestry at Syracuse University, was elected to the presidency of the Massachusetts State College at Amherst, and will take over the office about Feb. 1, 1933.

**NECROLOGY.** Joseph W. Toumey, professor of silviculture and former dean of the Yale School of Forestry, and long a national figure in the forestry world, died at New Haven, Conn., on May 6.

W. W. Ashe, Chief of Land Acquisition for the Eastern States, died in Washington, D. C., on Mar. 18, 1932.

**BIBLIOGRAPHY.** A very considerable portion of the current forest literature appeared in the form of bulletins and journal articles. Among these was a notable contribution from the pen of the late J. W. Toumey entitled, "The Yale Demonstration and Research Forest Near Keene, New Hampshire," and published as *Bulletin 33 of the Yale University School of Forestry*. Among books may be listed R. S. Troup, *Exotic Forest Trees in the British Empire*, (Oxford); W. E. Hiley, *Improvement of Woodlands*, (London); M. C. Tresidder, *The Trees of the Yosemite* (Palo Alto, Calif.).

**FORMOSA or TAIWAN.** An island about 75 miles off the southern coast of China, ceded by China to Japan on June 2, 1895. The area is 13,890 square miles, including the adjacent Hokoto (Pescadores) Islands, with an area of about 49 square miles, and other small islands. The population at the census of 1930 was 4,594,161 (3,993,408 in 1925), including about 210,000 Japanese, 130,000 aborigines, and 40,000 foreigners. Taihoku, the capital, had 229,005 inhabitants; Tainan, 95,013; Keelung, 74,541; and Kagi, 54,505. In 1929-30, there were 133 primary schools for Japanese, with 30,148 pupils, and 583 schools for natives with 233,356 pupils. The University of Formosa was opened in 1928. Japanese is the official language, but Chinese (Amoy dialect) is used to a large extent.

Rice, tea, sugar, and various fruits are the chief agricultural products, but the island produces in commercial quantities nearly every tropical and subtropical product. It supplies all of the world's Oolong tea and nearly all of the natural camphor. Indigo, hemp, sweet potatoes, cereals, and peanuts are other crops. The 1931 production of the chief crops was: Rice, 38,303,000 bushels; tea, 21,656,800 pounds; raw sugar, 797,279 metric tons. The total value of mineral production during 1929 was 15,090,503 yen (yen averaged \$0.4885 in 1931). Gold, copper, silver, sulphur, petroleum, and coal are the principal minerals worked. Manufacturing is confined mainly to the making or refining of flour, sugar, tobacco products, oil, iron-work, glass, bricks, and soap. The manufacture and sale of opium, alcohol, salt, sake, camphor, and tobacco products are government monopolies.

Total exports in 1931 amounted to 220,872,866 yen and total imports to 145,622,123 yen. Exports to Japan amounted to 201,424,107 yen and imports from Japan amounted to 114,763,307 yen.

The budget estimates for the fiscal year ended Mar. 31, 1932, were estimated to balance at 115,370,120 yen, including both ordinary and extraordinary accounts. The public debt outstanding on Mar. 31, 1931, was about 116,680,216 yen. In 1930-31 there were 549 miles of government railway lines, a number of private (plantation) railway lines, about 2500 miles of highways suitable for motor traffic, and 759 miles of telegraph, and 2060 miles of telephone wire.

The civil government of the island is administered by a Japanese governor-general, supported by a force of Japanese police. To guard the settled areas against inroads of the still unsubdued aborigines in the northern mountains, a frontier zone of over 300 miles has been established, of which about 230 miles are protected by charged barbed wire. Governor-General in 1932, M. Ohta. See JAPAN.

**FOSSIL RACES OF MAN.** See ANTHROPOLOGY.

**FOSTER, WILLIAM Z.** See SOCIALISM; UNITED STATES under *National Election*; COMMUNISM.

**FOUNDATIONS.** There were practically no great foundation works under way during 1932 and even in New York City, which has been the centre for years past of new, novel, and large scale foundation operations, not a single unusual construction has been undertaken. We have noted in past YEAR BOOKS the trend toward open caisson, as opposed to pneumatic caisson, constructions. Perhaps the most interesting developments during the year have been in the details of open caisson constructions.

The plan developed in sinking the Bank of the Manhattan Co. foundations in 1929 involved driving steel tubes through the water bearing sands into hardpan overlying bed rock. With the bottom of the tubes thus sealed, it was possible to excavate the interior material down to rock, without using compressed air.

In the recent construction of the outer-drive viaduct, between the Michigan Canal and the Chicago River at Chicago, Ill., tubes 4 to 6 ft. in diameter, were sunk by jetting through 26 ft. of water bearing sand to the underlying Chicago blue clay. Steel shells 30 ft. long were equipped with six or eight water pipes, spaced equally around the circumference, and only 10 minutes were required to jet a tube down to the clay. Excavation through the clay to rock, 100 ft. below ground surface, was completed by the Chicago open well method, using vertical lagging.

A somewhat similar plan, on a much larger scale, was used in building the piers for the Lillebaelt Bridge in eastern Denmark. The five piers are founded in clay, 21 ft. below river bottom in water 98 ft. deep. Oval caissons, 68 by 156 ft. in size, were constructed in reinforced concrete of cellular design with 94 circular dredging wells in the outer walls. Each caisson was sunk in position by open dredging through these wells. When finally in position, sealed into the clay bottom, the caissons formed cofferdams which were unwatered, the excavation completed and the piers built in the dry.

Many attempts have been made to use boring machines in building foundations. An earth auger of unusual size was used most successfully in the recent excavation of 106 cylindrical wells for the new post office at Detroit, Mich. These wells were from 4¾ to 7¼ ft. in diameter and were bored through stiff clay to rock at an

average depth of 118 ft. The holes were lined with vertical wooden lagging, made up like stave pipe in 16 ft. lengths and driven into place after the well had been bored. The lower end of each well was then under cut by hand, to give a bell-shaped base and increased bearing area, after which the entire well was filled with concrete to form a circular concrete pier.

The rapid development of steel cylinder piles, particularly in New York City, has been noted in recent YEAR BOOKS. Exceptionally long piles of this type, varying from 60 to 140 ft., were used for the foundations of the Starrett-Lehigh Building in New York. After driving the steel shells, generally 10 to 18 inches in diameter and  $\frac{3}{8}$  to  $\frac{1}{2}$  inch thick, the interior earth is blown out by compressed air and the shell filled with concrete. A special long tubular bottom-dump bucket was designed for concreting these shells, which frequently filled with water from the surrounding, water bearing, soil.

Obviously long piles of this type would have little bearing value were it not for the support offered against flexure by the surrounding material. To date no rational method of design has been developed but tests of the Starrett-Lehigh foundations showed settlements of only  $\frac{1}{8}$  inch under a load  $1\frac{1}{2}$  times the design value.

**FOUNDATIONS, EDUCATIONAL.** See EDUCATION IN THE UNITED STATES; UNIVERSITIES AND COLLEGES, BROOKINGS INSTITUTE; CARNEGIE FOUNDATION; ROCKEFELLER FOUNDATION; RUSSELL SAGE FOUNDATION.

**FOUR H ("4-H") CLUBS.** See AGRICULTURAL EXTENSION WORK

**FOUR-POWER CONFERENCE.** See GREAT BRITAIN under *History*.

**FOWL, FOWL DISEASES.** See LIVESTOCK, VETERINARY MEDICINE.

**FRANCE.** A republic of western Europe, whose land frontiers are bounded by Belgium, Luxemburg, Germany, Switzerland, and Italy on the north and east and by Spain on the south. Capital, Paris.

**AREA AND POPULATION.** The acquisition of Alsace-Lorraine as a result of the World War increased the area of France from 207,054 to 212,659 square miles (see ALSACE-LORRAINE). The population (census of March, 1931) was 41,834,923, as compared with 40,743,897 at the census of 1926 and 39,209,518 at the census of 1921. Slightly more than half of the population was rural in 1931. In the same year there were 2,890,923 foreigners in the country (2,295,642 in 1921). In 1931, births numbered 730,249; deaths, 680,710; marriages, 326,358; divorces, 21,212. The excess of births over deaths was 49,539, compared with an excess of 99,786 births in 1930 and an excess of 12,564 deaths in 1929. Laborers entering the country in 1931 numbered 93,607 and those departing 92,963; in 1930 the respective figures were 187,407 and 54,975.

Populations of the chief cities in 1931, with 1926 census figures in parentheses, were: Paris, 2,891,020 (2,871,429); Marseilles, 800,881 (652,196); Lyons, 579,763 (570,840); Bordeaux, 262,990 (256,026); Nice, 219,549 (184,441); Lille, 201,568 (201,921); Toulouse, 194,564 (180,771); St. Etienne, 191,088 (193,737); Nantes, 187,343 (184,509); Strasbourg, 181,465 (174,492); Le Havre, 165,076 (158,022); Toulon, 133,203 (115,120); Rouen, 122,957 (122,808); Nancy, 120,578 (114,491); Roubaix, 117,190 (117,209); Reims,

112,820 (100,998); Clermont-Ferrand, 103,143 (111,701).

**EDUCATION.** Elementary education is free and compulsory between the ages of 6 and 13. The school system is centralized under the Superior Council of 52 members, which acts in collaboration with the Minister of Education and a consultative committee. In 1929-30, there were 3691 infant schools, both public and private, with 369,190 pupils; 80,224 primary schools, with 4,358,887 pupils; and 531 higher elementary schools, with 76,040 pupils. For secondary education, there were in November, 1930, 125 *lycées*, with 83,764 students, and 235 communal colleges, with 44,537 students, for boys and (including Algeria) 205 *lycées*, colleges, and secondary courses for girls, with 59,339 students. The 17 free universities in France had a total of 73,601 students on July 31, 1930. Various other institutions provided technical and professional training.

**AGRICULTURE.** About 41 per cent of the working population are engaged in agriculture, there being about 5,500,000 farm owners, with an average holding of 24 acres. In 1928, 89,222,061 acres were under crops, fallow, or grass, compared with 25,170,407 acres of forest land and 11,281,033 acres of moor and uncultivated land. Despite her large farm production, France normally imports cereals and colonial produce; there is generally an export surplus of wine, dairy products, fruits, and vegetables. Due to short wheat crops in 1930 and 1931 the French farmers sold their entire produce within the country at a good profit. In 1932, however, there was a bumper wheat crop estimated at 330,000,000 bushels and the price dropped sharply, causing much distress (see *History*). Production of the chief crops in 1930 and 1931 are shown in the accompanying table from the 1932 *Commerce Yearbook*.

FRENCH CROPS—AREA AND PRODUCTION

Crop	Area <sup>a</sup>		Production <sup>b</sup>	
	1930	1931	1930	1931
Wheat . . .	13,280	12,497	228,104	269,630
Rye . . .	1,846	1,775	28,394	31,013
Barley . . .	1,842	1,960	42,457	54,807
Oats . . .	8,460	8,638	285,955	344,222
Corn . . .	833	833	22,379	23,654
Potatoes . .	3,532	3,516	511,572	592,189
Sugar beets .	679	599	8,814	6,089
Beet sugar <sup>c</sup>			1,181	856
Grapevines .	3,465	3,559	1,109,810	1,517,870
Olive <sup>d</sup> . . .			90,389	104,057
Olive oil <sup>e</sup> . . .			2,028	1,130
Hay . . . . .	7,131	7,176	12,793	12,867
Fodder beets .	2,039	2,036	31,206	30,329
Green forage .	1,759	1,794	12,588	13,394

<sup>a</sup> Thousands of acres. <sup>b</sup> Thousands of units—bushels except as indicated. <sup>c</sup> Unit, metric ton. <sup>d</sup> Seasons ended following year. <sup>e</sup> Unit, gallon of wine. <sup>f</sup> Unit, pound. <sup>g</sup> Unit, gallon of oil.

Livestock at the beginning of 1931 included 15,467,000 cattle, 10,152,000 sheep and lambs, 6,329,000 swine, 2,924,000 horses, and 154,000 mules. Silk culture is carried on in 24 departments, the value of the 1930 output totaling 14,612,000 francs. Provisional crop returns for 1932, in metric quintals (of 220.4 pounds), were: Wheat, 90,182,000; mixed wheat and rye, 955,000; rye, 8,938,000; barley, 11,687,000; oats, 51,294,000.

**MINING.** French deposits of iron ore in Lorraine are the richest in Europe and, next to those of the United States, probably the richest in the world. French coal supplies, however, have to be supplemented by imports from Germany. Metallurgical production was more than

doubled from 1919 to 1930. The index figure for the average monthly metallurgical production, calculated on a base of 100 for 1913, stood at 129 for 1929, 125 for 1930, 103 for 1931, and 71 in August, 1932. The output in metric tons of the principal mineral and metallurgical products in 1931, with 1930 figures in parentheses, was as follows: Coal, 49,920,000 (53,885,000); lignite, 1,044,000 (1,143,000); pig iron, 8,220,000 (10,035,000); steel, 7,812,000 (9,447,000); bauxite, 348,000 (538,000); iron ore, 38,476,000 (48,816,000); iron pyrites, 193,000 (198,000); potash, 355,000 (507,000).

**MANUFACTURING.** The decline in manufacturing production, which commenced in 1931 as a result of the world depression, continued until the middle of 1932, when some improvement was noted. The general index of industrial production, calculated on a base of 100 for 1913, showed an average monthly output of 139 in 1929, 140 in 1930, 124 in 1931, 92 in July, of 1932, and 93 in August. According to an announcement of the Minister of Labor on Oct. 23, 1932, the number of registered unemployed had declined from 375,000 in March to 256,000; returns from the turnover tax, which closely indicated the business situation, had increased and transportation figures showed a slight improvement. The number of registered unemployed on Oct. 1, 1931, totaled only 39,360. The total number of unemployed in October, 1932, was estimated at about 1,000,000. In addition, several million workers were employed part time. France added to her power resources in 1932 by opening at Kembs on the Rhine on October 9 a 200,000-horse power hydro-electric station, which is to have an ultimate annual energy production of 700,000,000 kilowatts.

Statistics of manufacturing production in 1930 and 1931 are shown in the accompanying table from the 1932 U. S. Commerce Yearbook.

#### MANUFACTURING PRODUCTION OF FRANCE

Product	1930	1931
Silk (conditioned at Lyon) . . . 1,000 lbs	10,661	7,857
Wool (conditioned at Roubaix-Tourcoing) . . . do	204,049	176,827
Wool (conditioned at Mazamet) . . do	52,328	53,413
Cotton consumption " . . . do	794,611	490,372
Cotton cloth . . . . . million yds.		
Artificial silk . . . . . 1,000 lbs	39,200	38,320
Boots and shoes (estimated) 1,000 pairs	75,000	65,000
Alcohol . . . . . 1,000 gals	79,168	95,702
Vessels launched . . . . . gross tons	100,917	103,419

\* Including waste

**COMMERCE.** Foreign trade declined during 1931 and 1932. Imports in 1931 totaled 58,095,899 metric tons valued at 42,199,302,000 francs, as against 60,920,191 tons valued at 52,510,812,000 francs in 1930. Exports amounted to 30,329,434 tons, valued at 30,421,327,000 francs, compared with 36,080,192 tons valued at 42,835,221,000 francs in the previous year. The excess of imports over exports increased from 9,675,591,000 francs in 1930 to 11,777,975,000 francs in 1931. In 1932, the total foreign trade amounted to 49,500,000,000 francs (about \$1,930,500,000), compared with 72,600,000,000 francs in 1931. Imports, totaling 29,826,000,000 francs, were 29.3 per cent lower than in 1931, while exports, at 19,693,000,000 francs, were 35.3 per cent less. The excess of imports over exports for the year was 10,132,000,000 francs (about \$395,148,000). The 1932 figures are preliminary.

Comparative values of the leading import and export items in 1930 and 1931 are shown in the accompanying table.

#### CHIEF FRENCH IMPORTS AND EXPORTS, 1930 AND 1931 [In millions of francs]

IMPORTS		1930	1931
Coal and coke . . . . .		3,628.3	4,438.7
Cereals . . . . .		2,081.3	2,999.7
Wine . . . . .		2,155.5	2,938.9
Machinery . . . . .		2,615.4	1,903.7
Wool . . . . .		3,180.3	1,800.7
Raw cotton . . . . .		8,280.4	1,502.0
Oil seeds . . . . .		2,091.0	1,458.1
Petroleum . . . . .		2,246.0	1,864.9
Coffee . . . . .		1,121.0	973.4
Chemicals . . . . .		1,133.6	931.6
Copper . . . . .		1,456.0	797.5
Hides and skins . . . . .		1,046.9	701.4
EXPORTS		1930	1931
Chemicals . . . . .		3,209.9	2,515.9
Iron and steel . . . . .		2,181.7	1,785.3
Textiles, silk . . . . .		2,501.7	1,721.1
Textiles, cotton . . . . .		2,145.3	1,411.5
Clothing . . . . .		1,662.3	690.8
Automobiles . . . . .		1,122.7	837.5
Wine . . . . .		886.7	665.1
Rubber goods . . . . .		580.5	388.5
Table fruits . . . . .		455.9	357.2
Pearls . . . . .		406.7	293.4

The United Kingdom was France's leading customer in 1931, followed by Belgium, Germany, Switzerland, and the United States, in the order named. Germany was the leading source of supply, with the United States, United Kingdom, Belgium, Italy, and Switzerland following in order. The value of French trade with the leading countries in 1930 and 1931 is shown in the accompanying table.

#### FRENCH FOREIGN TRADE, 1930 AND 1931 [In millions of francs worth \$0.0392 at par]

Countries	Imports		Exports	
	1930	1931	1930	1931
United Kingdom . . . . .	5,272.9	3,724.5	6,845.3	5,038.1
Germany . . . . .	7,937.1	6,132.8	4,155.0	2,748.4
United States . . . . .	6,148.1	3,803.4	2,434.9	1,543.9
Belgium . . . . .	4,198.8	3,635.8	5,442.0	3,581.5
Switzerland . . . . .	1,132.8	903.8	3,094.9	2,308.3
Italy . . . . .	1,526.8	1,440.3	1,681.1	992.1
Spain . . . . .	1,508.5	1,402.5	1,128.7	865.6
Argentina . . . . .	1,203.1	1,428.3	877.7	515.7

One of the major invisible items offsetting the 1931 excess of imports was the expenditure in France of an estimated total of \$400,000,000 by some 1,540,000 foreign tourists, including about \$120,000,000 spent by approximately 200,000 Americans. In 1928, tourists spent about \$600,000,000 in France, of which about \$200,000,000 represented the expenditures of Americans. Tourist visitors during 1932 were placed at 944,358, of whom 522,000 were British and 143,208 Americans.

**FINANCE.** As from 1930, the financial year commenced on April 1, but on Oct. 17, 1931, the government decided to revert to the calendar year. For the nine months from Apr. 1, 1932, to Dec. 31, 1932, revenue was estimated at 41,087,273,326 francs and expenditure at 41,083,386,532 francs. This compared with estimated revenue and expenditure of 50,643,485,395 francs and 50,640,509,352 francs, respectively, for the entire fiscal year ended Apr. 1, 1932. Actual revenue for the 1931-32 fiscal year totaled 52,757,500,000 francs and actual expenditure about 56,348,500,000 francs, leaving a deficit of about 3,591,000,000

(about \$334,000,000). The deficit for the nine months ended Dec. 31, 1932, was provisionally estimated at 5,000,000,000 francs (about \$200,000,000).

The internal debt on Mar. 31, 1931, stood at 283,040,564,211 francs (279,873,514,866 francs on Mar. 31, 1930), of which 228,057,028,211 francs represented the long-term funded debt, 15,894,187,000 francs the short-term (2 to 10 years) funded debt, and 39,089,349,000 francs the floating debt. The foreign debt Mar. 31, 1931, included \$3,865,000,000 owed to the U. S. government, £759,000,000 owed to the British government, and commercial debts aggregating \$4,806,656,400 and 5,736,230 Argentine pesos.

**COMMUNICATIONS.** The French railways, extending about 26,177 miles in 1931, were divided into seven systems, the largest (5665 miles) being operated by the state. The other six systems were owned by the state and leased to private companies. In September, 1931, 1043 miles of line were electrified. The state railways reported a provisional operating deficit of 2,944,000,000 francs in 1931, as compared with a deficit of 1,884,000,000 francs in 1930. The highway mileage in 1931 extended about 405,028 miles, of which 22,369 miles were macadam and 380,173 miles were improved earth, sand, clay, or gravel roads. Navigable waterways aggregated about 6204 miles. A 75-mile stretch of canal along the upper Rhine, which when completed would permit uninterrupted navigation from Rotterdam to Basel (Basle), Switzerland, was under construction in 1932. The Moselle Canal from Metz to Thionville was opened Aug. 14, 1932. A census of 1931 showed 12,104 canal boats in France, with a capacity of 4,058,184 tons. In 1931, five subsidized and one unsubsidized air-transportation companies operated regular services over about 20,000 miles of lines both within and outside of France. They carried 32,700 passengers (28,935 in 1930) and 411,000 pounds of mail (440,000 in 1930).

**SHIPPING.** Vessels entering French ports in 1931 in the foreign trade totaled 30,211, of 57,676,852 tons, and vessels clearing 22,845, of 48,267,405 tons. Marseilles was the leading port, in the number of vessels and tonnage handled, although Cherbourg was a close second. Cherbourg ranked first among the ports of Europe in the number of trans-Atlantic passengers embarked and disembarked; in 1931 there entered and cleared at the port 746 trans-Atlantic liners, representing 10,725,000 net tons, with 115,000 passengers, and 513,000 sacks of mail. Harbor improvements were under way at Cherbourg in 1932. The new 73,000-ton liner *Normandie* was added to the French mercantile marine on Oct. 29, 1932 (see **SHIPBUILDING**). The new motor liner *Georges Philppar* burned and sank at sea in May on her maiden voyage to the Far East (see **SAFETY AT SEA**). The *Normandie* also was severely damaged by fire while on a trial run.

**GOVERNMENT.** The French Constitution vests executive power in the President of the Republic and the Ministry, and legislative power in the Chamber of Deputies and the Senate. The legislative branch has steadily encroached upon the prerogatives of the executive, however, and the President wields little influence in executive matters, which are decided by members of the Ministry directly responsible to Parliament. The President is elected for seven years by an absolute majority of votes in the Senate and Cham-

ber of Deputies, and selects his cabinet ordinarily from among the members of both bodies. The Senate is made up of 314 members not less than 40 years of age and elected by an electoral college for nine years, one-third retiring every three years; the Chamber of Deputies is made up of 612 members elected by direct popular manhood suffrage for four years. The composition of the Chamber elected Apr. 22-29, 1928, was as follows: Communists, 16; Democrats, 22; Independent Radicals, 64; Left Republican Democrats, 34; Socialists, 104; Radicals and Radical Socialists, 110; Republican Socialists and French Socialists, 46; Republicans of the Left, 94; Democratic Republican Union, 110; Conservatives, 12. President at the beginning of 1932, Paul Doumer, elected May 13, 1931. For changes in 1932, see *History*.

## HISTORY

**TARDIEU SUCCEEDS LAVAL.** Crucial changes in French domestic and foreign policy occurred during 1932. The train of events accompanying these changes commenced on January 7, when the Laval cabinet resigned. The position of the ministry had been shaken by the death of André Maginot, Minister of War, and the resignation of Aristide Briand as Foreign Minister, ostensibly due to ill health. For seven years Briand had guided French foreign policy in successive cabinets. His name had become synonymous with peaceful collaboration in the reconstruction of Europe under the aegis of the League of Nations. To Briand's many supporters, his retirement was considered a "dismissal" which forecast the abandonment of his peaceful policy.

In view of the critical foreign situation and to still the outcry of the Left elements, Premier Laval offered the Foreign Office post to Edouard Herriot, leader of the Radical Socialist party. The Radical Socialists, however, refused to collaborate with the parties of the Right, from which the Laval cabinet drew its main support. Moreover they were unwilling to weaken their strategic position in advance of the approaching quadrennial elections to the Assembly. Unable to secure a non-partisan cabinet, Premier Laval handed in the resignation of the entire ministry. He was asked by President Doumer to reconstruct it along the same lines as before. Accordingly, the third Laval ministry presented to Parliament on January 19 differed but little from its predecessor. Premier Laval himself assumed direction of the Foreign Office. André Tardieu was transferred from the Agriculture to the War portfolio. The Interior and Agriculture posts were filled, respectively, by Pierre Cathala and Achille Fould, former Under-Secretaries.

The new Laval government enjoyed but a short lease of life. On February 16 it was defeated in the Senate, which criticized M. Laval's foreign policy as conservative and attacked the electoral reform sponsored by his supporters. The highly controversial electoral reform (Mandel) bill had been passed in the Chamber of Deputies, February 12, 288 to 1, after the Radical Socialists and Socialists had withdrawn. In place of the *scrutin d'arrondissement* system, it provided that a candidate receiving 40 per cent of the vote on the first ballot would be declared elected. The result would have been adverse to the parties of the Left. When the Democratic Left and Radical Socialist Senators unexpectedly defeated the bill and overturned the Laval cabinet, by a vote of



157 to 134, the Radical Socialists with support from moderate parties then succeeded (March 17) in shelving the bill in the Chamber of Deputies.

Paul Painlevé, a Republican Socialist, now unsuccessfully attempted to form a Left ministry. M. Tardieu was then called and on February 23 formed his third cabinet from the Centre and Right. The new Tardieu cabinet consisted of only 13 Ministers and six Under-Secretaries, most of them holdovers from the Laval government. M. Tardieu himself took over the Foreign Office. M. Laval again became Minister of Labor. The Ministries of War, Navy, and Aviation were merged in the Ministry of National Defense, headed by François Piétri. Paul Reynaud, as Minister of Justice and "Controller of the Administration," and Albert Mahieu, as Minister of Interior, were other leading members. Securing a vote of confidence by 309 to 262 on February 23, M. Tardieu returned to Geneva, where the deliberations of the Disarmament Conference had been interrupted by the French cabinet crisis.

**THE ELECTORAL CAMPAIGN.** With the adjournment of Parliament on April 1, the campaign for the election of a new Chamber of Deputies on May 1 and 8 opened in earnest. Critical foreign and domestic problems confronted the French voters. The continued rise of German nationalism, the threatened economic and financial collapse of Eastern Europe, growing unemployment and industrial depression, and the mounting budget deficit all aroused fear that France's dominant position in Europe, and consequently her security, was menaced. There was a demand for a more constructive programme with respect to disarmament, reparations and war debts, and European economic rehabilitation.

M. Tardieu attempted to dissipate signs of increasing discontent by moderating the conservative policies he had espoused while Premier in 1930. His platform now included Franco-British collaboration, rapprochement with Germany, the "adjustment" of reparation charges, and the economic reconstruction of Eastern Europe by means of a Danubian tariff union (see UNITED STATES OF EUROPE). Moreover his plan for an international police force, presented February 5 before the Geneva Disarmament Conference, was in line with the policy championed by the Left parties.

The Left elements distrusted Tardieu's "conciliatory" foreign policy and bitterly opposed his domestic policy, because he drew his support from the Right and Centre groups. The Right opposed the League, favored a "strong" foreign policy, supported the Catholic clergy against the anti-clerical measures of the Left, and opposed certain social reforms. The Centre joined the Right in fighting socialism, but was more moderate in its foreign policies and less pro-clerical in sympathy. In contrast, the Left favored advanced social legislation, the extension of secular education, active measures toward disarmament, Franco-German rapprochement, and active co-operation with the League of Nations. It attacked the Tardieu ministry for the dissipation of the Treasury reserve, the heavy burden of military expenditures, the loans advanced to bankrupt nations and to insolvent private banks, and the increasing Franco-German tension.

The elections resulted in a decisive victory for the Left. The Radical Socialists made the

greatest gain, emerging with 160 seats, against 109 in the former Chamber. The Socialists increased their mandates from 112 to 131, but were displaced by the Radical Socialists as the largest single party in the Chamber. The principal losers were the Republican Democratic Union (including M. Marin's group of Nationalists), M. Tardieu's Left Republicans, and the Independent Radicals of the Centre. The standing of the main groups in the Chamber following the 1932 elections, with the comparative standings previous to dissolution, are shown in the accompanying table.

COMPOSITION OF THE FRENCH CABINET

	1932	1928
<i>Right (74 in 1932):</i>		
Conservatives .....	13	18
Republican-Democratic Union .....	43	102
Republican and Social Group .....	18	31
<i>Centre (146):</i>		
Popular Democratic party .....	17	18
Centre Republicans (Alsatiens) .....	7	3
Centre Republicans .....	36	..
Left Republicans .....	38	64
Radical Left .....	48	53
<i>Left (376):</i>		
Radical-Socialists .....	160	124
Independents of the Left .....	23	15
Republican and French Socialists ..	28	31
Left Independents .....	15	..
Socialists .....	131	100
Dissident Communists .....	9	..
Communists .....	10	12
<i>Other Independents .....</i>	<i>19</i>	<i>38</i>

**ASSASSINATION OF DOUMER.** On May 6, two days before the second ballot of the Assembly elections, President Paul Doumer was shot and mortally wounded by Paul Gorgoulou, a Russian fanatic. The Senate and the Chamber of Deputies had not yet been dissolved. They were summoned to meet in joint session on May 10 at Versailles, where Albert Lebrun, president of the Senate, was elected President of the Republic on the first ballot. The vote was: Lebrun (Republican Union), 633; Paul Faure (Socialist), 114; Paul Painlevé (Republican Socialist), 12; Marcel Cachin (Communist), 8. M. Painlevé had previously announced that he was not a candidate. Gorgoulou was tried before the Seine Court of Assizes. A jury on July 28 found him guilty of premeditated murder and he was executed on the guillotine. See DOUMER, PAUL.

**HERRIOT FORMS NEW MINISTRY.** Repudiated by the electorate, Premier Tardieu, on May 10, handed in the resignation of the cabinet to the newly elected President. He and his colleagues remained at their posts, however, until the new Chamber met early in June. His successor, by general assent, was M. Herriot, a former Premier and leader of the Radical Socialists. Rejecting a definite alliance with the Socialists under Léon Blum, Herriot on June 4 announced a ministry in which members of his own party held 13 of the 18 posts. The other five members were closely affiliated with the Left. The composition of the cabinet follows: Premier and Minister of Foreign Affairs, Edouard Herriot; Minister of Justice and Vice President of the Council, René Renoult; Interior, Camille Chautemps; War, Joseph Paul-Boncour; Marine, Georges Leygues; Air, Paul Painlevé; Finance, Louis Germain-Martin; Budget, Maurice Palmade; Education, Anatole de Monzie; Colonies, Albert Sarraut; Public Works, Edouard Daladier; Commerce, Julien Durand; Labor, Albert Dalimier; Agricul-



ture, Abel Gardey; Mercantile Marine, Léon Meyer; Posts, Telegraphs and Telephones, Henri Queuille; Pensions, Aimé Berthod; Public Health, Justin Godart.

The cabinet, including five former Premiers and 17 with previous Ministerial experience, won an overwhelming vote of confidence—390 to 150—on its first test before the Chamber June 7.

At the outset of his administration, Premier Herriot confronted five main problems and innumerable minor ones. The chief issues were: (1) Disarmament, particularly the German demand for the abolition of the armament clauses of the Versailles treaty; (2) German reparation, a problem linked with that of the economic rehabilitation of Europe; (3) the strained state of Franco-Italian relations; (4) the French debt to the United States and commercial relations with that country; and (5) the problem of balancing the French budget. The Lausanne Conference on reparation and the Disarmament Conference at Geneva were both in session during the second half of June and M. Herriot was forced to divide his time among Paris and the two Swiss cities.

In outlining his policy before the Chamber June 7, M. Herriot dwelt particularly on reparation and disarmament. While France was ready to promote "greater world stability or loyal reconciliation in peace," she could not "permit those rights to be contested which are the outcome not only of treaties but of contractual agreements protected by the honor of the signatories." Regarding disarmament, he promised to favor measures "within the framework of the (League) covenant and in the spirit of the Pact of Paris which will permit, without compromising national security, the lightening of military charges. . . ."

These theses he eloquently and, in part, successfully maintained at Geneva and Lausanne. The reparation settlement (see REPARATIONS AND WAR DEBTS) greatly increased Herriot's prestige in France and he was acclaimed by virtually all parties when he returned to Paris from Lausanne on July 10. At Geneva he presented the French disarmament case in the most favorable light, but the outcome satisfied neither the advocates of peace nor the apostles of force in France (see DISARMAMENT).

THE BUDGET CRISIS. Meanwhile in parliament had commenced the battle over the budget. When M. Herriot assumed office he found that the Treasury reserve of more than \$80,000,000 accumulated between 1927 and 1929 had been reduced to \$2,800,000. Moreover there was an accumulated budget deficit of about \$422,520,000 and a prospective deficit of \$260,000,000 for the nine months ending Dec. 31, 1932 (see *Finances*). Accordingly, in the revised estimates for April–December, 1932, submitted to Parliament July 1, provision was made for new taxes aggregating \$56,000,000 and economies of \$104,000,000. The economies consisted chiefly of \$60,000,000 to be cut from appropriations for national defense and a 5 per cent reduction in all governmental salaries and pensions. The new taxes were bitterly protested by the taxpayers, while the Left parties in parliament proved reluctant to support the reduction of pensions and salaries. The budget bill, badly mutilated, was finally passed on July 11, 306 to 172, with the Socialists voting in the opposition. On July 16, the Chamber voted, 381 to 30, to issue 2,000,000,000 francs of

Treasury bonds to meet immediate financial needs.

As part of its financial programme, the Ministry in September carried through the largest conversion loan in French history. All of the 5, 6, and 7 per cent government bonds issued in 1915, 1916, 1920, 1927, and 1928 were converted into a single 4½ per cent loan, which was tax exempt and amortizable in 75 years. The total amount involved was about \$3,400,000,000. After the necessary legislation had been passed at a special two-day session of parliament—September 16 and 17—the conversion operation was virtually completed by October 4. It was expected to save about \$40,000,000 annually in interest payments, but the steady decline in governmental receipts indicated that further economies or new sources of income were necessary to avert a deficit variously estimated at \$320,000,000 to \$400,000,000 for 1933. As a major aid in balancing the budget, the government studied ways of reducing the cost of living, which was extremely high in France, compared with most countries. Meanwhile the gold reserve of the Bank of France continued to increase, rising to 83,233,000,000 francs on November 17, the largest reserve in the Bank's history.

FARM RELIEF. In October the sudden decline in the price of wheat to a point considerably below the estimated cost of production offered a new and pressing problem to the Herriot government. The Ministry took measures closely resembling those of the Farm Board in the United States, holding more than 6,000,000 quintals (about 22,000,000 bushels) off the market, but the price continued to decline. How to increase wheat prices without forcing a rise in living costs presented a dilemma. The ministry's reluctance to take further drastic measures to support wheat caused a great outcry in the wheat-growing regions of the country, accompanied by the resignations of about 200 mayors of small communities and the threat of a taxpayers' strike.

THE SENATORIAL ELECTIONS. The triennial elections to fill one-third of the seats in the Senate were held October 16. The Left groups affiliated with the Herriot Ministry increased their representation in the 111 seats filled by only 12 to 15 seats, less than the number anticipated. The Democratic Left, corresponding to the Radical Socialists in the Chamber of Deputies, captured four new seats, which assured them of a virtual majority. The composition of the new Senate, with the previous standing of the parties in parentheses, was as follows: Democratic Left, 155 (150); Republican Union, 71 (71); Democratic and Radical Union, 37 (34); Socialists, 17 (16); Republican Left, 15 (20); Conservatives, 6 (9); Independents, 13 (12).

HERRIOT'S FOREIGN POLICY. The international position of France in 1931 had aroused much anxiety (see 1931 YEAR BOOK). Although France had decisively defeated Germany's attempt to challenge her hegemony in Europe, she had done so at the cost of increased tension with both Germany and Italy and of hostile sentiment in Great Britain and the United States. The Soviet Union was angered at the French embargo on her exports. When Premier Tardieu regained power in February, 1932, he sought to end France's diplomatic isolation among the Great Powers by tacitly supporting Japan in the Sino-Japanese dispute over Manchuria. His policy produced a storm of protest in France as well as in Europe.

The Left leaders charged that he was sabotaging the League of Nations and paving the way for the forceful repudiation of the Treaty of Versailles. Tardieu's foreign policy was an important cause of his defeat in May.

The advent of Herriot to power brought a striking reversal in French policy. At Lausanne he strove to conciliate the Germans by virtually wiping out reparation claims while maintaining the legality of the Versailles Treaty. He also concluded at Lausanne a new entente with Great Britain (see GREAT BRITAIN under *History*), in which the British agreed in substance not to side with Germany against France and not to accept debt concessions from the United States which were withheld from France. Also, M. Herriot brought about a great improvement in Franco-Soviet relations, although the ratification of the non-aggression pact signed by French and Soviet representatives in 1931 was delayed until November 29 by Rumania's refusal to conclude a similar pact until the Soviet Union recognized the cession of Bessarabia to Rumania (see RUMANIA under *History*). Poland, another French ally, ratified a non-aggression pact with the Soviet Union without waiting for Rumania to act (see POLAND under *History*). The French policy of rapprochement with Russia was designed to end the possibility of a Russo-German combination against France, which had appeared imminent on several occasions after the signing of the Rapallo treaty in 1922. The new Franco-Soviet intimacy was indicated by the signing on August 9 of a contract by which one of the largest French oil importing agencies agreed to purchase all its crude oil and refined petroleum products for the years 1932 to 1937, inclusive, from the Soviet government.

Improvement in Franco-American relations was noted in the early autumn of 1932 as a result of French support of the Kellogg-Briand pact against Japan in Manchuria. Like the hasty efforts to push through the non-aggression pacts between her allies and the Soviet Union, the French position on the Kellogg-Briand pact was the direct result of the threatening developments in Germany (q.v.). Previously Herriot, as well as Tardieu, had been cordial toward the Japanese. French interests in Indo-China and South China were similar to those of Japan in Manchuria. By the treaty of June 10, 1907, France and Japan agreed to reciprocally uphold their respective rights and interests in specific regions in China. Moreover, Japan in the first seven months of 1932 increased her purchases from France, while French exports to other countries were rapidly declining. According to the diplomatic correspondent of *The Sunday Times*, London, Gen. Henri Claudel, French member of the Lytton commission, exerted his influence to mitigate the severity with which Japan was censured in the original draft of the Lytton Report.

Viewing the ominous tone of the von Papen government in Germany, the Herriot government apparently decided that its best interests lay in cooperation with the United States. It was believed that if France stood with the United States in supporting the Kellogg-Briand pact in Manchuria, America would be morally bound to stand with France in supporting the pact against Germany or Italy. Likewise, support of President Hoover's disarmament proposals seemed the only practical way to secure the backing of the United States in opposing the rearming of

Germany. Informal conversations between Premier Herriot and Senator David Reed and Norman Davis, special representatives of the American State Department, in which the question of war debt payments was believed to have been raised, served further to convince the Premier (see REPARATIONS AND WAR DEBTS). On September 22 a spokesman for the French Foreign Office announced that France had no intention of recognizing Manchoukuo (see JAPAN; LEAGUE OF NATIONS). It was reported October 8 that France had rejected a Japanese offer of a formal alliance. However, with the renewal of the war-debt controversy toward the end of November, Franco-American relations became noticeably less amicable.

Franco-American relations early in the year were adversely affected by the numerous import quotas decreed by the French government in an attempt to redress the increasingly adverse trade balance. These restrictions seriously curtailed imports from the United States into France and aroused charges of discrimination among American business interests. The situation was relieved, however, when on May 1 Ambassador Edge and Premier Tardieu exchanged notes in which France agreed to give the United States most-favored-nation treatment in all matters relating to quotas and restrictions on imports, and to increase allotments on a number of articles exported from the United States. On August 22 negotiations were begun in Paris for a commercial treaty to replace the existing *modus vivendi*. A treaty signed by Premier Tardieu and Ambassador Edge at Paris until April 27, after two years' negotiation, regulated taxation between France and the United States. A major feature of the treaty was the elimination of the French "double taxation" levied on the income of American corporations having subsidiaries in France. The negotiations for a Franco-American commercial treaty were broken off following France's default on the December 15 debt payment to the United States.

Franco-Spanish relations were also improved as a result of the advent of a Left government in France and the establishment of a republican régime in Spain. On October 31, Premier Herriot visited Madrid for the purpose of furthering the rapprochement of the two governments. Rumors that a Franco-Spanish military understanding was arrived at, although officially denied in Paris and Madrid, caused hostile demonstrations among Spanish students.

Meanwhile Franco-German relations were approaching a state of tension probably worse than at any other time since the World War. Herriot's concessions with regard to reparation were followed on August 29 by the demand of the von Papen-Schleicher government that Germany be authorized to reorganize and increase her army. In a memorandum of September 12, which was supported by the British and American governments, the Herriot Ministry declined to permit Germany to rearm in violation of provisions of the Versailles Treaty unless rearmament was first approved by the League of Nations and the other interested powers. However, before the Disarmament Conference Bureau at Geneva November 3, M. Herriot submitted a new disarmament plan designed to solve the problem raised by the German demand for equality, which resulted in Germany's return to the Conference (see DISARMAMENT).

Despite Franco-German friction, the joint economic commission established as a result of the visit of Premier Laval and Foreign Minister Briand to Berlin in September, 1931, continued to function. On Nov. 16, 1932, Raymond Patenôtre, French Under Secretary of State for National Economy, announced a project, formulated by the commission, for French-German-British financial and industrial consortiums to stimulate an industrial revival in Europe through the financing of public works programmes in various countries. The most optimistic view of the project in British banking circles was that it might develop gradually.

In other foreign fields, also, Herriot's policy was not so successful. Relations with Italy remained highly unsatisfactory and it was generally believed in France that internal conditions in Italy were forcing Mussolini into a diplomacy dangerous to the peace of Europe (see ITALY under *History*). On Nov. 14, 1932, the detailed Franco-Italian negotiations for an agreement on naval limitation, broken off in April, 1931, were resumed at Geneva. Subsequently Premier Herriot made several conciliatory gestures toward Premier Mussolini. Hungary, which France had succeeded in detaching from Italy's orbit in 1931 by means of a sorely-needed loan, returned to its former alignment when the pro-French Karolyi Cabinet was succeeded by Julius Gömbös and a pro-Fascist ministry (see HUNGARY). Turkey, also, appeared to be coming into closer touch with Italy (see TURKEY).

These developments presented France with two alternatives. She might strengthen her system of alliances against a resurgent Germany, in which case she could expect little sympathy or support from the United States and Great Britain. Or she could abandon the balance-of-power policy and join the United States in enforcing the Kellogg-Briand pact and promoting disarmament along the lines suggested by President Hoover. Herriot, in his speech before the League of Nations Assembly September 29, indicated that he was seriously considering the latter alternative. But it was extremely doubtful whether he could persuade France to accept it as a permanent policy.

Moreover, both the United States and Great Britain continued to withhold definite guarantees of military aid in case France was attacked—guarantees which the French had demanded ever since 1919 as a condition to further reduction of French armaments or the freeing of Germany from the Versailles armament restrictions. On October 13 and 14, Premier Herriot visited London with a view to securing such guarantees from the MacDonald government and thus making concessions which would induce Germany to reenter the Disarmament Conference. The effort failed.

**THE FALL OF HERRIOT.** The conciliatory and forward-looking policy by which Herriot was gradually reshaping the political alignment in Europe was halted by his defeat in the Chamber of Deputies on December 14. Herriot fell as a result of his insistence upon meeting the war-debt payment of \$19,261,432 due to the United States government on December 15. Early in November, the British and French governments had asked the American government for an extension of the Hoover moratorium and a reconsideration of the whole war-debt problem. Following several interchanges of notes, Washington on December

7 and 8 notified Paris and London that while the American government did not consider the suspension of the December 15 payment necessary, it was nevertheless "prepared through whatever agency may seem appropriate" to survey "the entire situation" after the payments had been made.

Premier Herriot and Prime Minister MacDonald, at a conference in Paris on December 8, decided to meet the December 15 payments, on the understanding that the sums paid would be deducted from the sum agreed on in a final settlement. On December 11, Secretary of State Stimson informed the British government that the United States could not approve any agreement inconsistent with the terms of the existing debt agreements, but that no objection was offered to a "statement of the views" of the British government as to the subsequent reexamination of the debt problem. The British government substantially accepted this interpretation on December 13. However, the French Chamber rejected, 402 to 187, Herriot's impassioned appeals for authority to make the December 15 payment subject to the understanding that France thereafter would pay nothing until a new general settlement was reached. The Premier was forced to resign. On the same day (December 13) the Chamber, by a vote of 380 to 57, declared that it would have authorized the December 15 payment if the American government had accepted a debt conference. The resolution stated that "the response addressed on December 11 to the British government by the Secretary of State of the United States no longer permits the Chamber to persevere usefully in this way of thinking. . . ." The resolution invited the French government to defer payment, and in accord with the other debtors to convene an international conference "to put an end to all international transfers not having a counterpart."

**THE PAUL-BONCOUR MINISTRY.** President Lebrun immediately called upon Herriot to form a new cabinet, but the Radical-Socialist leader refused to hold the Premiership or to participate in any cabinet. After Camille Chautemps had tried and failed, Senator Joseph Paul-Boncour, a former Socialist, on December 18 formed another ministry representing the Left groups and including many of M. Herriot's cabinet members. The cabinet was notable for the fact that none of the members had voted against payment of the debt installment to the United States and that it included Henry Chéron as Finance Minister. The full cabinet lineup was: Premier and Minister of Foreign Affairs, Joseph Paul-Boncour; Justice, Abel Gaidey; Interior, Camille Chautemps; War, Edouard Daladier; Marine, Georges Leygues; Air, Paul Painlevé; Finance, Henry Chéron; Education, Anatole de Monzie; Agriculture, Henri Gueuille; Colonies, Albert Sarraut; Labor, Albert Dalhmer; Merchant Marine, Leon Meyer; Posts and Telegraphs, Laurent Eynac; Commerce, Julien Durand; Pensions, Adrien Mielliet; Public Works, Georges Bonnet; Health, Charles Danielou. On December 22, the Chamber of Deputies gave the new cabinet a vote of confidence, 365 votes to 215.

On the following day, Finance Minister Chéron informed the Chamber that there remained in the Treasury only 212,000,000 francs (about \$8,268,000). He secured permission to issue bonds for 5,000,000,000 francs (about \$198,000,000) to meet current expenses pending the voting of the

1933 budget. Debate on the budget had scarcely begun by the end of the year. Before parliament rose for the New Year recess, however, both chambers passed a bill empowering the Treasury to guarantee a loan of 350,000,000 francs (\$13,700,000) to Austria, in accordance with a plan of financial assistance formulated by the League of Nations in an effort to prevent further collapse in Austria and Central Europe. The text of a Franco-German commercial agreement, which dealt a severe blow at the most-favored-nation principle, was made public on December 29. It superseded the 1927 Franco-German treaty.

**OTHER EVENTS.** France sustained the loss of important public figures during 1932, notably Aristide Briand, Jules Jusserand, former Ambassador to the United States, and Albert Thomas, head of the International Labor Office. See the biographies of each. The Breton autonomy movement gained wide notoriety, if few adherents, by the bombing of the great bas-relief at the Rennes City Hall. The bas-relief, symbol of the union of France and Brittany in 1532, was wrecked by the explosion, which took place in August during celebrations of the fourth centenary of Franco-Breton unity. The new French submarine *Prométhée* foundered near Cherbourg on July 7 while undergoing trials; 62 members of the crew were lost. It was reported in November, but not confirmed, that France had drawn up an agreement with Monaco to assume control of Monaco's customs and finances in return for a cash payment and an annuity. See **MONACO**, **POLAND**, **MOROCCO**, and **SPAIN** under *History*.

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**FRANKLIN.** See **NORTHWEST TERRITORIES**.

**FREDERICK AUGUSTUS.** Former King of Saxony, died in Breslau, Germany, Feb. 18, 1932. Born in Dresden May 25, 1805, he attended Strassburg and Leipzig Universities and then entered the army, attaining in 1902 the rank of commanding general of the Twelfth German Army.

During 1891 he married Princess Louise of Tuscany, whom he divorced in 1903 following her elopement with André Giron, his son's tutor. He succeeded his father George on the throne Oct. 15, 1904, taking the title Frederick Augustus III. After his abdication on Nov. 13, 1918, he founded a mercantile corporation, called the House of Wettin-Albertine Line, Inc.

**FREEMAN, JOHN RIPLEY.** An American civil and mechanical engineer, died in Providence, R. I., Oct. 6, 1932. He was born in West Bridgeton, Me., July 27, 1855. Following his graduation from the Massachusetts Institute of Technology in 1876, he was an assistant engineer for 10 years with the Lawrence (Mass.) Water Power Co. He then established his own practice as a consulting engineer on water power, mill construction, and fire protection, and during 1886-96 was chief engineer on hydraulic problems for the Associated Factory Mutual Insurance Companies. In 1896 he was elected president and treasurer of the Manufacturers, Rhode

Island, and Mechanics Factory Mutual Insurance Companies, and after 1903 held similar offices with the State, Enterprise, and American companies.

As a consulting engineer on water supply, he was appointed in 1895 one of the original members of the Massachusetts Metropolitan Water Board, and in 1903 became chief engineer of investigations for construction of the Charles River Dam and improvement of Boston harbor, and consulting engineer for the Boston Metropolitan Park Commission on sanitary and drainage problems. He was also a member of the special commission that studied the problem of additional water supply for New York City, and after 1905 was consulting engineer to the New York Board of Water Supply. After 1910 he held a similar position with the San Francisco Board of Water Supply, being consulting engineer on the Hetch Hetchy project. In 1924 he was consulting engineer to the Chicago Engineering Board of Review in connection with the establishment of the Chicago Sanitary District. Among other cities for which he made extensive water supply studies were Nashua, Los Angeles, and Baltimore.

During 1906-07 Freeman was in charge of the water power investigations for the New York State Water Supply Commission. His advice was sought also in connection with the Panama Canal locks and dams, water power developments on the Feather River in California and the St. Lawrence River, and regulation of the level of the Great Lakes. The Canadian government consulted him in regard to water power conservation in 1910, and the Chinese government on development of its Grand Canal project in 1917-19. During the World War he acted as chairman of the National Advisory Committee for Aeronautics. He was also a fellow of the American Academy of Arts and Sciences. In 1904 he served as president of the American Society of Mechanical Engineers and in 1922-23 as president of the American Society of Civil Engineers, whose Normal Medal he twice received for the best contribution to its *Transactions*. He financed the translation of *Die Wasserbauabhandlungen Europas* and its publication in English under the title of *Hydraulic Laboratory Practice* (1929).

**FREEMASONRY** has been authoritatively defined as "a system of morality, veiled in allegory and teaching by symbols." For its early history consult the article entitled **MASONS** in Volume XV of **THE NEW INTERNATIONAL ENCYCLOPEDIA**, pages 193 to 199. In 1717 four lodges in London united to form the first Grand Lodge whose constituents now (1932) number a total of 4652 subordinate lodges, of which London has 1130; 2799 are distributed among 40 "provinces" in England (mostly counties), 3 in Wales, 2 in the Channel Isles, and 1 in the Isle of Man; 654 lodges are in 33 oversea "districts," including 9 in Africa, 5 in New Zealand, 4 in India, and 1 each in Barbados, British Guiana, Burma, Ceylon, Northern China, Eastern Archipelago, Egypt and the Sudan, Gibraltar, Hong Kong and South China, Jamaica, Japan, Malta, Newfoundland, Queensland, and South America. Most of the self governing dominions now have their own independent grand lodges but three in Canada retain their allegiance to the "Mother Grand Lodge." Sir Harry Goschen, Grand Treasurer of this premier grand body, reported at a

recent communication, a balance of £1,436,973 in its two principal funds. The sum of £72,324 had been raised for the Benevolent Institution for Aged Masons and their widows, founded in 1832, and nearly £125,000 for the Royal Masonic Institution for girls, founded in 1788 and having now about 1400 pupils. On April 27, within one month of his 82d birthday, the Duke of Connaught, brother of the late King Edward, and a Master Mason since 1875, was again installed as Grand Master, after serving 31 years. On the same occasion Lord Amptill was installed as Pro Grand Master and Lord Cornwallis as Deputy Grand Master. On May 13, at Farnborough, Hampshire, Leese-Warre Lodge (military) was opened under a charter from the Grand Lodge of Ireland (which thus for the first time officially entered England), with its Grand Master, the Earl of Donoughmore, and other Grand officers in attendance. On July 9 the *Freemasons' Chronicle*, founded in 1857, published its 3000th issue. On Aug. 3 the imposing new Temple at 52 Gt. Queen St., London, headquarters of the "Mother Grand Lodge" was occupied for the first time by the Supreme Grand Chapter R. A. M., although it is yet far from completed. In the same month a handsome new Temple, erected at a cost of £28,000, was dedicated at Sunderland, and in September another was opened at the east end of Greenock.

IN THE UNITED STATES Masonry dates back to colonial times when it was transplanted from Britain. All of the early American lodges were under the ægis of the "Mother Grand Lodge"; but after the Revolution, separate grand lodges were formed here and to-day, every State and territory of the American Union, except Alaska and Hawaii, has its own Grand Lodge. The outstanding national Masonic event of the year was the dedication on May 12, in the presence of President and Mrs. Hoover and Masonic dignitaries and thousands of Masons from various parts of the country, of the "George Washington Memorial Temple" at Alexandria, Va. The dedicatory oration was delivered by Past Grand Master Melvin M. Johnson of Massachusetts, and a parade of Masonic bodies of every rite and class took place in spite of a drizzling rain. The new Temple (built on the model of the Pharos at Alexandria, Egypt) stands on "Shooter's Hill," once considered as a site for the nation's Capitol, and commands a wide view of the landscape. The funds for its construction came from Masonic bodies widely diffused as well as from individual Masons. Among the numerous fraternal greetings from all over the world, came an elaborate one from the "Mother Grand Lodge," reciting that Washington's "portrait has for many years held an honoured place at the head of the staircase leading to our Temple." Following the dedication the National Ass'n of Masonic Librarians and Educators met in the new building.

Despite the depression the Grand Master of a southern State reports the attendance of some 30,000 Masons during his fraternal visits of the summer months and a spirit of steadfastness prevailing. More than 1000 attended a recent exemplification of the third degree by Evergreen Lodge No. 51 at Tacoma, former State Senator Walter J. Thompson, 60 years a Mason, acting as Junior Warden. The Appellate Division of the New York Supreme Court dismissed the suit of the Cerneau (irregular) bodies against the Grand Commander of the Northern Supreme Council.

The Philippine Grand Lodge, combining lodges of both Spanish and American origin, celebrated its 20th anniversary and chartered Amity Lodge No. 106 at Shanghai, composed largely of Chinese Masons, and the Filipino Grand Master, with a party, paid an official visit to the latter in September.

IN OTHER COUNTRIES, the order was introduced either directly from England or through some continental country, usually France, where it underwent a change, both of substance and polity, so that a distinctive type of Gallican Masonry has emerged, differing not a little from the original Anglican. Certain Latin-American countries, including Argentina, Paraguay, and Uruguay, report changes during the year from the former to the latter. The Grand Lodge of Bolivia, opened June 24, 1931, under a charter from that of Chile, started in the Anglican form. A bill was introduced into the Bolivian Congress to suppress all secret societies, and especially the Masons, but failed of passage. A new lodge (Baldur) was formed in Brussels to work in the Flemish language. Amizade Lodge, under the jurisdiction of the Grand Lodge of São Paulo, Brazil, celebrated its centenary on May 13, an enlarged temple is planned there and various Brazilian Grand Lodges have entered into fraternal relations with the Grand Lodge of Kentucky. In Czechoslovakia the Grand Lodge *Lessing zu Den Drei Ringen*, organized in 1920, is limited to German speaking members while the Grand Lodge of Czechoslovakia is for Czech speakers; but the relations between the two seem harmonious. There are three Grand Lodges and one Supreme Council in Colombia. The Supreme Council of Ecuador reports valuable accessions to its membership. On May 22 Lodge L'Anglaise of Bordeaux celebrated its bi-centennial. Grand Commander René Raymond of the French Supreme Council presided and spoke of the fine spirit of progress displayed. A prize has been awarded for the new history of the Supreme Council. In the Hungarian Parliament Deputy Eugene Gál demanded the removal of the ban against Masonry which has existed in that country since 1920. In Italy, under the Fascist régime, a similar situation still exists. The Grand Lodge of Ireland held its annual communication in Freemasons' Hall, Dublin. The Deputy Grand Master reported a year of progress, warrants issued for two new lodges, one new hall completed, another, at Antrim, under construction and increased subscriptions. A Masonic pillar in St. Anne's Cathedral, Belfast, was dedicated. The Netherlands Supreme Council extended its activities to South Africa, instituting a new "areopagus" (Goede Hoop) at Cape Town and another (Unie) at Bloemfontein. Grand Commander Dop was succeeded by Lt. Grand Commander Tongeren. In New Zealand the Grand Lodge treasury showed a cash balance of £141,092, a Masonic Home for boys had been opened at Papakura, and Lord Bledisloe, Governor General, was installed as Grand Master, taking as the theme of his inaugural address, "Masonry in the Pacific" and declaring "unless we are misnamed our function is to build." Members of Scarboro Lodge No. 653 of Agincourt, Ont., made a literal application of this idea by reverting temporarily to the "operative" stage and building their own temple, including the work of excavation. A new Grand Lodge was formed in Palestine by seven lodges chartered by the Grand Lodge of Egypt; the Grand Lodges of England

and Scotland, both of which have subordinate lodges in Palestine, as yet withhold recognition. Grand Commander Magahaes, newly elected in Portugal, is a former minister of war and a professor in the army school. Four or five members of the Spanish cabinet are reported as Masons but the order announces its firm opposition to communism. *La Revista Masónica* appeared at Caracas as the official organ of the Venezuelan Grand Lodge. An international Masonic Congress, with delegates from twenty-six countries, met at Constantinople and Masonic representatives appeared at the Philosophical Congress in honor of Spinoza at The Hague in August.

The new *History of the Ancient and Accepted Scottish Rite* by Charles S. Lobingier, 33°, appeared under the auspices of the Mother Supreme Council in December.

**NECROLOGY.** Among the eminent Masons who died during the year were Demetrios Papoulias 33° (1879–July 13, 1932), Grand Master of the Grand Orient of Greece; Dr. John H. Salter, Dept. Prov. Gr. Master of the Province of Essex, Eng.; Perry W. Weidner, 33° (Oct. 8, 1871–Aug. 16, 1932), active member of the Mother Supreme Council and Grand Master of American Knights Templar; Domizio Torrigiani, 33° (1877–1932), Past Grand Master of Italian Masons and Grand Commander of their Supreme Council; Leon M. Abbott, 33° (Aug. 28, 1867–Oct. 10, 1932), Grand Commander of the Northern (Am.) Supreme Council; Col. Claude Cane, 33°, Lieut. Commander of the Supreme Council of Ireland and Deputy Grand Master of its Grand Lodge; and Melville R. Grant, 33° (Nov. 25, 1850–Dec. 21, 1932), active member of the "Mother Supreme Council." The bicentennial of Washington and the centenaries of Goethe and Scott, were especially observed by Masons, not only in their own but in other countries and served to remind the world that these three notables were all Masons.

**FRENCH, DANIEL CHESTER, EXHIBITION OF WORKS.** See SCULPTURE

**FRENCH ACADEMY.** See ACADEMY, FRENCH.

**FRENCH ARCHITECTURE.** See ARCHITECTURE

**FRENCH ART.** See ART EXHIBITIONS; ART MUSEUMS.

**FRENCH CAMEROON.** See under CAMEROON.

**FRENCH CONGO.** See FRENCH EQUATORIAL AFRICA.

**FRENCH EQUATORIAL AFRICA.** A French possession in Africa on the Atlantic coast between the territories of the Belgian Congo and British Cameroons. Area, 912,049 square miles; population, 1931 census, 3,196,687, of whom 4687 were Europeans. The possession comprises the four colonies of Gabun, Middle Congo, Ubangi-Shari, and Chad. Brazzaville, with 4000 inhabitants, is the capital. In 1930 there were 65 native schools with 4608 pupils, and 81 private missionary schools with 5325 pupils.

The products are ivory, rubber, coffee, cacao, palm oil, and cotton. Copper, zinc, and lead are found. In 1930 imports were valued at 591,790,464 francs and exports at 197,510,133 francs. The general budget for the four colonies balanced at 86,875,000 francs in 1932 (1 franc equals \$0.0392 at par).

The governor-general has general supervision, but each colony is locally governed by a lieutenant-governor, aided by an administrative

council. Governor-General in 1932, Rafael Antonetti, appointed in July, 1924.

**FRENCH GUIANA, gè-à'nà.** A French colony and penal settlement on the northeast coast of South America. Area, about 34,740 square miles; population at the census of 1926, 47,341. Cayenne, a seaport, with 13,936 inhabitants in 1926, is the capital. The population figures do not include the number in the penal settlement of Maroni, in which there were 4000 prisoners in 1929, the floating population of miners, French officials, or native tribes.

The extensive forests are rich in timber. Only about 7900 acres are devoted to agriculture. Placer mining for gold is the chief industry. Other minerals produced are silver, iron, and phosphates. The total imports in 1931 were valued at 42,699,000 francs and exports at 30,154,000 francs (1 franc equals \$0.0392 at par). The principal exports were gold, rosewood essence, various woods, phosphates, cacao, balata, and hides. The budget for 1930 balanced at 16,370,965 francs; the public debt was 635,000 francs.

The colony is administered by a governor who is aided by a privy council and by a council-general elected by French citizens in Guiana, and is represented in the French Parliament by one deputy. Governor in 1932, M. Bouge.

**FRENCH GUINEA, gín'f.** An Atlantic coast colony of French West Africa, bounded on the south by Sierra Leone and Liberia; north by Portuguese Guinea and Senegal; and east by the Ivory Coast and French Sudan. The colony is administered by a lieutenant-governor under the governor-general of French West Africa. Lieutenant-Governor in 1932, M. Vadier. See FRENCH WEST AFRICA.

**FRENCH INDIA.** The name given to the group of five French dependencies in India, of which the chief is Pondichéry. Area, about 196 square miles; estimated population in 1931, 286,410, divided among the five dependencies as follows: Pondichéry, 183,555; Karikal, 57,914; Chandernagor, 27,262; Mahé, 12,430; Yanaon, 5249. French residents numbered about 1035. The chief towns with 1931 populations follow: Pondichéry, the capital, 43,449; and Karikal, 17,558.

Rice, ground-nuts, and manioc are the chief crops. Imports, in 1930, totaled about 184,042,407 francs; exports, 219,985,488 francs (franc equals \$0.0392 at par). In 1931 the budget was estimated to balance at 2,890,320 rupees (rupee averaged \$0.3369 in 1931).

The governor is assisted by an elective general council. French India is represented in the French Parliament by one Senator and one Deputy. Governor in 1932, Adrien Juvanon, appointed in 1930.

**FRENCH INDO-CHINA.** A French possession in southeastern Asia, comprising the colony of Cochín-China; the protectorates of Annam, Cambodia, Tongking (Tonkin), and Laos; and Kwangchow (Kwangchowwan), which was leased from China in 1898. French Indo-China is bounded on the east by the South China Sea, on the west by Siam and Burma and on the north by China. The capital is Hanoi, but during certain seasons of the year, when climatic conditions are oppressive, the government offices, including the courts, remove to Saigon. The area and population are shown in the accompanying table.

Of the total population in 1931, only 42,000 were Europeans. The populations of the chief cities in 1931 were: Saigon, 122,000; Cholon

## FRENCH INDO-CHINA: AREA AND POPULATION

Division	Capital	Area (sq. miles)	Population (1931 census)
Cochin China	Saigon	24,700	4,484,000
Cambodia	Pnom-Penh	67,800	2,806,000
Annam	Hué	58,000	5,122,000
Tongking	Hanoi	44,700	8,096,000
Laos	Vientiane	89,400	944,000
Kwangchow	Fort Bayard	300	250,000*
Total		284,900	21,702,000

\* Estimated.

(Cochin-China), 134,000; Hanoi, 124,000; Pnom-Penh, 90,000; Hué, 31,885; Binh-Dinh (Annam), 147,199; Haiphong, 122,000; Vientiane, 28,000.

PRODUCTION. Agriculture, mining, and fishing are the principal industries. The territory tributary to Saigon is one of the great rice-growing regions of the world; the rice crop of the entire country in 1930 was about 1,500,000 metric tons, of which 1,121,000 tons were exported. The exportable rice surplus in 1931 was estimated at 1,700,000 metric tons. The price of rice per 100 kilos (220 pounds), however, had fallen from \$4.67 on Jan. 1, 1930, to \$2.94 on Jan. 1, 1931. As the rice crop normally accounts for about 65 per cent of the total value of exports, the price decline resulted in severe economic depression. Rubber, sugar, cinnamon, and tea are other farm products, while the minerals exploited are coal, phosphates, zinc, antimony, tin, wolfram, graphite, and lead. Rubber exports in 1930 totaled 7738 metric tons (8700 in 1929). The total value of mineral production in 1928 was 18,460,000 piasters (\$9,245,000). In 1930, the output of coal and lignite was 1,955,000 metric tons; of zinc, 15,900 metric tons; tin, 1017 metric tons, phosphate rock, 30,300 metric tons.

COMMERCE. The states of French Indo-China, including Annam, Tonking, Cochinchina, and Cambodia, were united in a Customs union in 1887. In 1931, total exports amounted to 1,148,000,000 francs and total imports to 1,292,000,000 francs (1 franc = \$0.0392). In 1930, exports to France were valued at 526,059,000 francs (692,002,000 francs in 1929) and imports from France totaled 896,313,000 francs (1,013,278,000 francs in 1929). During the first half of 1931, exports to all countries dropped 50 per cent and imports declined 30 per cent in value, as compared with the same period of 1930. Rice, crude rubber, coal, fish and shrimps, and corn are the leading exports and cotton fabrics, metal manufactures, machinery and apparatus, silk fabrics, and kerosene are the leading imports.

FINANCE. There is a general budget for Indo-China and a separate budget for each of the component states. The ordinary general budget for 1931 balanced at 108,000,000 piasters (the piaster was stabilized at \$0.392 on May 31, 1930), the extraordinary budget totaling an additional 6,236,000 piasters. Opium, alcohol, and salt are state monopolies. The 1930 budget included a contribution of 11,891,000 piasters to France, representing a share in the cost of military and naval expenses. The public debt on Jan. 1, 1930 amounted to 353,000,000 French francs (10 francs = 1 piaster) and 6,600,000 piasters. The bank of Indo-China is the leading financial institution.

COMMUNICATIONS. There were 1488 miles of railway line in 1929, all government-owned but leased in part to private operators. The total

highway mileage in 1931 was reported at 19,931 miles, of which 8890 miles were paved. In 1929, a total of 1492 vessels in the overseas trade aggregating 4,527,867 tons entered the ports of French Indo-China and 1491 of 4,530,401 tons departed. The first airmail service from France to Indo-China was inaugurated Jan. 27, 1931. The telegraph and telephone system is owned by the Government. In 1932, the Government authorized a loan of \$9,800,000 for the following railway projects: A line from Pnom-Penh to Mongkolborey in Cambodia; lines from Tourane to Nhatrang, from Tanap to Thaket, and from Krongpha to Dalat in Annam.

GOVERNMENT. The central government is headed by a governor-general, assisted by a secretary general, a government council, and a grand council for economic affairs. A French resident-superior administers the affairs of each of the states, except Cochinchina, which is administered by a governor. Governor-General in 1932, Pierre Pasquier, appointed Aug. 22, 1928.

FRENCH IVORY COAST. See IVORY COAST.

FRENCH LANGUAGE. See PHILOLOGY, MODERN.

FRENCH LITERATURE. France has taken its full share in the celebration of the Goethe centenary, under the leadership of MM. Painlevé, Valéry and Monzie. An elaborate ceremony took place in the great amphitheatre of the Sorbonne in the early spring; Valéry pronounced the oration and the Comtesse de Noailles read a poem. The Bibliothèque Nationale had a special exhibit. The best known critics, A. Suarès, Thibaudet, J. Marie-Carré, and others, wrote articles or books; the translation of the two *Fausts* by Gérard de Nerval was issued in a new edition; and the Théâtre de la Porte Saint-Martin presented, in translation, Goethe's *Clavago*. There was bestowed on Premier Herriot, in recognition of the Goethe oration he had delivered, a commemorative medal made by the German Government in celebration of the centenary.

The most sensational event in the field of letters, however, was the publication in April of the *Grammaire de l'Académie française*. Nothing shows better the prestige of that famous corporation than the eagerness with which the book was purchased; 300,000 copies were sold in almost no time, and the firm that published it made a fortune. Unfortunately the book lent itself to sharp criticism, which brought out the fact that there had been previously a civil war in the very precinct of the Academy over this edition prepared under the direction of Abel Hermant, chairman of the grammar committee; and now it has been announced that a much corrected edition will be issued. The attacks upon the book were numerous, the most serious being that of the dean emeritus of the Faculté des Lettres of the University of Paris, Ferdinand Brunot, and the most witty that of Baudy de Saunier. A summary of this battle royal by Prof. William L. Schwartz, of Leland Stanford University, will be found in *Modern Language Journal* (November issue). See also PHILOLOGY.

The literary progress of the year was marked by a feverish activity. But great as was the output of fiction, the larger part consisted of valuable contributions to national literature. The *roman populiste* movement, in which many had moderate faith when it asserted itself two or three years ago, showed continued strength. Its supporters are publishing a periodical *Nouvel-âge*,



edited by Poulaille, and to which men like Barbusse, Dabit, and G. Altman are steady contributors. A revival of war literature was noticeable also. However, the three most famous *prix de roman* were awarded to works in other fields.

The *Grand Prix du roman* of the French Academy was bestowed on *Claire* by Jacques Chardonne (pseudonym for Boutelleau), a work in which the author continues his searching psychological analysis, especially of women, which had previously attracted attention in such books as *L'Épithalame* and *Eva*. The *Prix Goncourt* went to Guy Mazeline, first a marine officer but since 1927 a man of letters. His novel *Les Loups* is a long-drawn picture (600 pages) of rather unpleasant, wolfish relations among families and friends in Le Havre; and the *Prix Femina*, to *Le Pari*, a first novel by Ramon Fernandez. The *Prix Renaudot* (given by journalists while awaiting the decision of the other juries) was bestowed on *Voyage au bout de la nuit* by Louis Ferdinand Céline (pseudonym for Dr. Destouches). This is also a first book; the author, after serving in the War, traveled extensively.

The *Grand Prix de littérature*, for the ensemble of an author's work, was awarded by the French Academy to Franc-Nohain (pseudonym for Maurice-Étienne Legrand). He is known as a witty journalist but has also produced works in various other fields, such as the theatre, biography, several collections of *Fables*, etc. The *Prix Lasserre*, awarded to works of a more philosophical character, the bestowing of which is in the hands of the Minister of Public Instruction, went to the brothers Marius and Ary Leblond, authors of (among other books) *Ulysse*, *Cafre*, and last year of *Les Martyrs de la République*.

**POETRY.** The important *Prix Moréas* was presented December 6 to Georges-Louis Garnier for his various collections of poetry, while the *Prix de Poésie Claire-Virenque*, for a work of spiritual tendency, was presented to Renée Zeller for her *Sainte-Catherine de Sienne* and other works. The *Prix de Poésie de la Société des Gens de Lettres* went to Jacques Cœurvières for *Hésitations*, and the *Prix Petit Didier* to Vincent Muselli for *Les Travaux et les jeux*. Several other such prizes were awarded.

A modern edition of the *Poèmes complets* of Marceline Desbordes Valmore was produced by B. Guégien. *Le Mercure de France* detected and published *Vers de collège*, by Rimbaud. Plon published the *Poésies complètes* of the late Charles Le Goffic (q.v.). The veteran poet Fernand Gregh offered *La Gloire du cœur*, in contrast with the *Poésie de l'intelligence* sponsored by Paul Valéry. Henri de Régnier, Pierre Jean Jouve, and Jean Cocteau published selections of their own poetic works, and Maurice Allem an anthology of *Poésie religieuse*. Widespread public regret was expressed when Albert Londres, the *chef de l'école effréniste*, died in a shipwreck. His last collection of verses was *La Marche à l'étoile*; it concerns six men who start on a search for a life of enthusiasm, but only the poet among them continues the quest to the end. Lucie Delarue-Mardrus added a new volume to her poetic work, *Mort et printemps*.

Probably the most original contribution to the poetry of 1932 was the publication of *Nemrod* by Raymond Schwob. Fragments had appeared here and there which had received much praise. This is a great symbolic poem in heroic verse, representing the reconciliation of the gods and man.

Charles Sébastien Leconte, in *Nuit à Getsemani*, sang, in the style of Leconte de Lisle, the poem of human suffering—in which, however, Pan receives almost as much attention as Christ. An amusing little volume, *Plein air*, by Jean Hercourt (Geneva), wished to free modern poets of the virus of Valéryan poetry and once more give free rein to fancy. About the same idea was found in Lise Lamarre's *Chants de la solitaire*, light feminine fancies that were crowned by the Academy. A profound pessimism, however, was expressed in *Voyage dans l'esprit* by a woman who signs herself Gilbert Mauge. A quite original note was found in *Fableaux* by J. M. Sollier, imitations of the medieval *fabliau* with modern topics.

A. Godoy, in *Marcel, poème dramatique*, offered a symbolic description of the ages of man (dawn, morning, noon, evening, night) in the tradition of Baudelaire and Mallarmé. There were also Max Jacob's *Rivages*, which assumes the style of Baudelaire, concealing the sombre under the grotesque and ugly, and the poems of former Dadaists (known to-day as Surrealists), who have by no means forgotten their attempt at mystification years past: Tristan Tzara's *Où boivent les loups*; Paul Eluard's *La Vie immédiate*; and André Breton's *Le Revolver à cheveux blancs*. The poetical periodical *Commerce*, in its issue No. XXVIII, attracted attention with striking contributions by Paul Claudel, Jacques Prévert, and Robert Desnos. An original book on the essence of modern poetry was Carl Suarès's *La Comédie psychologique*.

**THEATRE.** The unusual number of foreign plays offered has betrayed dissatisfaction with native productions. The Pitoëffs especially have borrowed from abroad. There have been a *Hamlet*, in the translation by Morand and Schwob (the one made for Sarah Bernhardt); Goethe's *Clavigo* (relating an episode of Beaumarchais's life); Schnitzler's *La Ronde* (an old play of 1903); Brooks and Lister's *Wall Street, 145*; the German Hans Chlumski's *Miracle de Verdun* (considered somewhat naive); and Stéphane Zweig's *24 Heures de la vie d'une femme* (in a gambling place), staged by Nozière.

Of the French plays a few were undisputed successes. Among the more popular, at the beginning of the year, was Pagnol's *Phaëton*—the story of an old scholar who finds at the age of 60 that his whole life, devoted to the editing of a newly discovered text by Plato, is wasted as the manuscript has been found to be spurious, and he regrets not having devoted his life to "jazz" (the original title of the play written several years ago). The year closed with Bourdet's *La Fleur des pois*, a new satire on the snobs of this modern world.

By far the majority of plays that made just a fair showing were of the type of disenchanting realism. Such was André Arsan's *Le grand Enfant*, in which a woman and her husband discover that life must be taken as it is, a succession of degrading compromises. Jacques Deval's *Mademoiselle* (given in New York soon after its presentation in Paris) was the story of a governess who, urged by her love for children, agrees to act as a substitute mother for her young mistress's child. Estève Passéur's *Tricheurs* treated of a Jew who cannot be loved and who yields spontaneously to a rival; the woman, touched by such magnanimity declares her willingness to love him, but he still refuses the sacrifice. Sacha Guitry, in



*Française*, presented a sombre drama, treating a similar problem. Pierre Wolff's *Belle de nuit* treated of the world of the "night owls." Jean Arnouilh, in *L'Hermine*, presented a romanesque Chatterton, who believes in his right to happiness; however, instead of killing himself when he cannot attain his end he plunges into a life of cynical revenge, like Julien Sorel. C. Puget, author of last year's successful *Ligne de cœur*, pictured in *Valentin, le désossé* a type of mystically disposed, disjoined night dancer of Montmartre. Marcel Piéchaud, in *Le favori* depicts family life as affected by internal strifes.

Plays with a symbolic meaning included Jules Romains's *Le Roi masqué*, which was produced at the Théâtre Pigalle and treats of a king who, tired of the ties of court formalities, escapes to Paris to enjoy association with an unsophisticated shop girl. There were also Jean Sarmet's *Le Plancher des vaches*, a comedy in which a young man who gives up a life of fancy free for a comfortable living and bourgeois ideals wants to return to his former life—away from the "plancher des vaches"; Marcel Achard's *Domino*, a clever farce in his characteristic style; and Charles Vildrac's *Le Jardinier de Samos*, a reminder of *Lysistrata*, in which a gardener, accused of doing nothing for his country in time of war, asserts his innocence and claims that he is entertaining the wives of the warriors while they are away. An amusing theory was presented in Francis de Croisset's *Il était une fois*, the purport of which was that an ugly woman is inherently wicked but when a beauty specialist has lifted her face, and so has remodeled her expression, she becomes the most suave of creatures. Edmond Sée's *Charité* treated the question, which is the stronger in love, Man or Woman? The answer is Man, but Woman knows how to take advantage even of Man's victory.

Freudianism and allied topics still prevailed. André Gide's *Œdipe-Roi* was presented in Brussels by the Pitoeffs. The subject of Lenormand's *Asie* was that of Medea in modern dress—a mother who kills her children out of hatred for her husband. In *Sortilèges*, by the same playwright, there was more of a leaning, however, toward occultism than toward Freudianism. The idea of reincarnation was treated by the famous author of *Maya* in *Bifur*; Reine, the heroine, reappears to her lover freed from the earthly woman in an exalted form. A. Villeroi offered *Sur l'autre rive*, the title of which—On the Other Shore—indicates the theme. E. Dujardin described his belief in *Le Retour éternel*—the cycles of Plato, ever recurring events in the world.

The Comédie Française presented a play written in 1919 by Paul Demasy, *La Tragédie d'Alexandre*, in which the author shows the young Alexander almost repudiated by his father Philip; when his turn to reign comes, however, he proves himself an even more brilliant warrior than his father, but his aim in achieving the conquest of the world is to establish a world empire of peace and universal brotherhood. François Porché, in *La Race errante*, a lofty play in verse, studied the problem of the Jewish race and presented two types—the Jew who cares only for money and is unscrupulous, and the cultured, intellectual Jew who uses his fine intelligence to uplift his race.

Paul Raynal, author of the much discussed *L'Arc de Triomphe de l'Étoile*, again stirred a great controversy by his play, *Au soleil de l'in-*

*stinot*. Denis Amiel, in *L'Age de fer*, dealt with the modern idea of a man running away from civilization to live what he considered a real life. Géraudy, another specialist in subtle love-psychology, earned a success at the Comédie Française with *Christine*, a story of two persons who love each other dearly and yet are not faithful to each other. Paul Morand's *Le Voyageur et l'amour*, a little two act play concerning parted lovers, was also well received at the Comédie Française. Henri Duvernois's *Jeanne* discussed the childless home. A spectacular historical play, *Le Château des papes*, by Richaüd, a young playwright, was given under the able direction of Dullin. Alfred Savoir, author of *Lui*, presented in New York in 1931, put on the stage another eccentric character in *La Margrave*, a woman ruler who stops at nothing, not even the most cruel deeds, to be absolute mistress in her domain.

A number of war or post-war plays were produced during the first months of the year. Among these were: G. Bernanos's *La Loi d'amour*; Alfred Savoir's *La Pâtissière*; Jean Guitton's *M. Durand, Français moyen*; Henri Decoin's *Hector*; and André-Paul Antoine's *La Prochaine*, a play with symbolic characters. The last reminds one of Obey's *Bataille de la Marne*, one of the successes at the close of 1930, in that it calls for the suppression of the political influences that lead to war.

Three regrettable failures were noted: René Benjamin's *Paris*; Maurice Rostand's *La jeune Fille espagnole*; and the adaptation to the stage of Boylesve's *Leçon d'amour dans un parc*. After a year of relative success Tristan Bernard was forced to close his theatre. To combat the *crise du théâtre*, as it has been called, Copeau declared that the best elements should combine and start a mass attack. Something along this line has been achieved by what is known as the *Cartel des quatre*—Jouvet, Dullin, Baty, and the Pitoeffs, four leading managers. Another move has been the joining of forces of the *Compagnie des quinze*, of Michel Saint-Denis, with Dullin of the *Atelier*; they have already presented one play, *Lanceurs de graine* by Jean Giono.

On the occasion of the 50th anniversary of *Les Corbeaux* several plays by Henri Becque were revived and many articles written about him. Maurice Barrès's *Un Jardin sur l'Oronte* was dramatized for opera, with music by Bachelet. Gaston Baty and René Chavance contributed an important book, *La Vie de l'art théâtral*, tracing theatrical art from its origin to modern times.

THE NOVEL. The awards of the most important *prix de roman* have already been noted. Among the best sellers of the year was Marcel Prévost's *Marie des Angoisses*, the scene of which is laid in the south of France in a conservative setting of Carlist noblemen; the heroine is the haughty Augustia, a mixture of mysticism and satanism. Paul Benoit, the newly elected Academician, published *L'Île verte*, in which a collector of birds on a lonely island of the Gironde is dragged to material and mental ruin by his passion. André Maurois's *Le Cercle de famille* showed a daughter as a very severe judge of some of her mother's actions, but later in life, having herself fallen a prey to similar temptations, she becomes reconciled to the memory of her mother. Edmond Jaloux's *La Balance faussée* displayed the discrete melancholy characteristic of the author. The following four novels won most approbation

from the press: Edouard Estaunié's *Madame Clapain*, the heroine of which appears to be a moral monster but who is revealed as a wonderfully pathetic model of self sacrifice; François Mauriac's *Naud de vipère*, in which a man who tortures his family over money matters turns out to be not the contemptible person the reader imagined; Frères Tharaud's *Les bien-aimées*, which is a rejuvenation of Flaubert's theme in *Education sentimentale*; and Duhamel's *Tel qu'en lui-même*—the end of Salavin.

Another exponent of gloomy writing, so frequent in French novels, is the American Julian Green, who for the past few years has seemed to try to outdo the French on their own ground. His novel *Epaves* (Waifs) indeed deserves that title, for it has not one sympathetic character and two especially bad ones, the weak hero and his wicked sister-in-law. Gaston Chérau's *L'Enfant du pays* related the dishonorable climbing of a young provincial in the capital. J. Kessel added another perfect story to his previous successes—*Partie carrée*, almost a *roman d'aventure* in the Orient. Roland Dorgelès's attempt in *Le Château de brouillards* to make the reader see once more the Paris of pre-war days was enthusiastically received and approved.

While Roger Martin du Gard announced his intention to discontinue his series of novels *Les Thibault*, Jacques de Lacretelle and Jules Romains announced stories that are to run into an indefinite number of volumes. In vol. i, *Sabine*, of Lacretelle's *Les Hauts-Points*, the story turns, as in last year's successful *Les Saturniens* by Schlumberger, on the ownership of a piece of land called Les Hauts-Points. The four volumes of Romains's series, to be known as *Les Hommes de bonne volonté*—I *Le 6 Octobre*, II *Le Crimé de Quinette*, III *Amours enfantines*, IV *Eros de Paris*—were written according to the formula of "Unanism," the literary school that Romains launched several years ago. René Behaine issued *Dans la foule horrible*, the eighth volume of his *Histoire d'une Société*. Henry Bordeaux continued his rôle of apostolate for the ethical life in *Sybille ou le dernier amour*, a story in which a woman imposes upon her husband a "mariage blanc," and *La Recevante*, a continuation of *Murder party* (see 1931 NEW INTERNATIONAL YEAR BOOK), in which the unfortunate heroine continues her life in Algeria and is once more brought face to face with the tragedy by a motion picture.

Jean Des Vignes Rouges, in *L'Enfant des vignes*, told the pathetic story of a child suffering from the actions of an alcoholic father; and A. t'Serstevens, in *L'Amour autour de la maison*, recounted how a girl was frustrated of her share of happiness by the jealousy of an elder sister. André Chamson won fresh success with *Héritages*, a novel written around an interesting idea: A young man has it in his power to bring prosperity to his native town and he is willing to do so, but because he is descended from the social class the plain people distrust him and his plans fail. Pierre Mac Orlan, in *Filles d'amour et ports d'Europe* and *Quartier réservé*, and Francis Carco, in *Traduit de l'argot*, resorted for locale to the underworld. The standard of the peasant novel was sustained by Ernest Péronchon's *Les Fils Madagascan*, a picturesque study of a rustic Jack of all trades; Charles Silvestre's *Pleine terre*; Marcel Aymé's *Le Puits aux images*; Gaston Chérau's *Celui du bois de Jaqueline*, the story of a poacher; Jean Giono's *Jean le bleu*, autobio-

graphical; and C. F. Ramuz's *Farinette ou fausse monnaie*.

This year again several successful novels were found among the so-called *roman populiste*. The *Prix populiste* went to Jean Pallu for *Port d'Escale*. E. Dabit, the laureate of 1931, offered *Villa-Oasis ou les faux bourgeois*; Marc Bernard, *Au secours*; R. Trinzus, *Le septième jour*; Leon Guilloux, *Hyménées*; and Céline Lothe, *La petite Bismuth*, all of which dealt with the struggling lower classes. Pierre Bost deserves particular reference for *Porte-malheur*, and André Thérive for *Anna*, which develops an uncommon episode in a woman's life. A. Breton, the Surrealist, published *Les Vases communicants*. Claude Aveline had a fine detective story in *La double mort de Frédéric Belot*, while André Maurois's *Le Côté de Chelsea* was a clever imitation of Proust's style.

Women produced their full share of novels. Lucienne Favre earned the *Grand Prix littéraire de l'Algérie* with *La Nœce orientale* (a work which dates back, however, to 1930). Isabelle Sandy's *Un Homme à la mer* retailed the danger of leaving one's native soil. Lucie Delarue-Mardrus's *L'autre Enfant* opposed to the child of the flesh the child by adoption who, by sympathy, seems the real one. Germaine Castro's *Passage* related the "passing" of a child in the life of a woman whom, after the child's death, life "passes" too. Colette's *Ces plaisirs*, defined "Ces plaisirs qu'on nomme à la légère physiques . . ." was one of the most startling books of the year but it treated its risque subject very cleverly.

To the list of authors interested in Jewish topics (Jean and Jérôme Tharaud, Eliassa Rhais, E. Fleg, R. Schwob, and Twerski, some years ago co-author with André Billy of *Épopée de Menachi Foigel*) the name of Guedy must be added. In collaboration with Twerski he published *Israël à New-York*, in which Perlstein, a poor immigrant, climbs up the social ladder. Maurice Rostand continued his pacifistic stories, adding to *L'Homme que j'ai tué* another striking story in *L'Homme que j'ai fait naître*—the man born from the marriage of a Frenchman with a German woman has to go to a new war, but the dead of the World War rise and separate the two armies.

IMPORTANT MEMOIRS, BIOGRAPHIES, AND HISTORICAL WORKS. Outstanding among memoirs of contemporaries published during the year were Barrès's admirable *Mes cahiers* (fourth and fifth volumes, the last); the Comtesse de Noailles's *Le Livre de ma vie*; Fr. Mauriac's *Commencements d'une vie*; Armen Ohanian's *Les Rires d'une charmeuse de serpents*, being the life of an Armenian dancer who won fame in western Europe.

A number of books on the World War, souvenirs and others, may be listed: A. Jamet's *La Guerre vue par un paysan*, which was much admired; R. Clozier's *Zouaves*; Alexandre Renaud's *Chair à canon, la simple vie de la guerre*; Jacques Meyer's *La Guerre, mon vieux*, which endeavors to take all heroism out of war; A. Grillet's *Fantassins*; P. Loevenbruck's *Bouches inutiles*; and Jean de Vallières's *Tendre Allemagne, Kavalier Sharnhorst*. In addition there were published two volumes of anthology, *La Guerre racontée par les combattants* (collected by A. Ducasse).

Among books on the borderland of history and literature were Henri-Robert's new series of *Grand procès de l'histoire* (dealing chiefly with the Bonaparte family); Lenotre's *Les derniers*

*Terroristes*; Duvivier's *La Masque de fer* (very well documented); Albéric Cahuet's *Sainte-Hélène, petite île* (less accurate, on the last days of Napoleon); and Lamandé's *La Vallée des miracles* (describing the valley of the Marne where Joan of Arc was born, the Fuite de Varennes stopped, and two battles of the World War fought). Julien Benda's *Esquisse d'une histoire des Français dans leur volonté d'être une nation* was primarily a philosophical work.

Octave Aubry continued his ascendancy as a biographer, offering *Le Roi de Rome* and *Napoléon III*. Other important biographies written by men of letters were: Franc-Nohain's *Saint-Louis* (crowned by the Academy); V. Giraud's *Saint-Vincent de Paul*; Comte de Saint-Aulaire's *Richelieu*; A. Maurois's *Voltaire*; and L. Barthou's *Danton*. Jean Jacques Brousson's *Les Fioretti de Jeanne d'Arc* consisted of miscellaneous stories from the legend of the heroine, collected while the author was secretary to Anatole France in 1908 as the latter was writing his *La Vie de Jeanne d'Arc*.

HISTORY OF LITERATURE AND CRITICISM. First in importance in the domain of the history of literature is the third volume of the part of Ferdinand Brunot's monumental *Histoire de la langue française* referring to the eighteenth century (prepared by one of his disciples, Alexis François). Other outstanding general works are: Charles Bally's *Linguistique générale et linguistique française* (the literary testament of the Geneva linguist); Oscar Bloch's long awaited *Dictionnaire étymologique de la langue française* (2 vols.); and Émile Chautard's *Vie étrange de l'argot*.

Other works may be arranged chronologically. Those pertaining to the sixteenth century included Plattard's *François Rabelais*, Villey's *Essais de Montaigne*, and Vianey's *Odes de Ronsard* (the two latter in collection "Grands Événements"); those pertaining to the seventeenth century, Alméras's *Roman comique* (same collection), Abbé Brémond's vol ix of *Histoire du sentiment religieux en France*, Brunschvicg's *Pascal*, Lancaster's two volumes on *Corneille* and G. Michaut's *Molière raconté par ceux qui l'ont vu*; and those pertaining to the eighteenth century, the very important Pierre Trahard's *Les Maîtres de la sensibilité au XVIII<sup>e</sup> siècle*, to be completed ultimately in four volumes, G. Lanson's *Montesquieu*, and Fusil's *La Contagion sacrée de J. J. Rousseau de 1778-1820*, the third volume in this author's naive attempt to besmirch a great name.

The nineteenth century was represented by R. Johanne's *Joseph de Maistre*; J. Marsan's *Stendhal*; Valléry-Radot's *Lamennais, le prêtre malgré lui*; Chinard's erudite edition of Chateaubriand's *Les Natchez*; Pierre Moreau's important *Le Classicisme des romantiques*; R. Bray's *Chronologie du romantisme*; Eugène Delacroix's *Journal, 1822-1862*; H. Peyre's *Louis Ménard, 1822-1901*, and *Bibliographie critique de l'Hellénisme, 1843-1870*. There were also André Chevrillon's remarkable *Taine* (2 vols., the author is related to the Taine family); J. Pommier's *La Mystique de Baudelaire*; G. Monly's *Vie prodigieuse de Sardou*; Marcel Sauvage's *Jules et Edmond de Goncourt*; L. Levaux's *Léon Bloy*; V. Giraud's *Brunetière*; Edmond Sée's *Porto-Riche*; L. Pierre-Guint, A. Gide, *vie et oeuvres*; R. Schwob's *Le vrai Drame d'André Gide*; and C. Delhorbe's *L'Affaire Dreyfus et les écrivains français*.

Among works treating of literature proper, in the specific sense of the phrase, were Pierre Mille's *Le Roman français*, not a work of erudition but full of valuable suggestions, and F. Gaiffe's *Le Rire et la scène française*, a course of lectures at the Sorbonne.

VARIOUS ITEMS. Maeterlinck continued his considerations of natural history in *Araignée de Verre*, which forms a companion volume to *Les Abeilles* and *Les Termites*. *L'Histoire du Saint-Simonisme*, by Sébastien Charléty, rector of the University of Paris, was hailed as one of the year's important achievements. The third and last volume of J. Pesquidoux's *Le Livre de la raison* was issued posthumously. The fashionable tailor, Paul Poiret, continued in *Revenez-y*, his memoirs *En habillant l'époque*.

The taste of Frenchmen for exoticism continued unabated. Jean d'Esme's *Les Maîtres de la Brousse*, Marc Chadourne's *Chine* (awarded the *Prix Gringoire*), Princesse Bibesco's *Croisade pour l'anémone* (about a trip through Palestine), J. J. Tharaud's *Paris-Saigon dans l'azur* (enthusiastic relation of an air-trip into the Far East), and R. Blanchet's *Hors des chemins battus*, were all successful books. A pitiable ignorance of America, however, was displayed in R. Aron and A. Dandier's *Le Cancer américain*.

Three books on Paris, full of fancy, were Pierre Champion's *Mon vieux quartier*, Léon-Paul Fargue's *D'après Paris* (witty sketches), and Marcel Sauvage's *La Fin de Paris*. Duhamel's *Querelles de famille* directed against his own country the same sort of criticism as he had directed against the United States in *Scènes de la vie future*. Pierre Hamp continued his remarkable description of French life in *La France travaille: Mœurs et métiers de fer*.

Some of the *Præz littéraires* not previously mentioned may be added here: *Renaissance*, Léon-Paul Fargue; *Intercité*, Simonne Ratel (for *La Maison des Bories*); *Littérature coloniale*, M. Delavignette (for *Paysans noirs*); *des Vikings*, H. de Monfried (for *Aventures de mer*); *Vignes de France*, Paul Fort and Antoine Perbosc; *Roman d'aventure*, J. Toussaint Sama (for *L'horrible Mort de Miss Gildrich*); *des Enfants écrivains*, Nicole Roubakine, 11 years old (for *Le Coucou, le rossignol, et l'âne*).

Elections brought to the Academy Abel Bonnard, Paul Benoit, and the historian Lenôtre. Francis Mauriac was elected president of the Société des Gens de Lettres.

NECROLOGY. The following deaths occurred: Gyp (Comtesse de Martel de Janville, author of *Le Mariage de Chiffon*) at 81; the Belgian poet, Max Elskamp; the actor, Maurice de Féraudy (creator of the part of Isidore Lechat); and the following members of the French Academy, Charles Le Goffic, René Bazin, and Eugène Brieux.

**FRENCH SOMALI (sô-mâ'lê) COAST**, or FRENCH SOMALILAND. A French colony in East Africa on the Gulf of Aden between Eritrea and British Somaliland. Estimated area, 5790 square miles; population in 1931, 69,362, including about 1362 Europeans. The port of Djibouti, the capital, had 9414 inhabitants in 1928. The coast fisheries, salt mines, and inland trade are the chief sources of livelihood. Trade in 1930, most of it in transit to or from Ethiopia (q.v.) consisted of imports, 301,891,000, francs; exports, 278,152,000 francs (1 franc = \$0.0392 at par). In 1930 the budget was balanced at 18,036,700

frances; and 830 steamers aggregating 3,470,800 tons entered the ports. There is a railway from Djibouti to Addis Ababa, the Ethiopian capital, a distance of 485 miles. There are about 56 miles of railway in the French Somali Coast. The colony is under a governor assisted by an administrative council. Governor in 1932, M. Chapon-Baissac (appointed in 1924).

**FRENCH SUDAN.** A French colony forming part of French West Africa. The government is administered by a lieutenant-governor under the governor-general of French West Africa. Lieutenant-Governor in 1932, M. Fousset (appointed in 1931). See FRENCH WEST AFRICA.

**FRENCH WEST AFRICA.** An African colonial possession of France made up of the Atlantic and interior colonies shown, with areas and population, in the accompanying table.

Colony	Area (sq. mi.)	Population (1931 census)	Capital
Dahomey . . . . .	41,802	1,112,000	Porto Novo
Dakar, Circle of	61	54,000	Dakar
French Guinea . .	89,436	2,237,000	Conakry
French Sudan . .	860,331	2,856,000	Bamako
Ivory Coast . . . .	121,590	1,856,000	Bingerville
Mauritania . . . .	847,400	324,000	Saint Louis
Niger, Colony of	463,200	1,543,000	Niamey
Senegal . . . . .	74,112	1,584,000	Saint Louis
Upper Volta * . .	142,320	3,000,000	Ouagadougou
<b>FRENCH WEST AFRICA . . . . .</b>	<b>1,640,252</b>	<b>14,574,000</b>	<b>Dakar</b>

\* The colony of Upper Volta was to be partitioned and combined with the adjacent colonies of the Niger, French Sudan, and Ivory Coast, according to a decree signed by the President of France on Sept. 5, 1932, effective Jan. 1, 1933.

The populations of the chief towns (1931 census) were: Dakar, 42,000; St. Louis, 30,000; Porto Novo, 27,000; Bamako, 20,000. The chief tribes are the Bambaras, and Mandingoes in the Sudan; the Oulofas in Senegal; the Peuhls Faulbés in the Sudan, Upper Volta, Niger, and Guinea; the Mossi in the Upper Volta; and the Kroumen on the Ivory Coast.

**PRODUCTION, ETC.** Cacao, cotton, and groundnuts are the principal agricultural products, others being palm kernels, palm oil, gums, and crude rubber. Hardwoods and hides are also produced, together with such native crops as millet, maize, rice. Stock raising is extensively carried on. Imports in 1930 were valued at 1,457,470,723 francs and exports at 1,169,181,417 francs (1 franc equals \$0.0392 at par). France supplied 700,860,291 francs of the imports and took 639,140,949 francs of the exports.

The budget for 1930 balanced at a total of 1,000,809,284 francs, of which 319,019,000 francs constituted the general budget for French West Africa, 515,306,284 francs the aggregate of local budgets, and 166,484,000 francs the supplementary budgets. Railway lines in operation (Jan. 1, 1931) aggregated 2090 miles, with 631 miles under construction. There were 20,580 miles of telegraph line. A total of 22,898 vessels aggregating 20,777,081 tons entered and cleared the ports in 1930.

**GOVERNMENT.** A governor-general, assisted by a council, administers the entire territory. Each colony is under a lieutenant-governor, Dakar and Dependencies being under a governor of colonies, all subordinate to the governor-general. A military force of 16,000 men, including 3000 Europeans, is maintained in peace time. Governor-General in 1932, M. J. Brévié, appointed 1930.

**FREQUENCY CHANGERS.** See DYNAMO ELECTRIC MACHINERY.

**FRIEDSAM COLLECTION.** See ART MUSEUMS.

**FRIENDLY ISLANDS.** See TONGA.

**FRIENDS, RELIGIOUS SOCIETY OF.** A mystical religious sect which originated in England in the middle of the seventeenth century. The founder of the society was George Fox who visited America in 1672. The first Yearly Meeting in the United States was held in Newport, R. I., in 1661 and has been continued under the name of New England Yearly Meeting. Others established within the next 40 years were the Baltimore, Philadelphia, New York, and North Carolina Yearly Meetings; they are composed of quarterly and monthly meetings having one or more congregations. In the nineteenth century other meetings were formed as migration moved westward.

**FIVE YEARS' MEETING.** In 1902 the largest body of the Religious Society of Friends, known as the Orthodox Group organized the Five Years' Meeting. This organization meets as a delegate body every five years and in 1932 consisted of 12 Yearly Meetings, with a membership of approximately 80,000. Its headquarters are in Richmond, Ind. The work of the various departments, such as missions, peace, prohibition and public morals, religious education, is under the direction of executive committees and secretaries of boards. The Five Years' Meeting also maintains seven colleges for higher education: Earlham in Richmond, Ind.; Penn in Oskaloosa, Iowa; Guilford in Guilford, N. C.; Wilmington in Wilmington, Ohio; Whittier in Whittier, Calif.; Nebraska Central in Central City, Nebr.; and Friends University in Wichita, Kans. Haverford College in Haverford, Pa., is maintained by the Philadelphia Yearly Meeting and Pacific College in Newberg, Ore., by the Oregon Yearly Meeting. The latter bodies, however, and the Ohio Yearly Meeting are not a part of the Five Years' Meeting. In 1932 the membership of the Oregon Yearly Meeting was 3089; of the Ohio Yearly Meeting 5000; and of the Philadelphia Yearly Meeting (Orthodox), approximately 4700. *The American Friend*, a weekly religious journal, is published at headquarters, as is also literature for the Bible Schools of the Five Years' Meeting.

**LIBERAL BRANCH.** This branch was formed in 1827 as the result of a separation which centered around the doctrinal issues of the day and with which the name of Elias Hicks is associated. The Liberal Branch includes seven Yearly Meetings federated in the Friends' General Conference, which meets in even numbered years and conducts work in religious education, social service, and advancement of Friends' principles. The society emphasizes the freedom of the individual to follow the voice of God in his own soul rather than any external or church authority. The membership in 1932 was 16,384, and there were 135 meetings. Publications include the weekly periodical, *Friends' Intelligencer*, and a monthly magazine for children, *Scattered Seeds*. The society conducts several secondary schools, and Swarthmore College in Swarthmore, Pa., was founded by it. It coöperates with other branches of Friends in supporting the American Friends' Service Committee for international understanding and service in this country and abroad, and in Pendle Hill at Wallingford, Pa., a Quaker

educational institution for graduate study in religion and social science.

**FRUIT.** See **HORTICULTURE.**

**FRUIT PESTS.** See **ENTOMOLOGY, ECONOMICS.**

**FUEL.** See **COAL; PETROLEUM; NATURAL GAS; BOILERS; INTERNAL COMBUSTION ENGINES.**

**FUERTES, JAMES HILLHOUSE.** An American hydraulic and sanitary engineer, died in Brooklyn, N. Y., Jan. 27, 1932. He was born in Ponce, Puerto Rico, Aug. 10, 1863, son of Prof. E. A. Fuertes, and was graduated from Cornell University in 1883. His early career was devoted to railroad engineering in the West and Southwest. He later designed and constructed various works for the drainage, sewage, water purification, and water supply of cities in Brazil, Canada, and the United States. Among the cities whose sanitary condition he helped improve were Santos, Brazil, and Harrisburg, Pa. He was a member of the commissions which reported on the water supply of New York City, Philadelphia, and Winnipeg, Man., and constructed gravity water-supply works for Lynchburg, Va., and Cumberland, Md. He was the author of *Water and Public Health* (1897), and *Water Filtration Works* (1901).

**FUNCHAL.** See **MADERIA.**

**FURNACES.** See **BOILERS.**

**GABUN.** See **FRENCH EQUATORIAL AFRICA.**

**GADSKI, gad'ské, (TAUSCHER), JOHANNA.** A German dramatic soprano, died in Berlin, Feb. 22, 1932. She was born in Anclam, Prussia, June 15, 1872, and was educated in Stettin, where she studied voice under Mme. Schroeder-Sgaloupka. At the age of 17 she made her debut as Undine in Lortzing's opera of that name at Kroll's Theatre in Berlin and was engaged as prima donna for five seasons. In 1892 she married Hans Tauscher, an officer in the Prussian army. After making a concert tour of Germany and the Netherlands and singing at the Royal Opera House in Berlin, she came to the United States in 1895, having been engaged by Walter Damrosch to sing the principal Wagnerian rôles with his opera company. Her success led to her engagement in 1898 as a member of the Metropolitan Opera Company, New York City. She also sang at Covent Garden, London, and at the Wagnerian festival at Bayreuth. In 1917 she was obliged to resign from the Metropolitan Opera Company, where she had been a prime favorite, on account of the utterance of pro-German sentiments. Aside from a few concert appearances in New York she did not sing in American cities again until 1929 when she was engaged as prima donna of the German Grand Opera Company. At the time of her death she was planning to return to the United States in the fall of 1932 at the head of her own opera company. Her repertoire included leading soprano parts in all the standard operas, such as *Aida*, *Don Giovanni*, *Cavalleria Rusticana*, and *Carmen*, but she was especially effective in Wagnerian operas where her commanding presence, beautiful and powerful voice, and dramatic intensity made her one of the greatest interpreters.

**GALAPAGOS ISLANDS.** See **ECUADOR.**

**GALAXITE.** See **MINERALOGY.**

**GALICIA, EASTERN.** See **POLAND under History.**

**GALLIUMS.** See **CHEMISTRY, INDUSTRIAL.**

**GALSWORTHY, JOHN.** See **LITERATURE, ENGLISH AND AMERICAN; NOBEL PRIZES.**

**GAMBIA.** A British Crown colony and protectorate in West Africa bounded on all land sides by the French colony of Senegal in French West Africa. The colony proper is St. Mary's island at the mouth of the Gambia River, with an area of 4 square miles and a population in 1931 of 14,370. Bathurst is the capital. The protectorate occupies about six miles on each side of the river for a distance inland of about 200 miles and has an area of 4130 square miles and a population in 1931 of 185,150.

In 1930 imports (including specie) totaled £542,760; exports (including specie) £908,643. Revenue amounted to £216,736 and expenditure to £253,228. The public debt on Jan. 1, 1931 was £13,721. Vessels to the number of 572, with a tonnage of 1,239,151 tons, entered and cleared in 1930. The colony is administered by a governor assisted by an executive, and a nominated legislative council. Governor in 1932, H. R. Palmer.

**GANDHI, MOHANDAS KARAMCHAND.** See **INDIA under History.**

**GAONA, JUAN BAUTISTA.** A Paraguayan statesman, died May 18, 1932, in Asunción, where he was born in 1845. Educated privately, he entered finance, becoming in 1893 president of the Mercantile Bank of Paraguay, a post which he held for more than 25 years. He served also on the board of directors of the National Bank, of the Bank of the River Platte, and of important corporations, including the Industrial Paraguayo. In 1905 he was elected President of Paraguay, and in 1911 Vice-President. He was also a member of the Senate from 1909 to 1911 and again from 1912 to 1919, serving during the latter term as head of the Liberal party.

**GARBAGE AND REFUSE DISPOSAL.** Unprecedented activity in the construction of incinerators for the disposal of garbage and other city refuse marked the year. After months of postponement due to its financial condition, *New York City* at last made headway on the programme of incineration construction ordered by the U. S. Supreme Court as a result of the lawsuit brought by the State of New Jersey to prevent the pollution of the beaches of its seaside resorts from refuse dumped at sea by New York City. (See 1931 YEAR BOOK.) The first stage of this programme called for four large incinerators to be ready for use in 1933, but local complications prevented getting more than two under way. Contracts for these were let on November 18, each plant to consist of five furnaces with a capacity of 150 tons each, at a contract price of \$1,431,000 for both. Two incinerators for the rubbish from a population of 620,000 in *Washington, D. C.*, with a combined capacity of 595 tons a day, were completed during the year. Contrary to usual practice, complete detailed plans for these incinerators were drawn by engineers employed by the city (District of Columbia) instead of having each bidder submit his own plans with his bid. This was in accordance with a ruling by a government attorney that bids on plans drawn by each bidder would be illegal because there could be no true competition unless all bids were upon the same plan. (See 1931 YEAR BOOK for further history of the project, and *Engineering News-Record*, Nov. 10, 1932, for a description of the furnaces.) *Baltimore* let a contract for the construction and also for ten years' operation of a 600-ton-per-day incinerator for garbage and rubbish, the plant to become the

property of the city at the expiration of the contract (see *Engineering News-Record*, Aug. 25, 1932). This unusual procedure was due in part to local conditions, including the wish of the city to avoid capital outlay. For many years the garbage of Baltimore has been disposed of by contract, by the reduction process, except for a short period when it was fed to hogs. Baltimore rubbish has been incinerated for several years. At the close of the year *Detroit* advertised for bids (to be received Jan. 18, 1933) for four incinerators to burn garbage and rubbish, the garbage, like that of Baltimore, having been disposed of by means of a privately-owned reduction plant. There will be two 600-ton incinerators, and one 400- and one 200-ton incinerator. The city will lease the sites to the contractor. After operating the plants for seven years they will, as at Baltimore, become the property of the city. Across the continent, *San Francisco* is still wrestling with the problem of garbage and refuse disposal, as it has been for many years. The city has been under a suspended injunction to shut down an old incinerator leased to an association of scavengers which collects garbage on a utility franchise plan, householders paying for the service. For a summary of the history of garbage disposal at San Francisco, see *Engineering News-Record*, Nov. 14, 1929, and for the alternative projects to be submitted to popular vote, see the same journal for Oct. 20, 1932.

**GARDENS.** See HORTICULTURE.

**GARRISON, LINDLEY MILLER.** An American lawyer and cabinet officer, died in Sea Bright, N. J., Oct. 18, 1932. He was born in Camden, N. J., Nov. 28, 1864, attended the Protestant Episcopal Academy (Philadelphia), and Phillips Exeter Academy, and Harvard University, and was graduated with the LL.B. degree from the University of Pennsylvania in 1885. Following his admission to the Pennsylvania bar in 1886, he practiced in Philadelphia, being associated with Redding, Jones & Carson. Two years later he was admitted to the New Jersey bar and practiced in Camden, N. J., until 1898 when he became a member of the law firm of Garrison, McManus & Enright in Jersey City. He was appointed vice-chancellor of New Jersey in 1904 and again in 1911. In 1913 he was made Secretary of War in President Wilson's cabinet. Convinced of the inadequacy of the nation's defenses, he inaugurated a plan to provide a reserve of commissioned officers by training college and university students, and later business men, at summer camps, such as Plattsburg, N. Y., Fort Sheridan, Ill., and San Francisco, Calif. Also, at the request of the president and with the assistance of the general staff, he prepared a comprehensive plan for increasing the military forces of the United States. This plan provided for a regular army of 140,000 men, a national guard force of 130,000, and a "continental" army of 400,000. Enlistment in the latter was to be for six years, the first three years to be devoted to drilling; during the second three years the recruits would be subject to call at any time. The plan, however, met with the opposition of the House military affairs committee, which favored a partly federalized National Guard. President Wilson failed also to give the plan the assurance of support which Mr. Garrison had been led to expect, and he accordingly resigned in February, 1916. He resumed his law practice in New York City with the firm of Hornblower, Miller, Potter & Earle,

later Hornblower, Miller & Garrison, his most distinguished service being the reorganization of the Brooklyn Rapid Transit Co., for which he was appointed receiver in 1918. He retired in 1930.

**GAS, MANUFACTURED.** In all lines but one, during the year 1932, the consumption of manufactured gas declined, though in comparison with other fuels the decline was relatively slight. The total consumption for the year, according to preliminary estimates of the Statistical Department of the American Gas Association, was 372,283,900,000 cu. ft., as against 391,197,300,000 cu. ft. in 1931, or a decrease of 4.8 per cent. Bituminous coal, however, declined 20 per cent in production for the same period; anthracite production dropped 17 per cent; crude petroleum was 8 per cent below 1931; coke declined 35 per cent; and the production of electric power was 10 per cent less than in 1931.

As was to be expected, the greatest decrease in the consumption of manufactured gas was among the industrial and commercial users. Although the number of such customers showed little reduction—487,900 in 1931, and 483,500 in 1932—the gas requirements dropped by 12.6 per cent, from 92,248,300,000 cu. ft. in 1931 to 80,625,000,000 cu. ft. in 1932. Revenue from these sources also declined in the same ratio, from \$82,297,500 in 1931 to \$71,928,000 in 1932. The decline in the number of domestic users, who normally take about three-fourths of the gas that is manufactured, was only 3.5 per cent for the year; dropping from 9,848,800 in 1931 to 9,504,100 in 1932; their requirements, however, showed a net reduction of but 2.8 per cent, or 269,220,300,000 cu. ft. in 1932, as against 276,975,600,000 cu. ft. in 1931. Revenue from these users dropped to \$324,695,200 in 1932 (\$335,428,900 in 1931).

Although relatively small, an increase of 11 per cent in the number of users of manufactured gas for house heating was noted, totaling 65,200 at the end of the year. The gas requirements of such consumers amounted to 20,445,600,000 cu. ft. for the year, or 2.7 per cent more than in the preceding year. However, the concessions in price for this extension of service resulted in a drop of 5.2 per cent in revenue, or \$15,226,300 in 1932, from \$16,061,500 in 1931. Total revenues from all sources amounted to \$413,248,200 as against \$435,390,100 in 1931, or a total reduction of 5.1 per cent.

**GAS, NATURAL.** The proportionate use of natural gas in 1932 dropped to a larger degree than did the use of manufactured gas; the latter showed a net decrease of but 4.8 per cent over 1931, while natural gas dropped 16 per cent, or from a total of 1,677,835,000,000 cu. ft. in 1931 to 1,410,000,000,000 cu. ft. in 1932, according to preliminary estimates of the Statistical Department of the American Gas Association. Although the reduction of 15.1 per cent in industrial sales, dropping to 455,000,000,000 cu. ft., accounted for a large part of the total decrease, the greatest consumption of natural gas has been in the manufacture of carbon black and in field use. In these non-utility sales the consumption declined 21.7 per cent, or from 767,761,000,000 cu. ft. in 1931 to 601,000,000,000 cu. ft., in 1932. Domestic sales showed a smaller decline, dropping to 271,000,000,000 cu. ft. in 1932 from 288,959,000,000 cu. ft. in 1931; and the least change occurred in the field of commercial sales which

showed an actual increase of almost 1 per cent in customers at the end of the year, although a decline in sales of about 2.8 per cent, or from 85,419,000,000 cu. ft. in 1931 to 83,000,000,000 cu. ft. in 1932.

Revenues from all consumers dropped by about 10.9 per cent from the preceding year. In 1931 total revenues amounted to \$383,730,000; in 1932 \$342,000,000. About one-fourth of the reduction was due to the large curtailment in the non-utility sales for carbon black and field use, and about one-half to the reduced demands of industry. Reductions in domestic sales accounted for most of the remaining fourth.

The closing month of the year showed a slight, almost 2 per cent, increase in sales for the 206 natural gas companies reporting to the American Gas Association over the sales for the corresponding month in 1931. The highest percentage of increase was in commercial sales, with a total of 5,836,182,000 cu. ft. as against 5,107,564,000 cu. ft. for December, 1931; but the highest volume of sales was domestic, including house heating, which increased from 31,397,013,000 cu. ft. for December, 1931, to 32,568,061,000 cu. ft., for December, 1932. There was also a slight increase in industrial sales. The improvement was general throughout the territories reporting. In New York, the improvement was solely in industrial sales; in Pennsylvania and West Virginia, domestic and commercial; in Ohio and Louisiana, domestic, commercial, and main line industrial; in Kansas, domestic, commercial, and industrial; in Oklahoma, main line industrial; in Texas, domestic; and in California, though the total of sales for December decreased from December of the previous year, commercial and industrial sales showed increases of 6 and 3 per cent respectively.

Exports of natural gas to Canada and Mexico, according to the U. S. Bureau of Mines, increased in 1931, totaling 2,231,000,000 cu. ft. of which 74,000,000 cu. ft. went to Canada. Imports into the United States (Montana) from western Canada increased from 21,000,000 cu. ft. in 1930 to 44,000,000 cu. ft. in 1931. The natural gas produced in 1931 had a total value at the wells of \$117,505,000 and at points of consumption of \$392,816,000.

Of the total consumption, production plus imports minus exports, of natural gas in 1931, 571,305,000,000 cu. ft., or 34 per cent, was used for field purposes; 380,897,000,000 cu. ft., or 23 per cent, was used for domestic and commercial purposes; 195,386,000,000 cu. ft., or 12 per cent, was burned in the manufacture of carbon black; 138,343,000,000 cu. ft., or 8 per cent, was utilized as fuel at electric public-utility power plants; 75,584,000,000 cu. ft., or 4 per cent, was utilized as fuel at petroleum refineries, leaving 322,700,000,000 cu. ft., or 19 per cent, used for other industrial purposes. In comparison with 1930, these data represent gains in the proportions distributed for domestic and commercial consumption, electric public-utility power plants and general industrial uses, at the expense of the proportions distributed for field and refinery purposes and for the manufacture of carbon black.

Contrary to popular belief, the use of natural gas for field purposes constitutes the largest item in consumption. Field work fell to a low ebb in 1931—for example, only 12,432 wells were completed against 21,240 in 1930—with the result that the quantity of natural gas used for

such purposes declined 21 per cent in 1931. Overproduction, and low prices resultant therefrom, forced the producers of carbon black to restrict their operations in 1931. The demand for natural gas from this source accordingly declined from 266,625,000,000 cu. ft. to 195,396,000,000 cu. ft., or 27 per cent. The consumption of natural gas as fuel at petroleum refineries has declined steadily in recent years as many refiners have found it cheaper to utilize the fuels made at their plants—fuel oil, refinery gas, and coke—rather than to buy natural gas from outside companies. In 1931 the consumption of natural gas as refinery fuel totaled 75,548,000,000 cu. ft., a decline of 24 per cent from the 1930 total.

According to the U. S. Geological Survey, the consumption of natural gas at electric public-utility power plants in 1931 amounted to 138,343,000,000 cu. ft., an increase of 15 per cent over 1930. This class of consumption has become an important factor in the industry as its proportion of the total consumption has risen from 3.6 per cent in 1921 to 8.2 per cent in 1931. The consumption of natural gas for general industrial purposes, exclusive of consumption at carbon-black plants, refineries, and electric public-utility power plants, totaled 322,700,000,000 cu. ft., in 1931, a decline of 9 per cent from 1930. This decrease undoubtedly resulted from a general slowing down of industrial activity.

Texas continued to outrank the other States both in the production and consumption of natural gas. Ohio ranked first in the quantity used for domestic and commercial consumption; Oklahoma, in field use; Texas, in the utilization at carbon-black plants and at refineries; California in use at electric public-utility power plants. California displaced Oklahoma as the second-ranking natural gas producing State in 1931; this change was predicted several years ago. The number of producing gas wells, as of Dec. 31, 1931, totaled 55,756, an increase of 736 over 1930. According to the *Oil & Gas Journal*, the number of gas wells completed in 1931 exclusive of California totaled 1985, from which it follows that 1249 wells were abandoned or disconnected in 1931. This was considerably below abandonments in 1930, reflecting a firm market in those States like Pennsylvania which have a large number of small wells.

**GAS ENGINE.** See INTERNAL COMBUSTION ENGINES.

**GASOLINE.** See PETROLEUM.

**GAYLEY, CHARLES MILLS.** An American author, died in Berkeley, Calif., July 26, 1932. He was born in Shanghai, China, Feb. 22, 1858, and was educated in Blackheath, England, at the Royal Academic Institution in Belfast, and at the University of Michigan, being graduated from the latter in 1878. He also attended the Universities of Giessen and Halle. At the University of Michigan he taught Latin from 1880 to 1886 and English from 1887 to 1889. He then became professor of English at the University of California, where he remained until 1923. He was also dean of faculties during 1918-20 and co-administrator of the presidency in 1919. During 1924-25 he was director of the American University Union in London. His publications, the more important of which deal with the history and criticism of the English drama, include: *Classic Myths in English Literature* (1893); *English in Secondary Schools* (1894); *Representative English Comedies* (vol. i, 1903;



vol. ii, 1913; vol. iii, 1914), a valuable collection of texts and notes by various scholars; *The Star of Bethlehem* (1904); *Songs of California* (ed., 1905); *Plays of Our Forefathers* (1907); *Idols of Education* (1910); *Beaumont the Dramatist* (1913); and *Shakespeare and the Founders of American Liberty* (1917). With F. N. Scott he wrote *A Guide to the Literature of Aesthetics* (1890), *Methods and Materials of Literary Criticism* (1899); with F. N. Scott and A. A. Stanley, *Songs of the Yellow and Blue* (1889); with M. C. Flaherty, *The Poetry of the People* (1903); with C. C. Young, *The Principles and Progress of English Poetry* (1904); and with B. P. Kufitz, *Lyric, Epic, and Allied Forms of Poetry* (1919).

**GEBEL DISTRICT.** See CYRENAICA.

**GEDDES, SIR PATRICK.** A British biologist and educator, died in Montpellier, France, Apr. 16, 1932. Born in Perth, Scotland, in 1854, he was educated at University College, London, the University of Edinburgh, and the Sorbonne. He was successively demonstrator of physiology at University College, London, of zoology at the University of Aberdeen, and of botany at the University of Edinburgh. After acting as lecturer on natural history at the Edinburgh school of medicine, he became in 1883 professor of botany at University College, Dundee (St. Andrews University). In 1919 he became professor of sociology and civics at the University of Bombay, and at the time of his death was director of the Scots College at Montpellier University. One of the important projects which he sponsored was that of the university halls at Edinburgh and Chelsea which served as a beginning of collegiate life. He was a pioneer in city planning and showed great interest in municipal art and education and other forms of civic betterment. He also became director of the printing establishment Geddes and Colleagues, which was interested chiefly in the publication of works of Celtic literature, and designed the Hebrew University building in Jerusalem. His publications include: *The Evolution of Sea* (Outlines of General Biology, with Sir J. Arthur Thomson, 2 vols., 1889); *Chapters in Modern Botany* (1893); *A Study in City Development* (1904); *Cities in Evolution* (1913); *The Life and Work of Sir Jagadis C. Bose* (1920); *The Coming Polity* (with V. V. Branford, 1917); *Ideas at War* (with Gilbert Slater, 1917); and *Our Social Inheritance* (with V. V. Branford, 1919). He was knighted in 1932.

**GENERATORS.** See DYNAMO ELECTRIC MACHINERY.

**GENETICS.** See BOTANY; ZOÖLOGY.

**GEOGRAPHICAL SOCIETY, AMERICAN.**

The oldest geographical society in the United States, founded in 1852, to collect and disseminate geographical information by discussion, lectures, and publications; to establish in the chief city of the United States a place where there may be obtained accurate information concerning every part of the globe; and to encourage such exploring expeditions as seem likely to result in valuable discoveries in geography and related sciences. Within recent years the society has taken an active part in the encouragement of exploration, the scientific work of Sir Hubert Wilkins in the Arctic and Antarctic and of Rear Admiral Richard E. Byrd in the Antarctic having been carried out under its auspices.

The society's periodical is the *Geographical Review*, a quarterly, in which appear original articles and notes dealing with exploration and

geographical research and reviews of the more significant geographical books. The maps, books, and pamphlets issued by the society fall into six series: research series, comprising specialized monographs; special publications, specialized monographs published in a larger format and also certain works having a more general appeal; library series, devoted primarily to the collections of the society; outing series, including tramps' guides entitled *The Palisades Interstate Park* and *New York Walk Book*; a map of Hispanic America published in conformity with the International Millionth Map of the World and accompanied by geographical monographs (this map will consist of 100 sheets, of which 42 have been completed); and oriental explorations and studies, comprising six volumes on the explorations of Prof. Alois Musil in northern Arabia.

The society maintains a geographical library and sponsors six regular lectures annually by distinguished explorers or geographers. Contributions to the development of geographical science and exploration are recognized in the society's election to honorary and corresponding memberships and in the bestowal of medals. The honorary members elected during the past year were Miss Louise A. Boyd of San Francisco, Field-Marshal Lord Allenby of Megiddo and Felixstowe, and Prof. Harry Clifton Heaton of New York University. The Cullum Geographical Medal, founded by Maj.-Gen. George W. Cullum to be awarded to those "who distinguish themselves by geographical discoveries, or in the advancement of geographical science," was awarded to Prof. Mark Jefferson of Ypsilanti, Mich., one of America's outstanding geographers, and to Bertram Thomas, the British orientalist, for his explorations in southern Arabia.

During 1932 the society's school of surveying was reorganized and will be continued as a part of a larger department of technical training. The society participated in the work of the Yale North India Expedition. Under the leadership of Dr. Hellmut de Terra this expedition has undertaken geographical, geological, biological, and ethnographical explorations of many hundreds of square miles of unexplored country north of the Himalayas in the eastern Karakoram and on the bordering plateau region of Tibet.

Three important projects of cooperative research were brought to completion. The first was a series of studies, made under the joint auspices of the Social Science Research Council and the society, of the problems of settlement in the regions of the world where there are still pioneer frontiers (Canada, Australia, South America, southern Africa, northern Asia). The results of the investigations of 26 specialists were published in a volume entitled *Pioneer Settlement*. In collaboration with the Carnegie Institution of Washington the society published a monumental *Atlas of the Historical Geography of the United States*, to the preparation of which nearly 20 years of research have been devoted. Geographical, social, economic, and governmental studies of New England, carried out by 27 specialists, were also concluded in 1932 and were to be published under the title, *New England's Prospect*, 1933.

The president of the society in 1932 was John H. Finley, LL.D.; and the director, Isaiah Bowman, Ph.D. Headquarters are at Broadway and 156th Street, New York City.





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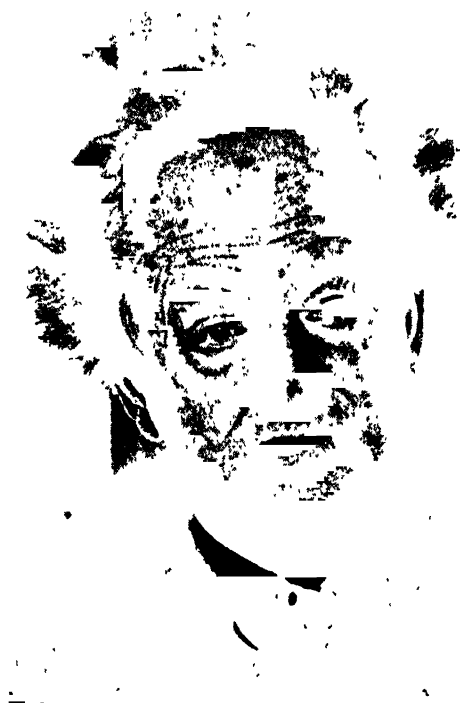
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FRANCE



JOHANN WOLFGANG VON GOETHE  
(1832-1932)



Wide World

DR. GERHART HAUPTMANN  
70th Birthday Celebration



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Reich Minister of Defense, who succeeded von  
Papen as Chancellor

GERMANY

**GEOGRAPHIC SOCIETY, NATIONAL.** An organization for "the increase and diffusion of geographic knowledge," founded in 1888. During 1932 the field work included the concluding chapters of the Citroen-Haardt Trans-Asiatic Expedition, begun in 1931, in which Dr. Maynard Owen Williams participated as the representative of the National Geographic Society. The expedition successfully reached Peiping on Feb. 12, 1932. Led by Georges-Marie Haardt (q.v.), the party won its way, in 314½ days, from the Mediterranean to the Yellow Sea along a 7370-mile trail. All but 700 miles—from Nomal, near Gilgit, to Aqsu—were covered by track-type motor cars. Coming from Beirut, the "Pamir Group" joined with the "China Group" at Aqsu Oct. 8, 1931. Each of the groups numbered about 30 men, of which 11 made the entire trip. Studies were made in geology, botany, zoology, and archaeology, and complete photographic and sound-motion-picture records were brought back.

The expedition was the first party to follow the Marco Polo trail since the Middle Ages. The proposed return by way of Indo-China, Siam, India, Persia, and Syria was abandoned, however, because of the death of M. Haardt in Hong Kong Mar. 16, 1932. The lateness of the season necessitated also the crossing of Baluchistan and Iraq in midsummer, but important studies were made in Indo-China, and a series of portraits was made by Alexandre Iacovlev, showing men and women of many races and types of civilization. Scientific reports are being prepared by Père Teilhard de Chardin, M. Hackin, M. Raymond, and others, while the popular account by Dr. Williams has been published in the *National Geographic Magazine*, as well as radio dispatches in hundreds of newspapers. Chosen from more than 20 miles of records, a sound-cinema film soon is to appear throughout the world.

The eclipse expedition sent into the field by the society, with the U. S. Army Air Corps participating, observed the 1932 total eclipse of the sun from the ground and from the air and secured the first photographs of the moon's shadow from a high altitude. These pictures, published in the society's magazine for November, have remarkable interest and scientific value. In the ground party were Albert H. Bumstead, chief of the cartographic department of the society and inventor of the sun compass which helped pilot Admiral Richard E. Byrd to the poles; Charles Martin, chief of the society's photographic laboratories; and J. R. Hildebrand, chief of school service. The ground work, concerned particularly with the making of color photographs of the direct eclipse phenomena, for which Mr. Martin had developed special screens and emulsions that have advanced the art of rapid color photography, was accomplished at Mount Black Cap, North Conway, N. H. A battery of cameras, some with telescopic lenses, was in constant action through totality.

Flying three miles higher than any other plane observing the eclipse, and more than five miles above the earth, Capt. Albert W. Stevens and Lieut. Charles D. McAllister, in charge of aerial photographic work of the expedition, watched for a great distance the spectacle of the dark shadow of the moon moving over the tops of clouds, that were two miles above the earth and three miles beneath the aviators, and found that the cloud masses formed an effective screen for the shadow. Captain Stevens made exposures of the ap-

proaching shadow at five-second intervals with a short-focus, wide-angle lens. He reported that the entire corona sprang into sight very much as if someone had snapped an electric switch, when totality was reached. He carried an apparatus consisting of a very sensitive electroscope for measuring the intensity of cosmic rays, with a device for recording its readings photographically. The recording was started twenty minutes before totality.

A special gold medal was awarded by the society to Amelia Earhart, the first woman to achieve a solo trans-Atlantic flight. The work of the society, in the realization of its chartered object of diffusing geographic knowledge, was continued along the lines of previous years. Maps of the world, Antarctica, and of the travels of George Washington were published during the year, and one of the United States was in preparation. The chief activity of the society continued to be the publication of the *National Geographic Magazine*, which is distributed to the 1,100,000 members of the society.

**GEOGRAPHY.** See EXPLORATION; POLAR RESEARCH; ANTHROPOLOGY.

**GEOLOGICAL CONGRESS, INTERNATIONAL.** See GEOLOGY.

**GEOLOGICAL SOCIETY OF AMERICA.** See GEOLOGY.

**GEOLOGY.** Much of the major activity in geology during the past year, at least in the United States of America, has centered about preparing for the 16th International Geological Congress which will be held in the United States during the summer of 1933. The meetings will be in Washington, D. C., and the field excursions will visit most of the known geological features of the country of sufficient importance to interest foreign visitors. The information necessary to make these excursions profitable has been collected and printed in the form of guide books. One important feature of this preparation is that it has focused attention upon the metamorphic terrane of eastern New York State and western New England. This battlefield of early American geologists has been neglected for many years except by a few investigators.

The continued depression materially affected the amount of geological explorations or prospecting financed by mining, petroleum, and engineering companies and, to a lesser extent, the research prosecuted by government bureaus, both State and Federal.

So far, however, the literature of the science has benefited rather than suffered from this fact. The following article reviews the activity of the societies, presents abstracts of some of the new publications and mentions others.

**SOCIETIES.** The Geological Society of America, The Paleontological Society of America, The Society of Economic Geologists, and The Mineralogical Society of America held their annual meetings at Tulsa, Okla., Dec. 29 to 31, 1931, under the auspices of the American Association of Petroleum Geologists. A feature of the meetings was the symposium arranged by the latter organization dealing with the contributions of petroleum geology to the science in general. Some of the titles and abstracts follow:

*Contributions of Petroleum Geologists to General Geology in California*, by L. Courtney Decius, San Francisco, Calif.

Petroleum geology became of importance in California about 1906, and since that date has been primarily

responsible for the mapping of the Tertiary basins of sedimentation. Contributions of general geology during the same period have been largely confined to the older non oil-bearing sediments and igneous and intrusive rocks. Mapping the Tertiary basins for petroleum explorations has involved the development of numerous new methods and refinements, such as core-drilling, airplane photography, and the use of micropaleontology. Such work has enabled a more accurate interpretation to be made of the epochs of deposition, the tectonics of the folding which has produced mountain ranges as well as oil fields, and the origin and migration of oil and oil field waters.

*Contributions of Petroleum Geology to the Science of Geology in the Southern Mid-Continent District*, by F. H. Lahee, Dallas, Texas.

Oil in the States of Texas, New Mexico, Louisiana, and Arkansas is produced from formations ranging in age from Ordovician to late Tertiary. In the intensive search for petroleum, during the last 15 years, a great deal has been learned in this area regarding surface and sub-surface geology. Had it not been for petroleum research, the underground structure and stratigraphy of large parts of this area would be wholly unknown. Not only has petroleum geology thus increased our store of knowledge in pure geology, but also it has led to development and improvement of several important branches of technical research, such as geophysics, micropaleontology, airplane mapping, and the study of earth temperatures.

*Contributions from Geophysics to Geology*, by J. C. Karcher and C. A. Heiland, Golden, Col.

Four geophysical methods have been extensively employed in petroleum geology in the United States. The magnetometer has surveyed a vast area. It has developed our knowledge of the character of the crystalline basement. The torsion balance has been successful in locating salt domes and determining their outlines. Electrical prospecting has not been very successful to date but promises to indicate subsurface unconformities and attitudes of beds. The seismograph has discovered many salt domes. It has discovered at least three producing fields in Oklahoma. It has outlined the area accurately, depth and thickness of buried formations.

As is the custom, the retiring presidents of the various societies addressed joint meetings on topics which they considered of fundamental importance in their respective specialties. Professor Alfred C. Lane of Tufts College, president of the Geological Society of America, chose to indicate how the special knowledge of the past gained from geological studies can be applied to man at present, particularly here in America, confronted as he is by many important environmental changes and the necessity of making serious decisions in order to meet them. The title of his address was "Eutopotropism," a word coined for the occasion which means "The tendency or sense to know where you are well off and to go there." He traced some of the important changes in the environment. Through these changes nature commanded, "Modify or migrate!" Some animals, preadapted, could obey the first alternative, others sensibly eutopotropic obeyed the second, those without variability or intelligence perished. He further emphasized the part played by choice and by intelligence in the course of the development of life, and indicated how necessary is the choice of the proper course for man to-day. For "environment, heredity—these are not all the factors in evolution. We must add our individuality as helmsmen." We must be "eutopotropic," know what course is best and take it.

Professor E. R. Cumings of Indiana University, president of the Paleontological Society, discussed certain phases of the coral reef problem under the title "Reefs or Bioherms." He indicated the inapplicability of the term to most of those structures since they are largely composed of other things than coral. This fact is explained

by solution of the coral skeleton, diagenesis, boring and predatory organisms that triturate the reef material and help to form the coral sand and mud; and algae that precipitate goodly amounts of the original material. The term reef used alone is not satisfactory since it does not indicate organic origin and is much more applicable to a narrow ridge of any kind of material lying at or near the surface of the water. Professor Cumings suggested the term "bioherm" (organic reef) for "reeflike, mound like, lenslike, or otherwise circumscribed structures of strictly organic origin, embedded in rocks of different lithology"; and biostrome (organic layer) for "purely bedded structures, such as shell beds, crinoid beds, coral beds, et cetera, consisting of and built mainly by sedentary organisms, . . ." The bulk of his address concerned the internal structures of the forms described above. It was a detailed discussion that can hardly be summarized here. His address, together with that of Professor Lane, can be found in the *Bulletin* of the Geological Society of America, March, 1932.

Professor A. H. Phillips of Princeton University, president of the Mineralogical Society of America, addressed his audience on "Isomorphous Substitution of Elements in Minerals." He pointed out that it has long been known that certain elements could substitute for others in chemical compounds without greatly affecting the forms of the crystal structure. When Wollaston invented the reflecting goniometer in 1812 he proved small but measurable differences in the angles of such isomorphous groups as the orthorhombic sulphates and carbonates of barium, strontium, and lead. Since then, accumulating data have shown that the angles in isomorphous groups are a function of the chemical composition and the law of isomorphism is now restricted to those chemical compounds with a like number of atoms and configuration. He then discussed the results of modern research that bear upon this problem and concluded as follows: "Undoubtedly volume is a prime factor in isomorphism, but I have attempted to show that there are other factors of equal importance even where the atoms are practically of the same size, such as (1) the co-ordinate position of the atom in the crystalline lattice; (2) atomic directional forces probably due to pressure; (3) the variable compressibility of the atoms; (4) differential expansion of the atoms with a rise of temperature; and lastly (5) the weakening of the crystalline force with a rise of temperature." This address may be read in the *American Mineralogist*, March, 1932. A few of the other papers that were presented before the societies are recorded below.

Bailey Willis of Stanford University discussed "Isthmian Links." He said that biologic evidence is proving that terrestrial animals have migrated over certain areas in the past that are now broad seaways. One way to approach the explanation of these former connections is through a study of modern ones, such as the link between North and South America. All published reports ascribe the framework of the Caribbean region to pressures originating within or underneath the region itself. Following this clew the sub-Atlantic deeps are shown to have been active areas of disturbance in the Permian and probably during later epochs and their margins were thrust up to form inter-continental links.

W. J. Miller, speaking on the "Intrusive Power

of Anorthosite," showed that the anorthosite of Los Angeles County, California, contains inclusions of country rock and has been intruded as dikes and lit-par-lit injections in the latter. There are important observations that bear upon the theory of origin of anorthosite and monomineralic rocks in general.

In his address on "Rock Fans of Arid Regions" Douglas Johnson of Columbia University made the critical test of the theory of the origin of rock pediments by lateral planation rest on the existence or non-existence, at the contact zone of pediment and mountain scarp, of forms resembling alluvial fans but carved on solid rock. He stated that a number of such "rock fans" do exist in Texas, New Mexico, Arizona, and Nevada, and that the evidence favors the development of such features by lateral planation of heavily laden streams.

*Paleozoic Rocks in Mongolia*, by C. P. Berkey and F. K. Morris.

The authors report finding fine grained mica-schist and phyllites with traces of Permian fossils preserved in a thin limestone wedge in the phyllite, north of Tabool, Inner Mongolia. These rocks are cut by batholithic granite. Crinoid stems were found in a sandy limestone interbedded with clastic sediments and volcanics in the Jichi Ola range. These are intersected by dikes of diorite. Granite cuts similar rocks in the next range to the east, the Los Ola. These facts indicate the wide occurrence of Paleozoic rocks and the large scale of post-Permian batholithic intrusions.

*Distribution and Source of Chinese Loess*, by George P. Cressy.

The author points out that the greatest development of loess deposits of northwest China is south and southeast of the Ordos Desert, where it is 250 feet thick. Where the loess adjoins the Gobi Desert it rarely exceeds 50 feet. This marked concentration next to a desert floored by fluvio-lacustrine sediment suggests that the loess forming dust originated there rather than in the rock floored Gobi.

*Sediment Distribution on the Continental Shelves*, by F. P. Shepard.

A detailed study of marine charts that indicate the character of the sea floor and the examination of some of these samples stored in the National Museum revealed the fact that the coarser types of sediments are as common on the outer parts of the continental shelves as on the inner margin. Often the coarse and fine zones are much intermixed. The recent rise in sea level due to the melting of the ice, ocean currents, and tides are suggested explanations of this phenomena.

*Premonitory Formations*, by C. W. Washburne.

Marked change in type of sedimentation precedes every great deformation. During many geologic periods there is slow deposition of relatively fine, largely marine sediments, mostly in the geosyncline. Then rather suddenly comes the unconformable rapid deposition of thick series of coarser, clastic, largely non-marine sediments, during only one or two geologic periods immediately preceding the main disturbance. These may be called *premonitory* strata, because of their time relation to the main orogeny. Examples are the Pennsylvanian-Permian group of the eastern United States of America and western Europe, preceding the Appalachian-Hercynian revolution; the similar Upper Cretaceous-Paleocene strata, premonitory to the main orog-

eny of the Rocky Mountains; the great Franciscan series of California, premonitory to the late Jurassic revolution of the Pacific Coast, as were also other masses of coarse clastics, as on the Alaskan Peninsula; the great thickness of Pliocene sand and gravel in southern California, premonitory to the main deformation of the Coast Ranges; a thick body of continental, partly coal-bearing Lower Cretaceous strata in northern Alaska, premonitory to the main folding and thrusting of the Brooks Range; the *flysch* of the Alps; et cetera.

Recognition of the premonitory character of strata may help decide disputed points in orogeny. Thus in southern Oklahoma-Arkansas, the premonitory character of the Pennsylvanian sediments indicates that the main deformation of the Ouchita-Arbuckle chains was post-, not early Pennsylvanian. In eastern Canada the strongly premonitory character of the Devonian strata, including the 7000-foot Gaspé sandstone, supports Logan's contention that the greatest revolution of that region was the Acadian.

*Geologic Factors that Determine the Positions of Oil Fields in East Texas*, by F. B. Plummer.

The relative importance of the distribution of the source material, regional variations in porosity, regional variations in underground temperature, regional movement of underground waters, variations in chemical composition of underground waters, and positions of areas of differential pressures are evaluated. It is concluded that:

1. Movement of oil and water in the sand sheet must have played a major part in the concentration of oil into pools.
2. Accumulation of hydrocarbons took place in three stages: (a) minute colloidal particles of petroleum suspended in water moved downward through the pore spaces with underground water toward the lower part of the basin and moved farthest in the more porous parts of the sand sheet, (b) in deeper portions of the basin "cracking" of hydro-carbon molecules occurred and resulted in the formation of gas bubbles and of lighter oil; (c) the gas propelled the oil droplets to higher levels of less pressure and brought about accumulation into pools.
3. Movement of the hydrocarbons is controlled (a) by the distribution and extent of regional porosity, (b) by the regional and local structure of the sand sheet, and (c) by the differential regional and local pressures in the pore space.

The American Institute of Mining and Metallurgical Engineers held its annual New York meeting in February, 1932. The Mining Geology section met and discussed the deposits of some of the important ferro-alloy metals.

E. S. Moore of Toronto, Ontario, spoke on *Nickel Resources, Production and Utilization*. He pointed out the great age of certain nickel alloys although the metal was not discovered until 1751. The prominence of nickel as a metal did not develop until the first shipment from New Caledonia in 1875. By 1890 ore was being raised from various mines in the Sudbury district in Ontario, and from then on these two centres have dominated the scene with Sudbury by far the most important. Other countries, India, Norway, United States, Australia, and Madagascar are producing small quantities of nickel from domestic ores, and many others have at some time produced it chiefly as a by-product of other mining activities. He described the nickel-copper sulphide ores of Sudbury and the hydrous silicate ores of New Caledonia together with the most important deposits in other parts of the world, and pointed out the many uses of the metal such as in nickel steel, corrosion-

resistant steel, copper nickel alloys, coinage, nickel bronzes, et cetera.

Ernest R. Lilly of New York City described the *Geology and Economics of Tin Mining in Cornwall, England*. He discussed the geologic setting and the zoning of the ores of this ancient and important tin and copper mining district, discussed its history, and indicated how the application of modern management, research, engineering, organization, and financing would likely greatly prolong the active life of the district.

John W. Vanderwilt of Golden, Colorado, discussed the *Geology of the Molybdenite Deposits at Climax, Colorado, and of Other Deposits Producing Molybdenite*. He pointed out that until recently Molybdenum, long known as a valuable ferro-alloy, could only be used in a small way due to lack of raw material. The world's yearly production even during the war period was only about 800,000 pounds. This rose to 4,000,000 pounds in 1929 and 1930 primarily as the result of the development of the Climax deposit. The present low and fairly constant price has resulted in a great increase in its use. The Climax deposit occurs in a moderately silicified zone in Pre-Cambrian granite surrounding an internal silicified core. The moderately silicified rock is cut in all directions by intersecting quartz veinlets carrying molybdenite. The reserves are enormous and capable of supplying the present world demand for 190 years to come without considering low grade ores which may well be utilizable in the future.

The paper ends with a brief description of the deposit at Questa, New Mexico, where the molybdenite occurs in quartz fissure veins; and that at Knaben, Norway, in which the molybdenite is found in a silicified shear zone described as a quartz lode.

Mr. Hugh H. Spence, Ottawa, Canada, described the radium and silver ore discovered in 1930 at Great Bear Lake in the Northwest Territories of Canada. Two veins have been proved over a total combined length of more than 2000 feet and are believed to converge into a strong break upon which pitchblende has been found at several points over a distance of two miles. In parts of the veins pitchblende is mixed with rich native silver. The region is extremely favorable for mineralization and much is expected of it when it is better developed.

A paper by W. H. Emmons of Minneapolis, Minn., was read by title. This paper, *Prospecting for Gold in the Shield Areas of Canada, Siberia, Southern Rhodesia, and Western Australia*, is a summary and genetic discussion of the major gold producing regions in the earth's pre-Cambrian shields. It is a statistical study that brings to light certain facts of the distribution of gold around and in the borders and upper parts (cupolas) of the granite batholiths in all those shields, which facts are valuable guides to future search for ore. (The papers listed in this section are published in the *Transactions of the American Institute of Mining and Metallurgical Engineers*, vol. 102, 1932, or in the technical publications of that Society.)

*Recent Gold Discoveries in the Ontario-Quebec Boundary District*. (Taken from notes prepared by the Ontario Department of Mines and the Quebec Bureau of Mines for the proposed summer excursion of the Society of Economic Geologists—1932, which was later given up.)

Three districts are undergoing development

west and southwest of the important established camps of Kirkland Lake and Porcupine. These are the Matachewan, Swayze, and Bannockburn areas. East of the provincial boundary, in Quebec considerable mining and active prospecting and development work is taking place along a zone 120 miles long, closely following the northern contact of a synclinal belt of Temiscamian sediments with Keewatin volcanic rocks. The Horne mine at Noranda has been producing gold and copper in quantities since December, 1927, and many other mines in this, the Rouyn, area and farther to the east are producing, or are ready to produce. The activity in this general region has greatly increased Canada's gold production in the last year.

*Other Papers published during the year:*

*Geology of the Taconic Quadrangle*, Louis M. Prindle and E. B. Knopf, *Am. Jour. Sci.*, October, 1932, pp. 257-302.

An important addition to our growing knowledge of the complicated geology of eastern New York State and western Massachusetts. This paper includes parts of southwestern Vermont, northwestern Massachusetts, and adjacent eastern New York—a region that contains a known lower Paleozoic sequence, a variety of metamorphic rocks definitely assigned to the pre-Cambrian, and a series of tightly folded and overthrust metamorphics of uncertain age. The senior author believes that this sequence represents a metamorphosed equivalent of the overthrust Taconic sequence farther north but the relations are complicated in this and in neighboring regions by the fact that the belts of low grade metamorphism both east and west of the Green Mountain upland, including most of the overthrust mass in question, are not normal epizone schists but are originally mesozone types that have been degraded by intense differential movement after the main overthrusting. Also the effect of subjacent igneous invasions are prominent and difficult to evaluate properly as distinct from dynamic metamorphism. The authors connect the geology of the Green Mountains with that of the Taconics (in the particular district) as the area clearly shows—and they believe (as does the reviewer) that this marks a distinct advance in the interpretation of the regional geology.

*The Petrology and Structure of the Salisbury-Canaan District of Connecticut*, William M. Agar, *Am. Jour. Sci.*, January, 1932, pp. 31-48.

Presents the latest interpretation of the structure and petrology of the district, and shows that the chlorite, chloritoid schists of the southern end of the Taconic Range are diaphthorites degraded from former garnet, biotite, staurolite schist, rather than primary epizone schists making the transition from a region of intense metamorphism to one of non-metamorphosed sediments.

*On the Geology of Fennoscandia, with Special Reference to the Pre-Cambrian. Explanatory Notes to Accompany a General Geological Map of Fennoscandia*, J. J. Sederholm, *Bull. de la Commission Geologique de Finlande*, No. 98, July, 1932.

Contains a table showing the subdivisions and correlations of the pre-Cambrian. A brief exposition of the results of detailed work in a difficult region that explains the main sequence of events and indicates many of the details. The author does not minimize the difficulties in in-

terpretation and correlation or even the lack of finality of the map, but his name and ability give great importance to the work.

*A New Geological Map of the Commonwealth of Australia, with Explanatory Notes*, Sir T. W. Edgeworth David, 1932.

A large colored map in four sheets, scale 1:2,990,000. Includes Tasmania and the Mandated Territory of New Guinea. The most up-to-date map of an important geological terrane.

*Geology and Ore Deposits of the Stockton and Fairfield Quadrangles, Utah*, J. Gilluly, U. S. G. S. Prof. Paper 173, 1932.

This has the general scope of all the geological surveys' professional papers. It describes and illustrates the district in detail and discusses the scientific and economic problems of the ore deposits. It contains a particularly well reasoned discussion of the rock alterations accompanying the introduction of the ore minerals, the processes of igneous metamorphism, and the mode of transfer of materials. Figures emphasize the truly colossal amount of material deposited from, and carried off by, the fluids emanating from the congealing magma.

*A History of the Principles and Methods of Mechanical Analysis*, W. C. Krumbein, Jour. of Sed. Petrology vol. 2, August, 1932, pp. 89-124.

A discussion and analysis of the methods, old and new. Contains a complete bibliography. Required reading for all who work by these methods.

*The Adirondack Amorphosite and Its Problems*, H. L. Alling, Journal of Geology, 1932, pp. 193-237.

A valuable summary and comparison of views on Adirondack geology. It compares the views of the different geologists who have worked in the area, both in the text and by means of a table.

*Nitrate Deposits of the United States*, Mansfield and Boardman, U. S. G. S. Bull. 838, 1932.

Emphasizes the superficial nature of these deposits. There are none of great importance now known in the United States. This coupled with the fact that the type of region in which unknown deposits may be found is known "affords little hope that any deposits of sufficient magnitude to have commercial value will be found." Any one prospecting for nitrates should recognize this fact and the evidence upon which the statement is based. The Bulletin describes the test for nitrates in a rock and then considers deposits by States.

*Mineralogy of Drill Cores from the Potash Field of New Mexico and Texas*, W. T. Schaller and E. P. Henderson, U. S. G. S. Bull. 833, 1932.

The potash field most likely to have commercial value is confined to the south part of the Permian salt basin of the southwestern United States. This comprises an area of about 40,000 square miles in New Mexico and Texas. This report covers the minerals from the cores sent to Washington to be studied. Twenty-three minerals are described of which halite is by far the most abundant, followed by anhydrite, clays, polyhalite, and sylvite. A succession of minerals is noted and many rearrangements have occurred since the original deposition. A table of values of the index of refraction of all the minerals studied is an important contribution.

*Influence of the Replaced Rock on Replacement of Minerals Associated with Ore Deposits*, B. S. Butler, Econ. Geol., vol. 27, pp. 1-24, 1932.

This paper deals with the possibility of carrying Bowen's reaction series into ore minerals and "the probability that ore solutions react on wall rocks essentially as magmas react with earlier formed minerals and with foreign rock inclusions." Examples that indicate the validity of the thesis are described.

*Magmatic Chromite Deposits in Southern Africa*, Edward Sampson, Econ. Geol., vol. 27, pp. 113-144, 1932.

Discusses the occurrences of chromite in the Bushfield igneous complex of the Transvaal and the "great dike" of southern Rhodesia. It is concluded that the chromite of such deposits crystallized with the latest rather than with the earliest silicates. The time relations of the various silicates, and different possible modes of magmatic concentration are considered.

*Structures of the Wisconsin and Tri-State Lead and Zinc Deposits*, C. K. Leith, Econ. Geol., vol. 27, pp. 405-418, 1932.

Combats the recently advanced theories of the magmatic origin of these important metalliferous deposits and indicates that the structures in the field are more complicated than has been recognized by any of the advocates of special types of ore genesis.

*Microscopic Criteria of Hypogene and Supergene Origin of Ore Minerals*, G. M. Schwartz, Econ. Geol., vol. 27, pp. 533-553, 1932.

An important compilation of the views of various authors and a comparison of criteria regarded as definitive by different ones. This should go a long way toward clearing up the fog of conflicting views that envelops the subject. The article is indispensable to a beginning student of ore deposits.

*A Bibliography of the Tectonics of England and Wales*, R. H. Rastall, Geological Magazine, London, vol. lxix, pp. 233-236, 1932.

Important reference to a literature that has apparently not been sufficiently stressed.

*The Permo-Carboniferous Orogeny in the South-Central United States*, W. A. J. M. Van Waterschoot van der Gracht, Verhandeligen der Koninklijke Akademie, Van Wetenschappen Te Amsterdam Afdeling Naturkunde (Tweede Sectie) Deel xxvii, No. 3, Amsterdam, 1931.

This is a volume of 170 pages with many maps and diagrams that presents as complete a picture of the buried late Paleozoic structures of the region as can be done through the correlation of the work of many geologists and the author's own extensive studies in the field. The extensive drilling campaign for oil has furnished much of the material.

*Brachiopods of the Pennsylvanian System in Nebraska*, Carl O. Dunbar and G. E. Condra, Nebraska Geol. Survey, Bull. 5, second series, 1932.

A morphologic and taxonomic treatment of the Pennsylvanian brachiopods of Nebraska and adjacent areas. This subject has long needed revision since the precise limitation of species, rendered difficult by the intergradation of forms, was further hampered by imperfect studies and descriptions. The present study is detailed, systematic, and complete.

*The Stratigraphy of the Central Basin of Tenn.*, R. S. Bassler, Bull. 30, Tenn. Dept. of Education, Division of Geology, Nashville, 1932.

A detailed study of the paleontology, stratigraphy, and mineral deposits of a wide area.

*Arizona Gold Placers and Placering*, G. M.

Butler, University of Arizona Bull., No. 132, 1932.

This pamphlet describes the regions where successful operations have been carried on and gives the prospective placer miner who is not an "old timer" all the information possible to enable him to organize and carry out his expedition. It includes information concerning the laws in relation to location and retention of placer claims in Arizona; information on poisonous animals and a suggested list of equipment and food for the region considered.

*Outline of Methods for Estimating Ground Water Supplies*, D. E. Meinzer, U. S. G. S. Water Supply Paper 638-C, Washington, 1932.

Summarizes the methods for estimating the yield of aquifers and discusses critically the qualitative factors which must be considered in making such estimates. This is a very valuable contribution to a difficult and important subject.

*Geology of the Boston Area, Massachusetts*, L. LaForge, U. S. G. S. Bull. 839, 1932.

This bulletin includes a map of the bed rock geology of the Boston area and one of the surface formations together with a small scale geological map of eastern Massachusetts, Rhode Island, and the southeastern corner of New Hampshire. It presents the most recent discussion of the ages and correlation of the complicated metamorphic rocks of southeastern New England.

*The Bushveld Igneous Complex of the Central Transvaal*, A. L. Hall (Union of South Africa. Geological Survey Memoir 28, Pretoria, 1932).

An elaborate and beautifully illustrated account of the rocks of this important district, their origin, history, and structure. The conclusions are too detailed to be abstracted here.

#### NEW BOOKS

*Earthquake Damage and Earthquake Insurance*, J. R. Freeman (McGraw Hill, New York, 1932). An encyclopedic volume of great value to geologic and structural engineers and insurance companies alike.

*Outline of the Geology and Petrography of Surinam (Dutch Guiana)*, R. Izerman (Martinus Nijhoff, The Hague, Holland, 1931). All the latest available knowledge of a region much of which has been little explored.

*Handbook of Chemical Microscopy*, E. M. Charnot and C. W. Mason (Wiley and Sons, New York, 1932). Invaluable to every geologist who studies the polished surfaces of ore minerals.

*Prospecting for Gold*, I. L. Idriess (Angus and Robertson Ltd., Sydney, 1932). A clear, practical guide for a cub prospector as well as for the "old timer" who wishes to learn more about his trade.

*Petrography and Petrology*, F. F. Grout (McGraw-Hill Book Company, New York, 1932). An important contribution to descriptive petrography as well as to the more difficult interpretive petrology.

*Dana's Textbook of Mineralogy*, W. E. Ford (John Wiley and Sons, New York, 1932). A new edition of an indispensable book with an added section on crystal structure and the methods of its determination by X-rays, and on the origin, mode of occurrence and association of minerals. The description of minerals is revised and about 220 new species are added.

*An Introduction to Geology*, W. B. Scott (Macmillan, New York, 1932). This well known text is now in two volumes. The first part is one of the most inclusive and philosophic of all texts, and part two gives the most complete view of the geology of continents other than North America.

*Petroleum in the United States and Possessions: A Presentation and Interpretation of the Salient Data of Geology, Technology, and Economics in each State and Possession Treated According to the Conventional Major Field Divisions*, Ralph Arnold and W. J. Kenimtz (Harper Brothers, New York and London, 1930).

*The Grand Coulee*, T. Harlan Bretz (American Geographical Society, Special Publication No. 15, 1932). Well illustrated account of the author's view of the origin of this striking topographic feature and of the erosional features of falls in general.

*The Coming of Man*, G. G. MacCurdy (The University

Society, New York, 1932). A readable condensation of the facts so far known concerning pre-man and pre-historic man.

*Ursprung der Menschheit: Über den engeren Anschluss des Menschengeschlechts an die Menschenaffen*, Hans Weinert (Ferdinand Luke Verlag, Stuttgart, 1932). A detailed study of the physical relationship of man and the apes which concludes that the human stem remained one with the gorilla and chimpanzee after the orang-utan and gibbon stems had branched off. Places the chimpanzee as the closest relative to man.

*Treatise on Sedimentation*, William H. Twenhofel and collaborators (The Williams and Wilkins Co., Baltimore, 1932). The second edition. A very valuable book brought up-to-date.

*Physics of the Earth-V-Oceanography*, Bull. of the National Research Council, No. 85 (Washington, 1932). The most recent of an important series dealing with the earth. This volume contains many chapters by a number of different authors that deal with the following subjects: The Domains of Oceanography; Bottom of the Ocean; Properties of Sea Water, Movements of Sea Water, Oceanographic Instruments, Relations of Oceanography to other sciences.

*The Geology of Southwestern Uganda, with Special Reference to the Stanniferous Deposits*, H. A. Sthemann (Martinus Nyhoff, The Hague, 1932). A beautifully illustrated report that includes studies of morphology, regional geology, tectonics, metamorphism and the tin deposits.

*Grundprobleme der Geologie, eine Einführung in Geologisches Denken*, by Serge Von Buboff (Berlin, 1931). An inquiry into the fundamental problems of geology and an analysis of geological thought.

*Earth History*, Luther C. Snyder, The Century Earth Science Series (The Century Co., New York, 1932). A general geology written for the inquiring layman as well as for the beginning student. Emphasizes the historical, developmental side of geology, the evolution of living creatures and the influence of earth processes on man.

*Textbook of Geology, Pt. I, Physical Geology*, by Longwell, Knopf, Flint (John Wiley and Sons, New York, 1932). Supersedes the 1929 revision of Pilsen's "Physical Geology." The outcome of many years' experience in teaching beginning classes. This work is definite, concise, and clearly distinguishes fact from theory.

*Alpine Zone of Mt. Washington Range*, by Ernst Antevs (Auburn, Maine, 1932). A well illustrated account of the glacial phenomena, climate, and plant life of the White Mountains in New Hampshire with brief mention of some of the other higher summits of the eastern United States.

*Beryllium, Its Production and Application*, translated from the German by Richard Rimback and A. J. Michel (The Chemical Catalogue Co., Inc., New York City, 1932). A technical discussion of the properties and uses of beryllium and its alloys.

*Geology*, by W. H. Emmons, G. A. Theil, C. R. Stauffer, R. S. Allison (McGraw Hill Book Co., New York, 1932). An introductory text designed for one-semester courses. A well balanced book, suitably illustrated by photographs and instructive diagrams, with a brief final chapter on earth history. Perhaps its weakest point is the lack of emphasis on the various cycles of erosion.

*Man and Minerals*, by T. A. Rickard, 2 vols (McGraw Hill Book Co., New York, 1932). Traces the development in the use of metals from the earliest days to the present, and man's dependence on the materials won from the earth. Emphasizes the romantic aspect of mining and prospecting.

*A Descriptive Petrography of the Igneous Rocks, vol. II, The Quartz-Bearing Rocks*, by A. Johannsen (The University of Chicago Press, Chicago, Ill., 1932). The second part of this comprehensive study of the igneous rocks to be published. The title indicates the range of rocks considered. The text is largely descriptive, with many analyses, and brief outlines of the development of the theories of origin of the rock types.

*Stream Sculpture on the Atlantic Coast*, by D. W. Johnson (Columbia University Press, New York, 1931). An elaboration of the paper "A theory of Appalachian Geomorphic Evolution" mentioned in the 1931 YEAR BOOK.

*Die Feldspäte und ihre praktische Bestimmung*, by K. Chudoba (Stuttgart, 1932). A manual of the optical methods of practical value in the determination of the feldspars.

*The Genesis of the Diamond*, by A. F. Williams (Ernest Benn Ltd., London, 1932). A beautifully illustrated study of the present day practice of diamond mining, occurrence, geology, and the origin of Kimberlite and associated rocks; description, occurrence, and origin of the diamond. In two volumes.

*Erdöl: Allgemeine Erdölgeologie und Überblick über die Geologie der Erdölfelder Europas*, by O. Stutzer (Gebrüder Borntraeger, Berlin, 1931). A general, brief account of the properties of petroleum and related substances, their origin, and geologic occurrence. This is



followed by a description of the oil producing regions of Europe.

*The Unstable Earth*, by J. A. Steers (E. P. Dutton and Company, New York, 1932). A readable summary of the current theories of major earth movements and a discussion of such features as shields, geosynclines, mountain systems, island arcs, etc. The author discusses recent changes of sea level in great detail since they are fundamental to an understanding of earth movements.

**GEORGETOWN UNIVERSITY.** A Roman Catholic institution of higher education for men in Washington, D. C., founded in 1789, and conducted by the Society of Jesus. In the autumn of 1932, 2273 students were enrolled. The faculty numbered 394. The Riggs Memorial Library contained 164,547 volumes; the Hirst Library 10,456 volumes, and the individual libraries maintained by the professional schools, many additional volumes. In 1932 the corner-stone was laid for the White-Gravenor Building, which will contain the executive offices of the college and a number of class and lecture rooms, and a top floor devoted to modern chemical laboratories. President, the Rev. Coleman Nevils, S.J., Ph.D., D.D.

**GEORGE WASHINGTON BICENTENNIAL.** See ART EXHIBITIONS; ART MUSEUMS; CELEBRATIONS; SCULPTURE; WASHINGTON BICENTENNIAL.

**GEORGE WASHINGTON UNIVERSITY,** THE. A nonsectarian institution of higher learning for men and women in Washington, D. C., founded in 1821. The enrollment for the first semester of 1932-33 was 5131. The faculty numbered 378. The endowment amounted to \$1,670,245, from which the income for 1931-32 was \$72,806. The total income from all sources was \$1,270,409. The university library, comprising the general library, the various departmental and seminar libraries, the medical library, and the law library, contained more than 100,000 volumes.

*The George Washington Law Review*, the university's new legal quarterly, made its appearance in November, 1932. The publication is the first legal periodical in the United States devoted exclusively to governmental and federal public law, and is making use of the opportunities afforded by location in the national capital, and the university's extensive law library, to render a unique service to the legal profession. During the summer months the medical school building was completely remodeled and new equipment installed. There was also erected a four-story building, housing a central laboratory for the university hospital and clinical departments and research laboratories equipped with the finest and most modern facilities for teaching and research. President, Cloyd Heck Marvin, Ph.D., LL.D.

**GEORGE WESTINGHOUSE BRIDGE.** See BRIDGES.

**GEORGIA.** POPULATION. According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 2,908,506, as against 2,895,832 in 1920. Atlanta, the capital, had (1930) 270,306 inhabitants.

**AGRICULTURE.** The accompanying table gives the acreage, production, and value of the principal crops for 1932 and 1931.

**MINERAL PRODUCTION.** The clay products of the State attained for 1930 (the latest year for which a tabulation by the Federal Bureau of Mines was available), \$2,439,250, as against \$3,717,673 for 1929. Of these totals all but a very small component of pottery was supplied by brick and tile. The production of raw clay, attaining \$2,061,-

Crop	Year	Acreage	Prod. Bu.	Value
Cotton . . .	1932	2,985,000	845,000 <sup>a</sup>	\$27,040,000
	1931	3,431,000	1,393,000 <sup>a</sup>	40,606,000
Corn . . . .	1932	8,856,000	38,560,000	18,110,000
	1931	3,672,000	36,720,000	17,626,000
Tobacco . .	1932	27,000	12,501,000 <sup>b</sup>	1,413,000
	1931	84,000	59,640,000 <sup>b</sup>	4,056,000
Peanuts . .	1932	838,000	398,050,000 <sup>b</sup>	5,573,000
	1931	723,000	477,180,000 <sup>b</sup>	10,021,000
Sweet potatoes .	1932	109,000	8,938,000	3,933,000
	1931	91,000	4,550,000	4,868,000
Hay . . .	1932	844,000	497,000 <sup>c</sup>	3,960,000
	1931	694,000	377,000 <sup>c</sup>	3,738,000
Peaches . .	1932	.....	1,170,000	1,112,000
	1931	.....	9,134,000	5,024,000
Oats . . . .	1932	378,000	6,993,000	2,517,000
	1931	332,000	7,968,000	3,506,000
Potatoes . .	1932	17,000	1,003,000	806,000
	1931	18,000	1,188,000	891,000

<sup>a</sup> Bales    <sup>b</sup> Pounds.    <sup>c</sup> Tons.

209 for 1930 and \$2,098,891 for 1929, was in excess of the consumption of raw clay in the State's own clay products. Stone was quarried to the quantity of 772,650 short tons, exclusive of marble, in 1930, and to that of 977,910, marble included, in 1929; the respective totals, by value, were \$2,374,994 (1930) and \$6,417,329 (1929). There were, further, considerable totals of production of cement and of fuller's earth, for which figures were not specified in the Federal summary of the State's mineral production for 1930. In minor degree, barite, bauxite, coal, iron ore, lime, manganese and manganiferous ores, and talc contributed to the yearly mineral total. The value of the State's mineral product, raw clay excluded, was \$12,830,845 for 1930; for 1929, \$15,294,103.

**FINANCE.** State expenditures in the year ended Dec. 31, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments, \$21,214,292 (of which \$7,460,812 was for local education); for interest on debt, \$1,169,344 (chiefly a discount, non-recurring, on \$2,700,000 of Western and Atlanta Railroad warrants sold); for permanent improvements, \$18,568,867; total, \$40,952,503 (of which \$20,746,296 was for highways, \$3,061,378 being for maintenance and \$17,684,918 for construction). Revenues were \$40,369,191. Of these, property and special taxes furnished 20.5 per cent; departmental earnings and compensation to the State for officers' services, 4.2; sale of licenses, 49.4 (in which was included a gasoline sale tax that produced \$11,126,440). Funded debt outstanding on Dec. 31, 1931, totaled \$9,551,433. Net of sinking-fund assets, the debt was \$9,447,933. On an assessed valuation of \$1,267,788,959 the State levied in the year ad valorem taxes of \$6,338,945.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 6671.46.

**EDUCATION.** For the academic year 1931-32 the number of persons of school age in the State was reckoned as 867,995. There were enrolled in the public schools 751,397 pupils. Of these, 642,482 were in common schools or elementary grades; 100,274 were in daytime high schools; and 8641 were in evening high schools. The year's current expenditures for public-school education totaled \$18,235,248. The yearly salaries of teachers averaged \$655.15.

**CHARITIES AND CORRECTIONS.** A Board of Control of Eleemosynary Institutions, created by the reorganization act of 1931, assumed its functions

on Jan. 1, 1932. These included the direction of eight State institutions for the care of invalids, defectives, dependents, and young delinquents. In the new board were vested the functions of the several boards that had formerly directed these institutions. The new Board of Control was composed of 12 members; these were: the Governor, ex officio; one, representing the State at large; and 10 others, representing sections of the State, corresponding with its districts for the election of Federal Representatives. The board had as its executive aid a full-time secretary (Lucy R. D. Ficklen).

The State prison was not under the board's control. The institutions that it directed, with their respective average populations for 1932, were: Milledgeville State Hospital, Milledgeville, 5671 mental patients; Tuberculosis Sanatorium, Alto, 269 patients; Training School for Mental Defectives, Gracewood, 250; Academy for the Blind, Macon, 115; School for the Deaf, Cave Spring, 265; Training School for Girls, Atlanta, 156; Training School for Boys, Milledgeville, 173; Confederate Soldiers' Home, Atlanta, 29.

**POLITICAL AND OTHER EVENTS.** A law passed in the regular legislative session of 1931 prevented the State government from incurring debts that it could not pay when due. This affected the position of the State in 1932 in dealing with the prevailing economic depression. Some further administrative economies were effected, the State-owned automobiles of some of the State's employees being sold. Money was needed for the relief of destitution, particularly in Atlanta, and Atlanta, instead of the State, applied to the Reconstruction Finance Corporation for a loan on this account. The State, however, applied for a loan to enable it to pay its pensions to Confederate veterans.

Mayor James L. Key of Atlanta incurred, by his opposition to prohibition, the antagonism of organized prohibition forces in the city. These initiated a move for his recall. There was thus brought about on March 15 a popular vote on the recall proposal, in which the Dry and Wet elements were sharply opposed. Mayor Key was sustained by a majority of some 6400 in a total vote of about 39,000. United States Senator William J. Harris died on April 18. Governor Russell appointed Maj. John S. Cohen, editor of the *Atlanta Journal*, Senator to fill the vacancy until the election of a Senator in November, to fill the balance of the unexpired term. In the Democratic primary of September 13 Governor Russell himself gained the nomination for Senator, defeating Representative Charles R. Crisp, who had played a prominent part in shaping Federal tax measures, as Chairman of the House committee on ways and means, and who had voted against immediate payment of the soldiers' bonus.

**ELECTIONS.** The State voted the Democratic National ticket on November 8, casting only a scattering Republican vote. For President, the popular vote, as officially reported was: Roosevelt (Dem.), 234,118; Hoover (Rep.), 19,863. Eugene Talmadge, Commissioner of Agriculture, was elected Governor by the Democrats without opposition. Two Democratic Senators were elected: for the ensuing full term, Walter F. George, the incumbent; for the term expiring Mar. 4, 1937, Governor R. B. Russell, Jr.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, Richard B. Russell, Jr.; Secretary of State, John B. Wilson; Attorney-General, George M. Napier; Treasurer,

M. L. Ledford; Auditor, Tom Wisdom; Comptroller-General, W. B. Harrison; Superintendent of Education, M. L. Duggan; Commissioner of Agriculture, Eugene Talmage; Commissioner of Commerce and Labor, H. M. Stanley.

**Supreme Court:** Chief Justice, Richard B. Russell; Assistant Justices, Marcus W. Beck, Samuel C. Atkinson, S. Price Gilbert, H. Warner Hill, R. C. Bell.

**GEORGIA (GEORGIAN SOCIALIST SOVIET REPUBLIC).** A soviet republic (area, 26,381 square miles; population, about 2,661,000), which in 1922 united with Azerbaijan and Armenia to form the Transcaucasian Socialist Federated Soviet Republic (q.v.).

**GEORGIA, UNIVERSITY OF.** A State institution of higher education for men and women in Athens, Ga., chartered in 1785 and opened in 1801. The enrollment in the 1932 summer session was 1718 and for the autumn term, 1678. The faculty numbered 145. The productive funds of the university amounted to \$425,000, and the income for the year from the State and other sources was \$400,000. The library contained 70,000 volumes. There were completed during 1932 the Joseph E. Brown Dormitory, at a cost of \$150,000, the Harold Hirsch Law Building, at a cost of \$90,000, and the William Terrell Dawson Building, at a cost of \$130,000. The law building was the gift of alumni and friends. Mrs. Alexander C. King contributed \$20,000 for the library of the law school, which was to be known as the Alexander C. King Memorial Library. The Georgia State College of Agriculture and the Mechanic Arts and the Georgia State Teachers College have been integrated with the university, all three institutions constituting the University of Georgia. President, Steadman V. Sanford, Litt.D.

**GEORGIA SCHOOL OF TECHNOLOGY.** An institution for the scientific and technical education of men in Atlanta, Ga., founded in 1888. The enrollment for the autumn of 1932 was 2022, while that in the summer session was 417. The faculty numbered 170. The endowment amounted to \$420,000 and the income from appropriations and fees, to \$700,000. There were 30,000 volumes in the library. President, Marion Luther Brittain, LL.D.

**GERMAN ARCHITECTURE.** See ARCHITECTURE.

**GERMANIC LANGUAGES.** See PHILOLOGY, MODERN.

**GERMAN LITERATURE, GENERAL.** The political, social, and economic unsettlement of 1932 did not affect German letters to the extent one might have supposed. Many novels, plays, and miscellaneous books dealt, to be sure, with the grave problems of the time; but the tenor of the published literature seems more conservative and tranquil than the nation as a whole is. A considerable emphasis was placed upon patriotic motifs and emotions. The Goethe centenary and the Hauptmann birthday were important literary events, and the canonization of St. Albertus Magnus was a source of deep satisfaction to religious Germany. Economic conditions were reflected in a relatively smaller output of books, and in the emergence of a veritable multitude of brochure publications. The quantity and quality of the scholarly writing done during the year are impressive.

**THE NOVEL.** There was no dearth of novels by younger as well as established authors, though some famous names were not represented. Among

those books most widely talked of are: *Noch Nicht*, by Heinrich Hauser, which purports to be the diary of Christian Heinrich Skeel and blends the introspective method with *Sachlichkeit*; *Vor den Fenstern*, a proletarian story by Georg Rendl, a younger author who writes with remarkable precision and feeling; and *Vanadis*, a lengthy but dramatic psychological novel by the veteran Isolde Kurz. Ernst Wiechert's *Die Magd des Jürgen Doskocil*, Anna Seghers' *Die Gefährten*, and Ruth Schaumann's *Amei* (the story of a child) are books by craftsmen intended for those whose literary standards are high. Manners and morals, more or less contemporary, are the themes of Clara Viebig's *Menschen unter Zwang*, Richard von Kühlmann's *Der Kettenträger*, Walther von Hollander's *Schattenfänger*, Klaus Mann's *Treffpunkt im Unendlichen*, and Henry Benrath's *Ball auf Schloss Kobolnow*. The historical novel, never without its protagonists in Germany, was exemplified in Hermann Stegemann's *Die Herren von Hoehr*, written against the background of the French Revolution; Juliana von Stockhausen's *Meister Albert und die Ritter*; Lion Feuchtwanger's *Der jüdische Krieg*, which has to do with the life and times of Josephus; and Jakob Wassermann's *Bala Matari* (really a romantic biography) in which Stanley sits for a portrait. Political or racial emotions were stirred by Kasimir Edschmid's *Deutsches Schicksal*, a story of those for whom there was no room in the Fatherland and who therefore set out to carve a home out of the South American wilderness, and Ernst Glaeser's *Das Gut in Elsass*, which brings up a familiar cultural problem. Sociological novels, of which there were many, included Ernst von Salomon's *Die Stadt* and Hans Fallada's *Kleiner Mann—was nun?* A few other titles should be noted: W. E. Süßkind's *Mary und Ihr Knecht*, Ernst Zahn's *Der Fahrmann*, Adrien Risch, Franz Herwig's *Tim und Klara*, Georg Kaiser's *Es ist genug*, and Franz J. Weinrich's *Die Löwengrube*. All in all, a respectable year for German fiction.

**SHORTER FICTION.** The *Novelle* continues to remain in vogue, and there has been no dearth of new work in this medium. Perhaps the most interesting single achievement of the year was Ludwig Tugel's *Die Treue*, an unusual tale with a World War background. Notable also is Hermann Hesse's *Die Morgenlandfahrt*. Samples of the year's collections may be seen in Herman Löns' *Tiere unter sich*, and Jakob Schaffner's *Liebe und Schicksal*. *Vergrabenes Gut* is the last volume of stories by Paul Keller, who died during the year.

**POETRY AND DRAMA.** Poetry and drama are obviously in a transition stage. Organizations like the *Rheinischer Bund* strive manfully against a tide of prose. Will Vesper's *Ernte der deutschen Lyrik* is a revamped anthology of not a little interest. *Um Uns Die Stadt*, edited by Robert Seitz and Heinz Zucker, offers a selection of recent verse. Gertrud von Le Fort's *Hymnen an Deutschland* is an impassioned but not chauvinistic lyric sequence. Erich Kästner's *Gesang zwischen den Stühlen* affords interesting examples of this very modern poet's work. Friedrich Deml's *Sprache der Dinge* and Gottfried Hasenkamp's *Der Königstuhl von Aachen* contain religious verse by established Catholic poets. Of interest also are Hans Heinrich Ehrler's *Die Lichter schwinden im Licht* and Julius Zerzer's *Vor den*

*Bergen*. There was a collected edition of Bert Brecht's revolutionary lyrics.

No other recent drama seems to have attracted more attention than Fritz von Unruh's *Zero*, a violent and bitter denunciation of the world in which we are living. The title means what it says. Max Mell's *Die Sieben gegen Theben* is perhaps the best poetic play of the year. Other new offerings include: *Die Karriere*, by Ludwig Fulda; *Disraeli*, by Luise Mayer and Arthur Rundt; *Menschen ohne Gott*, by Hans Mühlestein; and *Clarence und die Nutzniesser*, by Wolfgang Petzet. Many shorter plays were issued by the co-operative drama associations, but such work is usually designed for the theatre rather than the library.

**RELIGION.** Numerous important religious publications appeared. The following deal with current problems and situations: Friedrich Karrenberg's *Christentum, Kapitalismus und Sozialismus*; Wilhelm Bergman's *Religion und Seelenleiden*; Peter Lippert's *Vom Gesetz und von der Liebe*; Karl Pfleger's *Im Schatten des Kirchturms*; and Adolf Ziegler's *Die russische Gottlosensbewegung*. Historical considerations dominate in: Peter Menneken's *Nikolaus von Cues*; Tor Andrae's *Mohamed, Sein Leben und Glaube*; Martin Grabmann's *Der heilige Albert der Grosse*; and Herbert Schöffler's *Die Anfänge des Puritanismus*. Karl Barth's *Die kirchliche Dogmatik* (vol. i) was possibly the most important publication in the doctrinal field. Of hortatory writing there was an abundance. Of religious interest also is Germany's new Catholic encyclopedia, *Der grosse Herder*, of which four volumes, ultra-modern in content, format, and illustration, appeared during the year.

**PHILOSOPHY.** Philosophical activity continued, though at a relatively slower pace. A monumental undertaking is the Heidelberg edition of the *Opera omnia* of Nicholas of Cusa, the initial volumes of which have now appeared. From this to the little book by Karl Jaspers, *Die geistige Situation der Zeit*, seems a long way, but Jaspers has crowded very much into a compact space. Contemporary interests and ideas prevail in Hermann Keyserling's *Südamerikanische Meditationen*, a travel-meditation on a continent of great interest to Germans, and Albert Schweitzer's *Aus meinem Leben und Denken*, autobiographical reflections by a man of indubitable greatness. The endeavor to effect a philosophic synthesis has inspired Erich Przywara's *Analogia Entis*, part one of a treatise by a keenly perceptive critic of modern trends. Special problems are envisaged in such books as Philipp Frank's *Das Kausalgesetz und seine Grenzen*, the subject of which happens to be in the forefront of current discussion; Otto Jannsen's *Das erlebende Ich und sein Dasein*; Ludwig Klages' *Der Geist als Widersacher der Seele*; and *Schönheit und Magie*, by Siegfried Behn, a study in the survival of primitive aesthetic. Many books are concerned with historical or critical problems. A few of these are: Ernst Cassirer's *Die Platonische Renaissance in England*, a study of British idealism, and Theodor Steinbüchel's *Das Grundproblem der Hegelschen Philosophie*. With Hegel quite a number of monographs and addresses have dealt. A good example of the contemporary philosophical essay is Alois Dempf's meaty *Kulturphilosophie*. Ernst Robert Curtius' *Elemente der Bildung* has a hortatory and educational purpose.

**LITERATURE.** Literary study has been pretty

well dominated during the past year by the Goethe centenary, which called forth well-nigh countless brochures and printed addresses by prominent scholars. To list even the best of these here is impossible. The following selection from newly issued Goethe literature will give some idea of the variety offered. *An Goethe: Briefe bedeutender Zeitgenossen* is a deluxe publication by the German government as a memorial offering. Louis Pinck's *Volkslieder von Goethe in Elsass gesammelt*, an anthology of folk-poems which once enchanted the master, may prove to be the most distinctive Goethe book of 1932. The following have the breadth and depth of special studies: Johannes Hofmeister's *Goethe und der deutsche Idealismus*; Herbert Cysarz's *Goethe und das geschichtliche Weltbild*, written from the point of view of a *Geisteswissenschaftler*; and Ferdinand Hammerschmidt's *Goethe und der Katholizismus. Goethe: Dreissig Handzeichnungen*, edited by Prof. Hans Wahl, and *Wie sah Goethe aus?*, by Fritz Stahl, are picture books. Other publications include: Julius Petersen's *Aus der Goethe Zeit*, collected essays by a recognized authority; Friedrich Zollinger's *Goethe in Zurich*; Albert Schweitzer's *Goethe*, a small book containing two addresses; and Fritz Friedländer's *Heine und Goethe*. One important aspect of the observance has been the publication of really excellent low-priced editions of the poet's works, notably by the Bibliographisches Institut.

The Gerhart Hauptmann 70th birthday has been marked by the virtual completion of Walter Requardt's *Gerhart Hauptmann Bibliographie*, by a new edition (three vols.) of the *Dramatische Werke*, by Joseph Shapiro's *Gesprache mit Gerhart Hauptmann*, and by Hans von Hülsen's *Gerhart Hauptmann*, which seems to be a virtually official biography. Other works of critical or historical interest appeared in number. Emil Ermatinger edited a symposium, *Philosophie der Literaturwissenschaft*, devoted to the study of knotty theoretical problems. Lothmar Helbing's *Der dritte Humanismus* is one of many recent programmatic publications. Carl Sieber's *René Rilke* is a study of the poet's youth. *Licht aus dem Osten*, by Theodorich Kampmann, is widely considered one of the best German books about Dostoevsky. No critique of contemporary letters issued this year attracted the attention still given to Otto Forst de Battaglia's *Kampf mit dem Drachen*, published late last year. The publication of the second volume of Friedrich Gundolf's *Romantiker* virtually brought to a close the work of this critic, recently deceased. I. Weidekampff's *Traum und Wirklichkeit in der Romantik und bei Heine* and E. Voegelé's *Mittelbarkeit und Unmittelbarkeit in der Lyrik* may be named as representative of many special studies. Notice is not taken here of those extensive collections—e.g. the Kindermann-Brecht-Kralik *Deutsche Literatur* or the *Deutsche Texte des Mittelalters*—which are gradually being pushed toward a conclusion. That such undertakings can make any progress at all under existing conditions is a splendid tribute to the tenacity of German scholarship.

ART. Though the hard times scarcely favored the production and purchase of necessarily expensive art books, some attractive examples were offered. Friedrich H. Hoffmann's *Das Porzellan der europäischen Manufakturen im 18. Jahrhundert* is another Propylaen-Verlag *Pracht-*

*werk*. Other publications include: *Das neue Kollwitz-Werk*, reproductions of recent drawings by Käthe Kollwitz; Oscar Wulff's *Die neurosische Kunst im Rahmen der Kulturentwicklung Russlands*; and Hans Karlinger's *Theodor Fischer*. Of cognate interest is Conrad Groeber's *Kirche und Künstler*, which discusses the problems of ecclesiastical art. One of the most important publications in the field of music is *Moderne Musik seit der Romantik* by Hans Mersmann.

THE SOCIAL SCIENCES. It was inevitable that there should be intense concern with social and economic problems, and the wealth of new books dealing with them is characteristic. Political radicalism is the theme of Wilhelm von Schramm's *Radikale Politik*, interesting chiefly for its interpretation of Fascist psychology. Much the same point of view governs Kurt Trampler's philosophic *Krise des Nationalstaats*, Carl Schmitt's trenchant and legalistic *Legalität oder Legitimität*, and Edgar von Schmidt-Pauli's informative but prejudiced *Manner um Hitler*. Karl Braunias has written a well-informed study of the voting systems of modern democracies, *Das parlamentarische Wahlrecht*; Gertrud Büumer's summary of politically active feminism in Germany is entitled *Die Frau im deutschen Staat*; and for general information one may consult Sigmund Neumann's *Die deutschen Parteien*. The general cultural situation is envisaged in Ernst Robert Curtius' *Deutscher Geist in Gefahr*. Economic trends are the topic of Franz Oppenheimer's *Weder Kapitalismus noch Kommunismus*, M. J. Bonn's *Kapitalismus oder Feudalismus?* and Goetz Briefs' *Die Wandlungen der Wirtschaft im kapitalistischen Zeitalter*. Special problems are considered in Josef Dobretsberger's *Freie oder gebundene Wirtschaft?*, Ernst Wagemann's *Geld und Kredit-Reform*, Emil Lederer's *Das Kartellproblem*, and Rudolf Stucken's *Die Konjunkturen im Wirtschaftsleben. Der deutsche Katholizismus im Zeitalter des Kapitalismus*, by Wilhelm Schwer and Franz Müller, is a contribution to the study of the relations between religion and the social order. Among the latest books on depression-ridden America Richard Lewinsohn's *Die Welt aus den Fugen* is notable. Little of great importance about Russia has appeared this year. The number of more or less interesting brochures is legion.

HISTORY. History has its patient servitors. Among the large-scale productions which have been carried a step forward are the *Monumenta Germaniae historica*, and the *Geschichte der führenden Völker* which a group of Catholic scholars are writing. Curt Gebauer's *Deutsche Kulturgeschichte der Neuzeit* is another venture into an attractive field. The publication of Gustav Stresemann's *Vermächtnis*, edited by Henry Bernhard, has occasioned a great deal of controversy. Stefan Zweig is the author of *Marie Antoinette*, much written about royal heroine. Eugen Kühnemann's biography of *George Washington* is sympathetic, and differs no whit in this respect from Walter Bloem's *Hindenburg der deutsche*. Franz Seldte's *Der Stahlhelm* adds something to our knowledge of the recent troubled past. *Ein Menschenleben: Heinrich Braun*, by Julie Braun-Vogelstein, records the career of an Austrian Socialist leader. Heinrich Gunter's *Deutsche Kultur in ihrer Entwicklung* is solid and authoritative.

TRAVEL. Travel is represented by Paul Schebasta's *Bambuti*, an authoritative but popularly

written account of life among the almost unvisited Pygmies of Central Africa. Richard Loederer is an artist whose sketch-book, *Wudu-Feier auf Haiti*, is illustrated with original woodcuts. Paul Rohrbach's *Errauchendes Asien* embodies the reflections aroused by a recent journey through India, China, and Japan, while Egon Erwin Kisch offers, in *China geheim*, a close-up of war-infested China. *Frankreich in Indochina* is a critique of French colonization methods by an anonymous writer.

**TRANSLATION.** Translations were rather noticeably fewer this year, and well-nigh limited to fiction and books on economic problems. Among the American writers translated into German are Thornton Wilder, who enjoyed a success *d'estime*, Stuart Chase, Upton Sinclair, and H. R. Knickerbocker.

**GERMANY.** A federal republic of central Europe. It is bounded on the north by the Baltic Sea, Denmark, and the North Sea; on the west by the Netherlands, Belgium, Luxemburg, and France; on the east by Lithuania and Poland, whose Danzig corridor isolates East Prussia from the rest of Germany; and on the south by Switzerland, Austria, and Czechoslovakia. The German Empire consisted of 25 Federal states and the Imperial Reichsland; the Federal Republic consists of 18 republics. Capital, Berlin.

**AREA AND POPULATION.** The accompanying table from the *Statesman's Year Book* for 1932 gives the population according to the census of June 16, 1925, and the area as of Dec. 31, 1930. The estimated population in June, 1930 was 65,092,000, excluding the Saar.

Cities of over 500,000 population at the census of 1925 were. Berlin, 4,024,286; Hamburg, 1,079,126; Cologne, 700,222; Munich, 685,036; Leipzig, 684,728; Essen 629,564; Dresden, 625,016; Breslau, 599,770; Frankfort-on-Main, 540,115; Dortmund, 525,837. Berlin's population on Mar. 1, 1932, was estimated by the Prussian Statistical Bureau at 4,288,314, as against 4,348,000 on the same date of 1930. Foreigners in the country in 1925 numbered 957,096, or 15.3 per cent of the population. Emigrants in 1930 numbered 37,399, of whom 25,427 went to the United

States. Births in 1931, excluding the Saar, numbered 1,031,508 (1,226,829 in 1930); deaths, 725,983 (710,905); marriages, 515,411 (562,491).

**EDUCATION AND RELIGION.** Elementary education is compulsory between the ages of 6 and 14. The enrollment in the various institutions during the 1926-27 scholastic years was as follows: Elementary public schools, 6,659,769; elementary private schools, 36,991; intermediate schools, 259,070; vocational and trade schools, 2,507,028; "gymnasien" and "realschulen" (corresponding to American high schools), 811,081; universities (1930), 97,403, excluding 6972 on leave or excused from attending classes. There are 23 universities and numerous technical and normal schools.

The 1925 census showed 40,014,677 Protestants (64.1 per cent of the population), 20,193,334 Catholics (32.4 per cent), and 564,379 Jews (0.9 per cent).

**PRODUCTION.** One of the most agriculturally productive countries of Europe, Germany in June, 1931, had 51,212,687 acres of arable land, 20,408,475 acres of grass, meadow and pasture, 206,362 acres of vineyards, and 1,591,795 acres of orchards, truck gardens, etc. The total area under cultivation was 73,419,825 acres. Of the cultivated area, about 61 per cent was sown to grain and legumes and 21 per cent to potatoes, sugar beets, and cattle turnips. The average size of individual farms was about 29 acres, although large estates predominated in the northeast. The area and production of the chief crops in 1930 and 1931 are shown in the accompanying table from the 1932 *Commerce Yearbook*. Livestock in December, 1931, included 19,090,500 cattle, 3,447,700 horses, 23,783,400 swine, and 3,495,000 sheep. The timber acreage in 1932 was 31,259,000, including over 22,000,000 acres of softwoods; one-third of the total acreage was under public control.

#### GERMAN CROPS AREA AND PRODUCTION

Crop	Area <sup>a</sup>		Production <sup>b</sup>	
	1930	1931	1930	1931
Wheat . . . . .	4,401	5,355	139,220	155,534
Rye . . . . .	11,641	10,788	302,311	262,982
Barley . . . . .	3,753	4,001	131,362	138,619
Oats . . . . .	8,499	8,310	389,666	427,489
Spelt . . . . .	293	281	5,071	4,897
Lupins . . . . .	84	117	30 <sup>c</sup>	54 <sup>c</sup>
Potatoes . . . . .	6,980	6,978	1,730,600	1,611,773
Sugar beets . . . . .	1,286	972	14,919 <sup>c</sup>	11,039 <sup>c</sup>
Beet sugar <sup>d</sup> . . . . .	...	...	2,548 <sup>c</sup>	1,573 <sup>c</sup>
Fodder beets . . . . .	1,845	1,952	30,402 <sup>c</sup>	29,826 <sup>c</sup>
Hay, alfalfa, and clover . . . . .	18,701	18,629	36,988 <sup>c</sup>	37,015 <sup>c</sup>
Hops . . . . .	32	25	24,366 <sup>c</sup>	17,152 <sup>c</sup>
Tobacco . . . . .	23	26	46,407 <sup>c</sup>	56,115 <sup>c</sup>
Grapevines . . . . .	203	204	74,331 <sup>f</sup>	75,012 <sup>f</sup>

<sup>a</sup> Thousands of acres. <sup>b</sup> Thousands of units—bushels except as indicated. <sup>c</sup> Unit, metric ton. <sup>d</sup> Seasons ended following year. <sup>e</sup> Unit, pound. <sup>f</sup> Unit, gallon of wine.

**MINING AND METALLURGY.** The principal German mining areas are in the districts of Westphalia, Rhenish Prussia, and Silesia (coal and iron), Central Germany (brown coal), the Harz (iron and copper ore), and the Westerwald (iron ore). In 1925, there were 2942 mines in Germany, employing 808,593 persons. Mineral production declined during the three years 1929, 1930 and 1931, as shown in the accompanying table of mineral, metallurgical, and industrial production. In 1932, the pig iron output was 3,933,026 metric tons and the output of steel was 5,746,000 metric tons (preliminary).

#### GERMANY. AREA AND POPULATION

Constituent States	Area English sq. miles	Population June 16, 1925	Pop. per sq. mile
Prussia <sup>a</sup> . . . . .	119,036	38,175,989	338
Bavaria <sup>c</sup> . . . . .	29,343	7,379,594	251
Wurttemberg . . . . .	7,532	2,580,235	342
Baden . . . . .	5,819	2,312,462	397
Saxony . . . . .	5,789	4,994,281	863
Mecklenburg-Schwerin . . . . .	5,066	674,045	133
Thuringia . . . . .	4,537	1,607,339	355
Hesse . . . . .	2,970	1,347,279	454
Oldenburg . . . . .	2,480	545,172	220
Brunswick . . . . .	1,418	501,875	354
Mecklenburg-Strelitz . . . . .	1,131	110,269	98
Anhalt . . . . .	890	351,045	396
Lippe . . . . .	469	168,648	349
Schaumburg-Lippe . . . . .	131	48,046	367
Hamburg . . . . .	160	1,152,523	7,208
Lubeck . . . . .	115	127,971	1,113
Bremen . . . . .	99	338,846	3,423
German Republic <sup>a</sup> . . . . .	180,985	62,410,619	345
Prussian Saar District <sup>b</sup> . . . . .	574	670,019	1,167
Saarpfalz <sup>b</sup> . . . . .	164	100,011	598
Saar District (altogether) . . . . .	738	770,030	1,041
German Republic (with Saar District) <sup>b</sup> . . . . .	181,723	63,180,649	348

<sup>a</sup> Excluding the Saar and including Waldeck, absorbed by Prussia Apr. 1, 1929.

<sup>b</sup> The figures for the population of the Saar District are those of the census taken July 19, 1927.

<sup>c</sup> Excluding the Saar.

## GERMANY'S MINERAL AND INDUSTRIAL OUTPUT

Product	1930	1931
Coal ..... 1,000 metric tons	139,761	118,624
Lignite ..... do.	145,836	133,222
Coke * ..... do.	32,459	22,700
Briquets, coal ..... do.	4,691	4,683
Briquets, lignite ..... do.	38,999	32,434
Iron ore ..... do.	5,471	.....
Lead * ..... metric tons	68,663	.....
Copper * ..... do.	26,972	.....
Potash (K <sub>2</sub> O) .... 1,000 metric tons	1,881	964
Pig iron ..... do.	9,695	6,036
Crude steel ..... do.	11,405	8,291
Rolling-mill products ..... do.	8,192	5,860
Rayon ..... 1,000 lbs.	57,800	52,000
Cotton consumption * ..... million lbs	679	593
Vessels launched ..... gross tons	245,557	103,934

\* From black coal. \* Metal content of ore. \* Includes linters.

**MANUFACTURING.** Germany's industrial output during 1931 was 25 per cent less than in 1930 and 57 per cent less than in 1929. The gross value of industrial production was officially estimated at approximately \$12,000,000,000 for 1931, \$16,000,000,000 for 1930, and \$21,000,000,000 for 1929. The quantity of industrial goods produced during 1931 was 37 per cent below the 1928 level, the chief decline taking place in manufactured consumption goods, especially textiles, shoes, and paper.

The industrial census of June 16, 1925, showed 1,852,737 industrial establishments, employing 12,704,135 work-people. The leading industries are the production of iron and steel in the Ruhr, Westphalia, and the lower Rhine district, electrical products, chemicals, textiles, linen, woollens, beet sugar, potash, glass, porcelain, earthenware, clocks and wooden ware, beer, and tobacco products. The raw sugar output in 1930-31 totaled 2,515,617 metric tons; beer (1930), 48,486,000 hectolitres (of 22 gallons); tobacco products (1930-31), 6,794,477,000 cigars, 29,748,462,000 cigarettes, 37,261,506 kilos of smoking tobacco, and 2,077,132 kilos of snuff. The number of unemployed workers decreased from 5,966,000 on Jan. 15, 1932, to 5,100,000 on Sept. 30, 1932. It was 5,773,000 on Dec. 31, 1932. Union wages in general declined about 20 per cent during the two years 1931 and 1932. During 1932, the index of agricultural prices declined 11 per cent, of manufactures 10 per cent, of raw materials 5 per cent. The national income in 1931 was estimated at 57 billion marks (about \$13,571,000,000), or 19 billion marks less than in 1929.

**COMMERCE.** Germany in 1931 had an export surplus amounting to 3,878,000,000 marks, including gold and silver and reparation deliveries in kind; excluding these items, the final surplus was 2,478,000,000 marks (mark equaled \$0.2382 at par). Imports were valued at 6,727,000,000 marks (10,393,000,000 marks in 1930) and exports at 9,598,600,000 marks (12,035,600,000 marks in 1930); imports in 1931 declined about 35 per cent in value and about 30 per cent in volume, while the export decline was 20 per cent in value and 10 per cent in volume. The chief export items, in order of value in 1931, were: Iron and steel, 1,419,419,000 marks; chemical products, 432,044,000; coal, 409,913,000; paper, 324,656,000; cotton goods, dyes and varnishes, woolen goods, silk and rayon, copper, glass and glassware, and leather. The leading import items were: Raw cotton, 336,644,000 marks; wool, 321,824,000 marks; mineral oil, 256,841,000 marks; coffee, 222,784,000 marks; butter, copper, iron ore, timber, coal and wheat.

The United States continued as the chief source of supply, although imports from that country decreased 40 per cent in value as compared with 1930. Imports from the United States were valued at 791,400,000 marks (1,306,800,000 in 1930); Great Britain, 453,400,000 marks (639,000,000); the Netherlands, 383,800,000 marks (560,800,000); France, 341,200,000 (518,700,000); Soviet Union, 302,800,000 (436,300,000). Exports went principally to Great Britain, 1,133,400,000 marks in 1931 (1,218,900,000 in 1930); the Netherlands, 954,600,000 (1,205,800,000); France, 834,000,000 (1,148,600,000); United States, 476,300,000 (885,200,000); Switzerland, 541,600,000 (627,600,000); Czechoslovakia, 423,800,000 (528,200,000).

Excluding gold and silver, the 1932 exports totaled 5,700,000,000 Reichsmarks and imports 4,600,000,000 Reichsmarks, leaving an export surplus of 1,100,000,000 Reichsmarks. German exports to the United States in 1932 were valued at \$73,521,439 and imports from the United States were \$133,416,957.

**FINANCES.** The combined budgets of the Reich, the states, the communes, and the Hanseatic cities have shown continual deficits, amounting to 1,443,000,000 Reichsmarks for the fiscal year ended Mar. 31, 1931, 919,000,000 marks for 1929-30, and 1,210,000,000 marks for 1928-29. Actual returns of the Reich's budget operations in 1929-30 were: Revenue, 10,100,000,000 Reichsmarks; expenditure, 10,546,000,000 marks. For 1930-31, revenue was 10,259,000,000 marks; expenditure, 11,248,000,000 marks. The 1931-32 budget estimates of the Reich balanced at 9,300,000,000 marks; those for 1932-33 at 8,200,000,000 marks. Actual returns for 1931-32 showed a deficit of 449,000,000 marks in the ordinary budget, of 152,000,000 marks in the extraordinary budget, and 1,031,000,000 marks carried over from the deficit of 1930-31, making a total actual deficit of 1,632,000,000 marks (about \$400,000,000). Between 1930 and 1932 expenditures of all governmental units were reduced by some 6,000,000,000 marks. A deficit of about 800,000,000 marks (about \$190,000,000) was forecast for the 1932-33 fiscal year, despite economies totaling 783,000,000 marks.

In July, 1932, the total debt of the Reich was placed at 11,423,000,000 marks; of the states, 2,881,000,000 marks; of the municipalities, 9,407,000,000 marks; total public debt, 24,100,000,000 marks, of which about 18,000,000,000 were contracted since the stabilization of the currency in 1923. On the basis of a census taken as of Feb. 29, 1932, the private foreign indebtedness on that date was 20,623,000,000 marks, including 10,153,000,000 marks in short-term debts (maturing up to February, 1933) and 10,470,000,000 marks in long-term debts (due after February, 1933). Adding German bonds owned by foreigners (about 400,000,000 marks), foreign-owned German shares and interest in German enterprises (2,500,000,000 to 3,500,000,000 marks), and foreign-owned real property in Germany (2,000,000,000 marks), the German Statistical Bureau estimated that the total German foreign indebtedness was from 25,600,000,000 to 26,600,000,000 marks. German investments abroad amounted to some 8,500,000,000 marks. Of the long-term debt contracted abroad, 5,265,000,000 marks, or 55.2 per cent, was held in the United States.

**INTERNAL COMMUNICATIONS.** At the beginning of 1931, railway lines extended 36,231 miles, of which 33,434, miles were state owned and oper-

ated. The state railways in 1930 carried 399,544,176 tons of merchandise and 1,829,000,000 passengers. In the same year, there were 7689 miles of inland waterways, with a fleet of 19,166 vessels, aggregating 6,725,748 tons. In the summer of 1931, 94 air-mail lines were in operation, with routes aggregating 20,460 miles. Air lines carried 93,677 passengers and 481 tons of letters and parcels in 1930. Highways totaled 217,479 miles, of which 74,564 miles were macadam.

**SHIPPING.** The German mercantile marine increased from 1990 vessels (of 100 tons and over), aggregating 3,363,046 gross tons on June 30, 1927, to 2171 vessels, of 4,254,601 gross tons on June 30, 1931. The net tonnage of vessels entering German ports with cargo in 1931 was 31,152,000 (34,176,000 in 1930) and the net tonnage of vessels clearing with cargo was 27,876,000 (28,908,000). See **SHIPPING, MERCHANT.**

**GOVERNMENT.** Under the Constitution of the Republic adopted July 31, 1919, and promulgated Aug. 11, 1919, executive power is vested in the President elected by the people for seven years, and in a ministry appointed by him and responsible to the Reichstag, or lower house of Parliament. Legislative power is vested in the Reichstag, consisting of 577 members following election of Sept. 14, 1930, who are elected by universal, equal, direct, secret franchise of male and female voters, on the principle of proportional representation: and in a federal council, the Reichsrat, consisting of 66 members. The consent of the Reichsrat is required to all bills before their introduction into the Reichstag, but the latter body may pass a bill over the heads of the former by a two-thirds vote.

The cabinet formed Oct. 9, 1931, was constituted as follows: Chancellor and Foreign Minister, Dr. Heinrich Brüning (Centre); Minister of Finance and Vice Chancellor, Hermann Robert Dietrich (German Democratic party); Justice, Dr. K. Joël; Defense and Home Affairs, Lieut.-Gen. Wilhelm Groener; Economic Affairs, Dr. Hermann Warmbold; Transport, Gottfried Reinhold Treviranus (People's Conservative party); Labor, Dr. Adam Stegerwald (Centre); Food and Agriculture, Dr. Martin Schiele (Nationalist); Posts, Dr. G. Schaetzel (Bavarian People's party). For changes during 1932, see *History*.

### HISTORY

Three years of economic and political disintegration in Germany culminated in 1932 in the virtually complete breakdown of parliamentary government and the return to power of the Junker class of large landowners who established and dominated the Empire. Supported by President von Hindenburg and the heads of the Reichswehr, a Junker cabinet led by Col. Franz von Papen displaced Chancellor Brüning and headed off Adolf Hitler's spectacular drive toward a Fascist dictatorship. Amid the political chaos manifested by five major elections within eight months, the new cabinet presented a determined, aggressive front. It embarked upon a bold course, designed to check the economic depression at home and to shake off without delay the chains of the Versailles Treaty. Within Germany, its policies increased the dangerous schism between the working classes, represented by the Social Democrats and Communists, on the one hand, and the industrialists, large estate owners, and army officers on the other. In the international field, its

course endangered prospects of substantial progress toward the limitation of armaments and increased the general uneasiness and tension in Europe.

**THE PRESIDENTIAL ELECTION.** The opening of the year found Chancellor Brüning engaged in negotiating an agreement among German political leaders for the extension of President von Hindenburg's term of office, which was due to expire May 5, 1932. Intended to spare the country the cost and excitement of a presidential election at a time of political and financial crisis, the proposal met with favor among many party chiefs. It was flatly rejected on January 17, however, by the National Socialist leader, Adolf Hitler, without whose support the necessary two-thirds vote could not be mustered in the Reichstag.

The presidential campaign temporarily ended the so-called "Harzburg Front," the anti-republican union of the Nazis (National Socialists), Nationalists, and the *Stahlhelm* (Steel Helmet league) formed at Bad Harzburg the previous October. The Nazis and Nationalists nominated Hitler and Theodore Duestenberg, a leading *Stahlhelm* official, respectively. On petition of some 3,000,000 voters, von Hindenburg consented to run for reelection, being supported directly by the Catholic Centre, the Bavarian People's, State, and the Social Democratic parties and indirectly by most of the moderate bourgeois groups. The other candidates were Ernst Thaelmann, leader of the German Communist party, and Gustav Winter, an obscure advocate of the revalorization of the old German mark. The voters were thus presented with three alternatives—the maintenance of the Weimar Republic under von Hindenburg, the establishment of Hitler's Third Reich, or the creation of a communist state under Thaelmann. The Nationalists, monarchist in sentiment, hoped to secure enough votes to obtain the balance of power at the "run-off election."

In the first election of March 13, von Hindenburg lacked only one-half of 1 per cent of the necessary absolute majority over all other candidates, capturing 18,654,244 votes out of the 37,657,201 cast. Hitler followed with 11,341,119 votes. Thaelmann secured 4,982,870, Duestenberg 2,558,815, Winter 111,492, and others 8661. In the run-off election of April 10, von Hindenburg won 19,359,642 votes, or 53 per cent of the 36,491,694 votes cast. Hitler's vote increased to 13,417,460, or 36.7 per cent; Thaelmann's declined to 3,706,388, or 10.1 per cent. Duestenberg and Winter dropped out of the second contest.

**RISE OF THE NAZIS.** Von Hindenburg's victory was diagnosed as an endorsement of the Weimar Republic. The voting, however, showed extensive gains for the anti-Republican parties and subsequent events indicated that the success of the 84-year-old President was due more to his personal popularity than to his support of the Republic. On Mar. 13, 1932, the opponents of the Republic polled 50.4 per cent of the total vote, as compared with 38.75 per cent in September, 1930. Hitler's National Socialists doubled their vote of the September, 1930, elections, and in the run-off poll of April 10, they added 2,000,000 more votes. In the state elections held April 24 in Prussia, Württemberg, Hamburg, and Anhalt, the Nazis emerged as the largest single party; in Bavaria they stood second. In these five states, comprising about five-sixths of the total popula-



tion, they averaged 35 per cent of the votes—40 per cent in Anhalt, 38 per cent in Prussia, and 30 per cent in Bavaria.

Further Nazi gains were shown in the elections to the State Diet of Hesse on June 19. Hitler's followers polled 322,268 votes, against 319,039 on the second ballot of the Presidential election and 291,183 in the preceding Diet elections of November, 1931. On May 29, the election to the Diet of Oldenburg gave the National Socialists 131,525 votes, as against 97,778 votes in the 1931 election; the Nationalist vote was 15,629, against 12,500. The Mecklenburg-Schwerin state election on June 5 showed a similar trend. Of the 58 seats, the Nazis captured 29, the Social Democrats 18, the Nationalists 5, Communists 4, and others 2.

In all of these states, the smaller conservative groups were almost entirely absorbed by the Hitlerites. The Social Democrats lost heavily, while the Communists made slight gains. In no state, however, did the Nazis secure a majority, in each case the legislative bodies were deadlocked, with the Communists or some other small group holding the balance of power. In Prussia the Nazis counted 162 seats out of 422 in the Diet, compared with 6 out of 453 in the previous Diet. They held exactly the same number of mandates as the coalition of Social Democrats, Centrists, and Democrats (state party) which had governed Prussia since 1925 (see PRUSSIA). The Centrists, with 67 seats, and the Communists, with 57, held the balance of power.

**THE FALL OF BRÜNING.** As the fate of the Brüning government was closely bound to that of the republican coalition in the Prussian Diet, the attention of all Germany was focused upon the new Diet when it convened on May 24. It opened with a violent struggle between Nazi and Communist members, in which several were badly hurt. The National Socialists succeeded in electing Wilhelm Kerl as President, in accordance with the precedent that the office should go to the strongest party. A deadlock ensued over the choice of a Premier to succeed the Social Democrat, Dr. Otto Braun, no candidate being able to secure the required absolute majority.

Before the deadlock could be ended by a realignment of parties, the resignation of Dr. Brüning's coalition Reich cabinet on May 30 precipitated a more drastic solution. Brüning's downfall was caused by the withdrawal of the loyal support which both President Hindenburg and the Reichswehr officers, acting through Minister of Defense Groener, had accorded him for more than two years. Aided by von Hindenburg, Groener, and the Socialist Premier of Prussia, Brüning had maintained a semi-dictatorial government which managed to observe the constitutional forms of the Weimar Constitution and still maintain relative domestic tranquillity. Moreover Brüning's policies had the support of the Reichstag, which two weeks before his resignation gave him a vote of confidence by a margin of 30 votes.

However, there had been growing dissatisfaction, particularly among the army officers, at the moderation of the Chancellor's foreign policy and his support of various socialistic measures. The April elections reflected this turn of sentiment. Discontent among the Junker element in the Reichswehr was further stirred by the ban placed by General Groener on the Nazi Storm Troops early in April, a measure which was extended to all political military organizations on May 4.

Lieut.-Gen. Kurt von Schleicher, "political" manager of the Reichswehr under Groener, now informed his chief that he (Groener) no longer had the support of his officers, and suggested that he resign. On May 12, General Groener was forced to comply.

The gain in the Hitler vote, the failure of Brüning to secure satisfactory concessions from Germany's opponents in the World War, intrigue in the army, and finally von Hindenburg's personal objection to a government measure designed to redivide the larger estates in East Prussia—all these factors induced the President to withdraw his support. With these two indispensable props removed, the Brüning Ministry collapsed.

**THE PAPEN-SCHLEICHER CABINET.** To the surprise of the nation, President von Hindenburg on May 31 entrusted the formation of a new cabinet to Col. Franz von Papen, former German military attaché in Washington. (Von Papen was recalled by the German government in 1915 at President Wilson's request for alleged violation of American neutrality and misuse of diplomatic privileges.) His ministry looked to the army rather than to the Reichstag for support. Containing no representative of labor, it stood for the interests of the army, conservative agrarian elements, and heavy industry. Von Papen resigned his membership in the Centre party upon becoming Chancellor. His Foreign Minister, Baron Constantin von Neurath, was notoriously monarchist in sentiment. Lieutenant-General von Schleicher, Minister of Defense, was the most influential figure in the cabinet. The other members were: Minister of Finance, Baron Schwerin von Krosigk; Interior, Baron Wilhelm von Gayl; Economics, Prof. Hermann Warmbold; Food and Agriculture, Baron Magnus von Braun; Transportation and Posts, Baron Paul von Eltz-Ruebenach; Labor, Hugo Schäffer; Justice, Dr. Franz Guertner.

It was clear that the ministry could not survive a test vote in the Reichstag. Accordingly, Chancellor von Papen secured a decree from President von Hindenburg dissolving the Reichstag and calling for a new general election on July 31. The 60-day interval—the maximum allowed by the Reich Constitution—served to enhance the prestige of the new cabinet. At the Lausanne Conference, in the treaty of July 8, Germany secured the virtual cancellation of reparations (see REPARATIONS AND WAR DEBTS). The cabinet's internal programme was primarily one of defeating socialism in all of its forms, whether advocated by Social Democrats and Centrists, the National Socialists, or Communists of the Moscow variety. Accordingly its efforts were directed toward the overthrow of the Centrist-Social Democratic coalition ruling Prussia, which comprises two-thirds of Germany.

The disorders throughout Germany in connection with the Reichstag campaign provided a convenient excuse for intervention. These disorders had been accentuated by the Reich decree of June 16 removing the ban imposed by the Brüning government on the Nazi Storm Troops. Nevertheless, on the ground that the Socialist-Centrist government was unable to maintain order in Prussia, the Papen-Schleicher government, with von Hindenburg's authorization, on July 29 appointed a Federal commissioner for Prussia, and placed Berlin and the Province of Brandenburg under martial law. Herr Braun, Prussian Minister-President, and Prus-



slan Minister of Interior Severing were forced to cease their administrative activities under threat of arrest and the Socialist police officials of Berlin were forcibly ejected by the Reichwehr and held in prison until they signed their resignations. The Prussian officials sought an injunction to restrain the Reich government. The German Supreme Court refused to grant the injunction (July 25). Its decision (of October 25) as to the constitutionality of President Hindenburg's decree deposing the Prussian Cabinet upheld the President but left the Prussian Ministry formally in office with a semblance of power.

Chancellor von Papen now proceeded to consolidate his control of Prussia by partially merging its administration with that of the Reich. On October 31 he appointed Magnus von Braun, Federal Minister of Agriculture, to administer the Prussian Ministry of Agriculture; Prof. H. Johannes Popitz, former Federal Under-secretary of Finance, to administer the Prussian Finance Ministry; and Prof. Wilhelm Kaehler of Greifswald University, to administer the Prussian Ministry of Education. At the same time Professor Popitz and Hans Bracht, the acting Federal Commissioner for Prussia, were appointed ministers without portfolio in the Reich Cabinet. This process was completed on November 18, when President von Hindenburg issued another emergency decree under Article 48 of the Federal Constitution defining the jurisdictions of the titular Prussian Ministry and the Reich's commissioner. The latter was invested with all administrative duties and prerogatives. The Prussian (Braun) Cabinet retained only the right of representation in the Reichsrat (Federal Council), the Prussian Diet and the State Council. The Reich's commissioner was even authorized to dictate the replies of the Prussian Ministers to interpellations in the Diet. The successful seizure of Prussia by the Reich was one of the chief reasons for the widespread opposition to the Papen-Schleicher government and the refusal of the other states to cooperate with it.

**THE FIRST REICHSTAG ELECTION.** The bitterness of German dissensions was illustrated by the campaign, during which more than 100 persons were killed and many hundreds seriously wounded. Despite important gains by the National Socialists, who won 37.9 per cent of the seats in the new Reichstag as against 18.6 per cent in the old, the election of July 31 resulted in a stalemate. With 230 seats the Nazis were by far the largest single party delegation which had ever sat in the Reichstag. Nevertheless, they failed to acquire a majority of seats, even with the support of the other Right parties. The combined Right groups held 46.6 per cent of the seats; the Centre and Moderate Left 38.7 per cent; and the Communists, who held the balance of power, 14.7 per cent. The standing of the parties in the new Reichstag, with the standing in the former Reichstag in parentheses, was: Right groups: National Socialists, 230 (107); Nationalists, 37 (41); People's party, 7 (30); Christian Socialists, 4 (14); Agrarian parties, 3 (21); Economic party, 3 (21); other conservative parties, 0 (20)—Centre and Moderate Left: Bavarian People's party, 20 (19); Catholic Centre, 76 (68); State party, 4 (14); Bavarian Farmers' party, 2 (0); Social Democrats, 133 (143)—Extreme Left: Communists, 9 (77)—total, 607 (577).

In the new Reichstag, as in the previous one,

the Papen-Schleicher cabinet had little chance of securing a majority. Under President von Hindenburg's direction extended negotiations now took place in an endeavor to form a coalition ministry, including the Nazis, which would have the needed majority. These efforts broke down (August 13) when Hitler demanded the Chancellorship for himself and a dominating position for his party in the new Cabinet. Hitler was reported to have told the President that he wanted "precisely the same power Mussolini exercised after the March on Rome." With Hindenburg's refusal to grant such powers, the Nazis joined the political opposition to the Papen-Schleicher Cabinet, which was forced to choose between again dissolving the Reichstag or continuing in office by extra-constitutional means.

**SECOND DISSOLUTION OF REICHSTAG.** The newly-elected Reichstag met and selected its officers on August 30 without any of the expected disorders. Capt. Hermann Goering, a Hitler lieutenant, was chosen President. Then it adjourned to September 12. In the interval (September 5) the ministry promulgated a decree reversing the deflationary policy which the Brüning government had followed for the preceding two years. By inaugurating an indirect inflation of credit, the cabinet planned to stimulate industry sufficiently to reimburse it for an outlay of some 3,000,000,000 marks. The main features of the decree were:

- (1) Emergency unemployment relief works, for which 850,000,000 marks were immediately available.
- (2) Payment by the Reich to employers of a premium of 400 marks for each new employee taken on, the total payments not to exceed 700,000,000 marks. This scheme was expected to reemploy 1,700,000 workers at no additional cost to the Reich, as the unemployment relief fund would be relieved of a similar burden.
- (3) Remission by the Reich of some 312,000,000 marks of industrial taxation in each of the five years beginning in October, 1934. This scheme was intended to enable the potential taxpayer to mobilize immediately the money he might be expected to pay later. It provided for the issuance of 1,600,000,000 marks of taxation credit certificates, bearing 4 per cent interest. The citizen paying between October, 1932, and October, 1933, taxes weighing especially heavily on industry was to receive taxation credit certificates equivalent to about 40 per cent of his tax payment. He could use the certificates either as collateral for a loan or to pay his taxes between 1934 and 1938.
- (4) The reduction of wages by employers taking on more workers up to a maximum reduction of 12½ per cent if the staffs were increased by 25 per cent.

The decree enlarged the already extended sphere of state capitalism in Germany, in a manner redounding mainly to the benefit of the industrialists. It was in line with a previous decree of June 14 reorganizing the system of unemployment relief and reducing the funds distributed to the unemployed by about 20 per cent. The decree of September 5 was novel in form only. The practice of granting governmental guaranties or special credits on exceptionally favorable terms to distressed enterprises was carried far under the Brüning government and its predecessors. It was estimated that these advances by the Federal and state governments aggregated about \$1,200,000,000, up to Apr. 1, 1932.

Chancellor von Papen had planned to introduce his economic programme in the Reichstag when it reconvened September 12, holding in reserve a decree for the dissolution of that body, given him by the President, for use in case it should try to oust his ministry. Before the Chancellor could outline his programme, however, a Communist resolution was presented declaring lack of confidence in the Papen Government and call-

ing for the revocation of his economic decrees. During the recess held to consider this surprise motion, the Nazis decided to support it and to overthrow the Cabinet without giving the Chancellor a chance to speak. Accordingly the Communist no-confidence motion was immediately put to a vote when the Reichstag reconvened and was carried by 513 to 32. While the vote was being taken, Chancellor von Papen placed the decree dissolving the Reichstag on the desk of its President, but Herr Goering brushed it aside and allowed the vote to be completed.

Declaring the no-confidence vote illegal, since the Reichstag had passed out of existence, the ministry announced that elections for a new Reichstag would be held November 6. The constitutionality of the Chancellor's action was challenged by Herr Goering. The Centrists and Social Democrats announced that they would not join in an effort to force this issue against the government and Herr Goering was obliged to cancel the Reichstag session called for next day, ostensibly until such time as the Supreme Court could pass upon the constitutional question involved.

The Papen-Schleicher government thus continued to govern, in complete disregard of the Reichstag. The constitutional issue was again revived on October 11, when the Reichstag's standing committee on foreign affairs threatened the cabinet with impeachment. The Centrist and Bavarian People's party members on the committee joined with the National Socialists and Social Democrats in a scathing denunciation of the cabinet's refusal to give the committee an account of its negotiations with respect to the reparations and disarmament problems.

**THE SECOND REICHSTAG ELECTION.** The campaign for the new Reichstag elections, which none of the parties desired, led to a recrudescence of political violence. An unexpected development was the violent clashes which occurred between the Nazis and the Nationalists, who were formerly allies. The Nazi "wrecking crews" systematically disrupted Nationalist meetings throughout the country, a move attributed to the drift of voters from the Hitlerites to the Nationalists. Hitler's reiteration on October 23 that he would take nothing less than the Chancellorship after November 6 and Chancellor von Papen's declaration that the restoration of the monarchy was not an issue, were other highlights of the campaign.

While the voting produced important changes in the composition of the Reichstag, that body remained as hopelessly deadlocked as ever. The most significant shifts were the loss of 35 seats by the Hitlerites, whose vote declined 11.5 per cent as compared with the July 31 election, and a gain of 11 seats by the Communists, whose vote increased by 18 per cent. The composition of the Reichstag now was: National Socialists, 195; Social Democrats, 121; Communists, 100; Centre party, 70; Nationalist party, 51; Bavarian People's party, 18; People's party, 11; Christian Social party, 5; State party, 2; scattered, 9; total, 582. The setback of the Hitler party was attributed chiefly to the fact that the Papen-Schleicher government had stolen most of its thunder by its firm foreign and domestic policy. Hitler's refusal to accept the proffered post of Vice Chancellor on August 13, his criticism of von Hindenburg, and his unblushing defense of some of his Storm Troopers convicted of political

murder in Silesia, all weighed against him. The election indicated that about 70 per cent of the German people were dissatisfied with the existing economic and social system, that about 90 per cent were hostile to the Papen-Schleicher Cabinet, and that almost two-thirds were opposed to the Weimar (republican) Constitution. But the parties hostile to the Republic were so divided there was little prospect of radical action.

The ministry was now faced with the alternatives of establishing an open dictatorship or greatly enlarging its support among the political parties. Chancellor von Papen attempted to win the new Reichstag's toleration of his cabinet, but the blunt refusal of the Centrist and Bavarian People's parties on November 16 to coöperate led to the resignation of the entire ministry on the following day. President von Hindenburg once again presented Hitler with a conditional opportunity to form a new ministry (November 21) but the latter again refused to accept the rigorous conditions laid down. On November 24 the aged President terminated the negotiations, announcing that he could not consider Hitler for the Chancellorship on any except a parliamentary basis.

**THE SCHLEICHER CABINET.** It was not until December 2 that the cabinet crisis was ended by the appointment of General von Schleicher as Chancellor in a slightly reorganized presidential ministry, responsible to the President alone. In forming his cabinet, the new Chancellor indicated his purpose to eliminate the anti-labor tendencies, the import contingent policy, and the policy of centralization and constitutional reform which were considered primarily responsible for von Papen's resignation. He created a ministry for reemployment, headed by Dr. Guenther Gereke, whose unemployment relief plan had been widely discussed. Besides the Chancellorship, General von Schleicher held the posts of Minister of Defense and Federal Commissioner for Prussia, thus controlling both the Reichswehr and the Prussian police. The other cabinet members were: Foreign Affairs, Baron Constantin von Neurath; Interior, Dr. Franz Bracht; Finance, Count Lutz Schwerin von Krosigk; Justice, Dr. Franz Guertner; Transportation and Posts, Baron Eltz von Ruebenach; Labor, Dr. Friedrich Syrup; Minister Without Portfolio, H. Johannes Popitz.

When the newly elected Reichstag—the seventh under the Republic—convened on December 6, Socialist and Communist motions to compel Chancellor von Schleicher to submit his programme for the immediate approval of that body were voted down by the other parties. The Reichstag recessed indefinitely on December 9, giving the Chancellor an opportunity to put his programme into effect before facing a vote of confidence. The short session was marked by a bitter attack upon President von Hindenburg for his refusal to entrust Hitler with the Chancellorship by Gen. Karl Litzmann, 82-year-old National Socialist. Also by the passage of a National Socialist bill amending the Constitution so that the Chief Justice of the Supreme Court would succeed to the Presidency in the event of the death of the incumbent.

The Chancellor announced his programme over a nation-wide radio hook-up on December 15. It consisted, he said, "of one single point: the creation of work." He advocated the creation of employment, extensive promotion of land settlement, and the stimulation of private industry along

the lines of Colonel von Papen's economic programme. He reiterated the German demand for arms equality, opposed monetary inflation, and pledged the abolition of emergency decrees, such as those restricting the press. His government had already revoked the von Papen decree permitting employers to pay less than union rates. On December 23, Dr. Gereke announced that the 40-hour week and union wages would prevail on all public works and improvements to be launched in January in connection with the government's 500,000,000-mark emergency programme.

The advent of von Schleicher coincided with the final dissolution of the Weimar coalition—of Socialists, Centrists, and Democrats—which had controlled the Reich and most of the states since the establishment of the Republic. Its control of the Reich terminated with the collapse of the Brüning government. The last remnant of the coalition, in the State of Baden, succumbed on December 2, when the Socialists withdrew from the State government, after co-operating for some 14 years. On December 20, the Reichsrat approved a Reichstag bill granting amnesty to between 15,000 and 20,000 prisoners under sentence for political crimes or crimes committed as a result of want. December also witnessed a serious rift in the Nazi ranks, Gregor Strasser, national organizer of the party, resigning along with other members of Hitler's executive staff. Their resignation was said to represent a protest against Hitler's "rule or ruin" policy and a demand for a programme of constructive parliamentary activity.

**THE BLACK TOM CLAIM.** In a decision rendered by Associate Justice Owen J. Roberts of the U. S. Supreme Court on December 3, the Black Tom and Kingsland cases, involving claims amounting to \$40,000,000 against Germany for alleged sabotage in the World War, were settled in Germany's favor. Justice Roberts was acting as umpire of the German-American Mixed Claims Commission. The U. S. Government had claimed damages for the explosion of the Lehigh Valley terminal in New York Harbor on July 30, 1916, and the fire at the Kingsland, N. J., munition plant six months later, both of which destroyed millions of dollars' worth of munitions awaiting shipment to the Allies. It was charged that the damage was caused by agents of the German Government.

**FOREIGN AFFAIRS.** The rôle of the Papen-Schleicher Cabinet in the international field was no less spectacular than its course at home. The Lausanne Treaty, the groundwork for which had been laid by the Brüning government, scaled down the reparation burden, fixed at approximately 34,000,000,000 gold marks payable over 56 years by the Young Plan, to about 3,000,000,000 gold marks (about \$714,000,000), to be paid at the end of three years and then under certain safeguards. Freed of reparation payments, the government also sought to secure a reduction of interest and deferred principal payments on the German private foreign debt. In September, it announced that it would be unable to pay \$7,800,000 due to the United States government September 30 toward payment of mixed claims and costs of the American army of occupation. In accordance with provisions of the debt agreement, payment was postponed two years to Sept. 30, 1934. On October 16 Chancellor von Papen prepared Germany's foreign private creditors for

further sacrifices, when he warned them that Germany's obligations could be paid only by the sale of goods and that trade barriers would have to be lifted to make this possible.

At the Geneva Disarmament Conference, which adjourned on July 23, 1932, until Jan. 29, 1933, the Papen-Schleicher Ministry inaugurated a bold drive for the removal of the restrictions upon German armaments imposed by the Versailles Treaty. Count Nadolny, German delegate to the conference, brusquely announced the opposition of his government to the final resolution drafted for adoption by the Conference (see **DISARMAMENT**), on the ground that it did not grant Germany juridical equality with France. Later the government withdrew from the Disarmament Conference until such time as its claim to equality was recognized in principle. In a memorandum submitted to the French government on August 29, the Papen-Schleicher Government requested that France consent to the revision of the disarmament clause of the Versailles Treaty. The French replied that Germany was bound by Article 164 of the Treaty not to change her military status without the previous authorization of the League of Nations and that, therefore, the League was the sole judge of the issue. In a number of belligerent speeches, which had wide repercussions in Europe (see **FRANCE, POLAND, and GERMANY under History**), General von Schleicher made it plain that Germany intended to restore its armaments to the level of other powers, whether or not legal permission was forthcoming.

In line with this decision, President von Hindenburg on September 14 authorized the creation of "a national institution for the physical training of youth" and the appropriation of an initial sum of about \$360,000 to provide for three weeks' training for the youths enrolled. Orders were also given (September 14) for the construction of Germany's third "pocket battleship." On September 4, the leading lights of von Papen's government lent their official countenance to the annual parade of the *Stahlhelm* in the Tempelhoferfeld, Berlin. Led by princes and generals of the old régime, 150,000 uniformed *Stahlhelmers* from all parts of Germany swore "to be true to the last breath to the black, white, and red banner" (the Imperial colors). Foreign alarm at these events was increased by the removal (September 21) of the ten-year ban on the notorious monarchical propaganda organization *Bund der Aufrechten*.

On December 11, Germany's claim to equality of armaments was explicitly acknowledged in a declaration signed at Geneva by France, Great Britain, and Italy. In return for this concession, Germany signified her intention of reëntering the Geneva Disarmament Conference. At the same time Germany joined with Britain, France, and Italy in a declaration to the effect that they would never try to settle disputes by resort to force. The German delegate also joined with delegates representing Britain, France, Italy, and the United States in declaring their intention to coöperate in the working out of a convention substantially reducing armaments. See **MEMEL; UNITED STATES OF EUROPE; MUNICIPAL OWNERSHIP**.

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**GESTALT PSYCHOLOGY.** See **PSYCHOLOGY**.

**GIBBONS, CARDINAL, STATUE OF.** See **SCULPTURE**.

**GIBBS MEDAL.** See **CHEMISTRY, INDUSTRIAL**.

**GIBRALTAR.** A British Crown colony consisting of a small peninsula on the south coast of Spain. The Rock of Gibraltar (1439 feet high) commands the entrance to the Mediterranean Sea. Area, 1 and  $\frac{7}{8}$  square miles; population, 1931 census, 21,372, of whom 3218 were military and 541 naval men. The fixed civil population on Jan. 1, 1931, was estimated at 16,558 including 1032 aliens. In 1930, 4026 vessels of 7,257,828 tons entered and 4032 vessels of 7,270,251 tons cleared the port, which is a British naval base. The commerce of the port is chiefly transit trade, and the supply of coal to ships. The revenue for 1930 was £146,847, and the expenditure £169,182. Cables connect with the Continent, with Tangier, with eastern Mediterranean ports, and with England. Gibraltar is under a governor who is also commander-in-chief. He is assisted by an executive council, established in 1922, Governor in 1932, General Sir A. J. Godley, appointed October, 1928.

**GIDE, zhéd, CHARLES.** A French economist, died in Paris, Mar. 13, 1932. He was born in Uzès (Gard) June 29, 1847, and attended the College of Uzès and the law faculty of the University of Paris. After practicing for a few years he was made in 1874 a professor of political economy at the University of Bordeaux. In 1880 he was called to the same chair at the University of Montpellier and in 1898 to that at the Collège de France in Paris. He was a leader in the movement toward "Christian Socialism," organized by French Protestants, and in the cooperative movement, being a member of the Higher Council of Labor and the Higher Council of Coöperation. His later years were devoted to furthering amicable relations between France and Soviet Russia. He was a chevalier of the Legion of Honor. In 1887 he founded *Revue d'économie politique*. His works include: *Du droit d'association en matière religieuse* (1874); *Principes d'économie politique* (1883); *Étude sur l'act Torrens* (1886); *La Coopération* (1900); *Les sociétés coopératives de consommation* (1904); *La séparation des églises de l'état* (1905); *Economie sociale* (1905); *Cours d'économie politique* (1909); *Histoire des doctrines économiques* (with Charles Rist, 1909); *Les institutions de progrès social* (1920); and *Premières notions d'économie politique* (1921).

**GIFTS AND BEQUESTS.** See **PAINTING; UNIVERSITIES AND COLLEGES**.

**GIPSY MOTH.** See **ENTOMOLOGY, ECONOMIC**.

**GIRL SCOUTS.** A nonsectarian movement for girls from 10 to 18, started in Savannah, Ga., in 1912 by Mrs. Juliette Low and adapted from the Scouting programme begun in England in 1907 by Lord Baden-Powell. It is a leisure-time programme which supplements the work of the church, the home and the school, and encourages

girls to learn and practice the cultural and domestic arts that were part of the old-fashioned home's training. To that it adds the love of outdoors and the cult of the physical courage which was the distinguishing mark of the pioneer.

The working membership unit of the Girl Scouts is the troop, consisting of from 8 to 32 members. This, in turn, is divided into patrols, consisting of from four to eight girls in each patrol. The adult leader of the troop is known as the captain. There are three ranks in Girl Scouting: Tenderfoot; second class; and first class. The requirements for these and for some 50 proficiency badges are described in the *Girl Scout Handbook*. In each community women interested in the movement are organized as local councils, community committees, or troop committees to help support and develop the local Girl Scout activities.

The active, paid-up memberships in the Girl Scouts as of Oct. 31, 1932, totaled 287,957, inclusive of Brownies (girls between 7 and 10) and leaders. In 1932, 71 training courses for leaders were given in 18 approved camps. About 100 were given in colleges and universities.

The official organ for girls is *The American Girl Magazine*, and for leaders, *The Girl Scout Leader*, each a monthly publication. The officers elected at the national convention held in Virginia Beach, Va., Oct. 5-8, 1932 were: Honorary president, Mrs. Herbert Hoover; chairman of the board of directors, Mrs. Nicholas F. Brady; president, Mrs. Frederick Edey; secretary, Mrs. Julius H. Barnes; treasurer, Mrs. Edgar Rickard. Miss Josephine Schain is national director. National headquarters are at 570 Lexington Avenue, New York City.

**GIROUARD, SIR EDOUARD PERCY CRANWILL.** A British soldier, railway engineer, and administrator, died in London Sept. 26, 1932. Born in Montreal, Jan. 26, 1867, he was educated at the Royal Military College, Kingston, Ont., and for some time was on the engineering staff of the Canadian Pacific Railway. In 1888 he was gazetted second lieutenant of the Royal Engineers and in 1890 lieutenant, and for five years was traffic manager of the Royal Arsenal at Woolwich. He served under Lord Kitchener with the Dongola and Nile expeditions of 1896-97, being commissioned major, in recognition of his services as director of the Sudan railroads, and receiving the Distinguished Service Order, the British medal, and the Khedive's medal with two clasps. During 1898-99 he was president of the Egyptian State Railways, and during 1899-1902 director of the South African railways. He was then made commissioner of railways for the Transvaal and the Orange River Colony. In 1904 he was promoted to lieutenant colonel and was assigned to the headquarters of the Eastern Command. In 1906 he became assistant quartermaster-general of the Western Command (Chester, England). His career as administrator began with his appointment in 1907 as high commissioner of the Protectorate of Northern Nigeria. The following year he was made governor of that protectorate and in 1909, on his promotion as colonel, governor, and commander-in-chief of the British East Africa Protectorate. During the World War he was director-general of munitions supply in London. He was created a Knight Commander of St. Michael and St. George in 1900. He published a *History of the Railways during the War in South Africa* (1905).

**GIZEH.** See ARCHÆOLOGY.

**GLASS BILL.** See BANKS AND BANKING.

**GLAUCOCERINITE.** See MINERALOGY.

**GOETHE CENTENARY.** See GERMAN LITERATURE; MUSIC; FRENCH LITERATURE; ITALIAN LITERATURE; CELEBRATIONS.

**GOLD.** The production of gold continued to be the exceptional industry in the United States to exceed the output of the previous year. With the decreased costs of labor and supplies, mines that had been long shut down were again able to open up; though hesitantly, because of the uncertainty of a continuation of the permitting conditions.

The situation throughout the world of thousands of men, unable to find other employment, led to an intensified prospecting which, in turn, helped to increase the total production. In addition to these factors was the release of gold hoards in India, Great Britain, and Russia. From these several sources and from the normal sources the total production of gold throughout the world in 1932 was the greatest on record. Figures compiled by the American Bureau of Metal Statistics give the world's production at 23,911,000 fine ounces, valued at \$494,240,370, an increase of 7 per cent over the previous year's output of 22,168,000 fine ounces valued at \$458,212,560.

In world output of new gold, South Africa, the largest producer, increased its production from 10,878,000 fine ounces in 1931 to 11,566,000 in 1932, with a value of \$239,069,220, or almost half of the year's total. Canadian mines showed an increase from 2,694,000 fine ounces in 1931 to 3,055,000 in 1932, valued at \$63,146,850. In Russia, the 1932 production was raised to 1,900,000 fine ounces from 1,600,000 in 1931. The greatest percentage of increase was seen in Canada, which is now the second in rank, with an increase of 13.5 per cent over 1931.

The Director of the Bureau of the Mint, with the cooperation of the Bureau of Mines, has issued the following statement of the preliminary estimate of refinery production of gold and silver in the United States during the calendar year 1932:

PRODUCTION OF GOLD IN THE UNITED STATES  
IN 1932  
[Equivalent value per fine ounce, \$20.67]

States	Gold	
	Ounces	Value
Alaska .....	434,514	\$ 8,982,200
Alabama .....	29	600
Arizona .....	66,980	1,384,600
California .....	566,031	11,700,900
Colorado .....	306,668	6,339,400
Georgia .....	242	5,000
Idaho .....	41,327	854,300
Montana .....	43,407	897,300
Nevada .....	130,037	2,688,100
New Mexico .....	23,917	494,400
North Carolina .....	508	10,500
Oregon .....	20,753	429,000
Pennsylvania .....	82	1,700
South Carolina .....	58	1,200
South Dakota .....	485,051	10,026,900
Tennessee .....	189	3,900
Texas .....	10	200
Utah .....	153,557	3,174,300
Virginia .....	10	200
Washington .....	4,242	87,700
Wyoming .....	1,592	32,900
Philippine Islands .....	228,282	4,719,000
Puerto Rico .....	101	2,100
Total .....	2,507,587	51,836,400

Comparison with 1931 final production indicates an increase in 1932 of \$2,309,200 in gold.

Comparison with the year of largest production, 1915, when gold amounted to \$101,035,700, gives a reduction of \$49,199,300.

**GOLD, MOVEMENT OF.** See FINANCIAL REVIEW.

**GOLD COAST.** A British African colony, extending 334 miles along the Gulf of Guinea between the French Ivory Coast and Togoland; comprising, in addition to the colony proper, Ashanti and the Northern Territories. The area of these three divisions is about 78,802 square miles; population, 1931 census, 3,121,214. Accra, with 59,895 inhabitants, is the capital and chief town. The part of Togoland mandated to Great Britain (13,041 square miles) is under the administration of the Governor of the Gold Coast.

Staple products and chief exports are cacao, palm oil, kola nuts, palm kernels, lumber, rubber, manganese, gold and diamonds. Including bullion and specie, imports for 1930 totaled \$8,953,770 and exports \$11,287,388. In 1930, cacao shipments were valued at \$6,970,385; gold at \$1,055,634; manganese, \$823,396; diamonds, \$658,994. For the year ended Mar. 31, 1931, revenue amounted to \$4,653,005 and expenditure to \$4,898,198. The public debt Mar. 31, 1931, stood at \$11,791,000. Shipping aggregating 5,267,048 tons entered and cleared in the foreign trade in 1930. The harbor of Takoradi, opened in 1928, offers the only complete shelter for ships of over 30-foot draft between Sierra Leone and Nigeria. There were 500 miles of railway in operation on Mar. 31, 1931.

**ASHANTI, a-shān'tē.** Annexed by Great Britain in 1901, Ashanti has an area of 24,379 square miles and a population (census of 1931) 582,866 including 400 Europeans. Kumasi, the leading town, has about 25,000 inhabitants. There were 5125 pupils in government and mission schools in 1930. Agriculture and gold mining are the chief industries, and valuable forests in the western districts yield mahogany, cedar, fruits, oil, rubber, and gum copal.

**NORTHERN TERRITORIES.** Constituted a British protectorate in 1901, the Northern Territories are under the governor of the Gold Coast but are locally administered by a chief commissioner, with headquarters at Tamale. Area, about 30,486 square miles, excluding the adjoining mandated territory of Togoland (q.v.); population, estimated in 1931, 717,283 including 107 Europeans. Navrango, the chief city, had about 18,138 inhabitants, and Tamale about 12,941. Agriculture is the main occupation, though some gold has been found. About 2311 miles of roads are passable to motors in dry weather.

The Gold Coast is administered by a governor assisted by an executive, and a legislative council. Ashanti and the Northern Territories are each locally administered by a chief commissioner. Governor of the Gold Coast, Sir T. S. W. Thomas (appointed in 1932); Chief Commissioner of Ashanti, H. S. Newlands; Chief Commissioner of Northern Territories, Maj. F. W. F. Jackson.

**GOLDEN GATE BRIDGE.** See BRIDGES.

**GOLD STANDARD.** ABANDONMENT OF. See RHODESIA; GREAT BRITAIN; SOUTH AFRICA, UNION OF; PERU; FINANCIAL REVIEW.

**GOLF.** Gene Sarazen, erstwhile caddie, who took the golf world by storm in 1922 when he nosed out John Ball and Bobby Jones for the national open title at Skokie, had another grand golfing year in 1932. In early June he went to Sandwich, England, and continued the march

of the Americans in the British Open. He set an all-time record for open play at Sandwich, finishing with a 70 and a 69 on his last two rounds for a seventy-two hole score of 233, two strokes better than the mark made by Jones in 1930 at St. Andrews. Five strokes back was Macdonald Smith, another American. Three and a half weeks later, playing over his home course at Fresh Meadow, L. I., Sarazen staged a whirlwind finish to take the national open title, completing the difficult double. After thirty-six holes at Fresh Meadow, Sarazen was not well considered for the title, T. Philip Perkins, Britisher, being ahead. Sarazen negotiated the last twenty-eight holes in an even 100, and did the last eighteen in a record smashing 66, finishing the seventy-two holes in 286, two strokes ahead of Bobby Cruickshank and Perkins.

With visions of a triple crown, Sarazen faltered and failed to qualify for the P. G. A. championship, which was won by big Olin Dutra, Californian, in the tournament at St. Paul late in the summer. Dutra, previously had beaten Walter Kozak in the final for the Metropolitan open at Lido.

The national amateur championship was taken out of this country for the second time in history when C. Ross Somerville, Canadian from London, Ont., played marvelous golf at Five Farms, Baltimore. (Harold Hilton, of England, won in 1911.) Johnny Fischer, who in June had won the national intercollegiate title, won the medal in the amateur with 142. Francis Ouimet, veteran defending champion, had a hard time squeezing into the championship flight but managed to do so and his march toward the final was closely followed by all golf enthusiasts. Ouimet was perfect in his early rounds, creating a record when he went out on the first nine holes against George Voigt in 30. Johnny Goodman, youth from Omaha, who eliminated Bobby Jones from the amateur in 1929 at Pebble Beach, beat Ouimet in the semi-final when Somerville was downing another former champion—Jess Guilford. Somerville's powerful iron play prevailed in the final and he won, 2 and 1.

Previous to the championship, the British amateurs succumbed to the United States players in the Walker Cup play at Brookline, 6 to 1. Leonard Crawley, who defeated Voigt, was the only Britisher to win a match.

One of the real surprises of the season was the defeat of Mrs. Glenna Collett Vare, five-time champion, in the final of the women's national championship tournament at the Salem (Mass.) Country Club late in the fall. Miss Virginia Van Wie, of Chicago, trounced Mrs. Vare, 10 and 8, to break through finally to a national title. Miss Van Wie tied for the medal with Miss Maureen Orcutt. Miss Charlotte Glutting, young New Jersey champion, was the sensation of the week, eliminating Miss Enid Wilson, winner of the English women's championship in May, and who was considered the strongest threat in the championship at Salem. Miss Glutting bowed to Miss Van Wie.

The United States women fared poorly abroad in their annual attempt to lift the British championship, Mrs. Leona Pressler Cheney being the lone invader to survive at all, reaching the semi-final bracket. In the team matches the United States women vanquished the British, 5½ to 2½.

John de Forest won the British amateur title for England, and Henry Cotton took the British

professional one. Harry Cooper, Chicago professional, captured the Canadian open, and Gordon Taylor of Montreal snared the Canadian amateur title. Lex Robson of Toronto, Ont., won the Canadian professional honors and Miss Margery Kirkham of Montreal took the trophy for the Canadian women's championship. Al Lacey of Great Britain won the French Open, a title that had been held by Aubrey Boomer, of St. Cloud for so many years.

R. L. Miller of Jacksonville, Fla., won the national public links title, displacing Charles Ferrara of San Francisco. Walter Hagen captured the Western open title and Gus Moreland the Western amateur. Findlay S. Douglas took the national senior honors with his fine play at the Apawamis Club in September and then the United States seniors defeated Canada in the annual series for the Duke of Devonshire Trophy. Mrs. Leila C. DuBois of Noroton, Conn., won the women's national senior honors. To Yale went the national as well as Eastern intercollegiate laurels.

NECROLOGY. Robert M. Cutting, nominee for president of United States Golf Association; E. M. Byers, former national golf champion.

**GORDON BENNETT CUP COMPETITION.** See AERONAUTICS.

**GORE, CHARLES.** A British theologian, died in London, Jan. 17, 1932. Born in 1853, he was educated at Harrow and at Balliol College, Oxford, and was a fellow of Trinity College from 1875 to 1895. After ordination in the Church of England he became vice principal of Cuddesdon Theological College in 1880 and on the foundation of Pusey House at Oxford in 1884 was appointed head of its staff of clerical librarians. As editor and one of the principal contributors to the volume of essays called *Lux Mundi*, published in 1890, he aroused considerable distrust by the advanced nature of his views on the incarnate nature of Christ, especially the technical point known as *kenosis*, by which is meant that in entering on the human condition Christ limited Himself to the capacity of humanity. This idea was further developed in the Bampton lectures on the incarnation which he delivered at Oxford in 1891. In 1893 Dr. Gore became vicar of Radley, near Oxford, and also founded a quasi-religious clerical community called the Society of the Resurrection. He was cannon of Westminster from 1894 to 1902, and having gained considerable influence by his powers as a preacher served as chaplain-in-ordinary to Queen Victoria during 1898-1900 and to King Edward in 1901. In 1902 he was consecrated Bishop of Worcester, and in 1905 was translated to Birmingham, and in 1911 to Oxford. He resigned the latter see in 1919 and settled in London where he identified himself with the Christian Socialists. His important works are: *The Church and the Ministry* (1889); *Roman Catholic Claims* (1889); *The Mission of the Church* (1895); *The Creed of the Christian* (1895); *Dissertations on Subjects Connected with the Incarnation* (1895); *The Body of Christ* (1901); *The Permanent Creed* (1905); *The New Theology and the Old Religion* (1908); *Orders and Unity* (1910); *The Question of Divorce* (1911); *The Religion of the Church* (1916); *Christian Moral Principles* (1921) *Belief in God* (1921); *The Deity of Christ* (1922); *Belief in Christ* (1922); *The Holy Spirit and the Church* (1924); *Can We Then Believe?* (1926); *Christ and Society*

(1928); and *The Philosophy of the Good Life* (1930).

**GORGOULOV, PAUL.** Assassin of President Paul Doumer of France. See DOUMER, PAUL; FRANCE under *History*.

**GOSPLAN.** See UNION OF SOVIET SOCIALIST REPUBLICS.

**GOUCHER COLLEGE.** A nonsectarian college for women in Baltimore, Md., founded in 1885. The enrollment for the first semester of the year 1932-33 was 725. The faculty had 95 members. The endowment funds of the college amounted to \$2,441,145. The library contained 58,000 volumes. President, David Allan Robertson.

**GRAHAM, WILLIAM.** A British economist and labor leader, died in London, Jan. 8, 1932. He was born in Peebles, Scotland, July 29, 1887, and after attending private schools became a clerk in the War Office in 1903. After engaging in journalism for a few years he entered the University of Edinburgh in 1911, from which he received the M.A. degree in 1915 and the LL.B. degree in 1917. He was also lecturer during 1915-18 for the Workers' Educational Association in Economics at Edinburgh. In 1918 he was elected to Parliament as Labor representative for the central division of Edinburgh, and was a member of the Royal Commission on the Income Tax (1919), of the Speaker's Conference on Devolution (1919-20), and of the Royal Commission on the Universities of Oxford and Cambridge (1920-21). He was also a member of the Medical Research Council from 1920 to 1928. In 1924 he was appointed Financial Secretary to the Treasury in the first Labor government and was also made a Privy Councillor. In the Labor Cabinet formed in June, 1929, he was named President of the Board of Trade but resigned on the formation of the Coalition government in August, 1931. He was the author of *The Wages of Labor* (1921) and contributed articles on social, industrial, and political questions to newspapers and periodicals.

**GRAHAME, KENNETH.** A British author, died in Pangbourne, Eng., July 6, 1932. He was born in Edinburgh in 1859 and attended St. Edward's School in Oxford. At the age of 19 he entered the service of the Bank of England, and from 1898 to 1908 acted as secretary of that institution. His writing ability was first recognized by the *Scots Observer* in the '90's. In 1895 appeared *The Golden Age*, composed in part of papers from an earlier volume, *Pagan Papers* (1893), which established his reputation as one of the select company of children's story writers in whom humor, tenderness, poetry, and romance coexisted harmoniously. His other successful books are *Dream Days* (1898) and the animal fantasy, *The Wind in the Willows* (1908).

**GRAHAM LAND.** See FALKLAND ISLANDS.

**GRAIN.** See AGRICULTURE; OATS; RYE; WHEAT, ETC.

**GRAND ARMY OF THE REPUBLIC, THE.** A patriotic order formed in 1866 in Decatur, Ill., among a number of former soldiers who had served in the Civil War. Its purpose is to "enjoy a companionship made sacred by common sufferings and sacrifices." Its corner stones, "Fraternity, Charity, and Loyalty," demand the care and protection of sick and helpless comrades and their widows and orphans; the upholding of all comrades in their worthy endeavors; and loyalty to the flag and laws of the Republic. Affiliated with

the Grand Army of the Republic are its auxiliary, the Woman's Relief Corps, and the allied bodies, the Ladies of the G. A. R., Daughters of Union Veterans of the Civil War, Sons of Union Veterans of the Civil War, and the auxiliary to Sons of Union Veterans.

The maximum strength of the organization was in 1890 when it had a membership of 409,487. On Jan. 1, 1932, there were 1790 active local posts with a membership of 13,066. The sixty-sixth national encampment was held in Springfield, Ill., Sept 18-23, 1932, while St. Paul, Minn., was selected for the 1933 encampment. The officers for 1932-33 were: commander-in-chief, William P. Wright, Chicago, Ill.; senior vice commander-in-chief, Russell C. Martin, Los Angeles, Calif.; junior vice commander-in-chief, Charles E. Jones, Tuscaloosa, Ala.; surgeon-general, D. Edward H. Cowan, Crawfordville, Ind.; quartermaster-general, Samuel P. Town, Philadelphia, Pa.; adjutant-general, Calvin A. Brainard, Chicago, Ill. National headquarters are at Memorial Hall, Chicago, Ill.

**GRAND CANAL D'ALSACE.** See CANALS.

**GRAND NATIONAL.** See HORSE RACING.

**GRANT, ULYSSES SHERMAN.** An American geologist, died in Evanston, Ill., Sept. 21, 1932. He was born in Moline, Ill., Feb. 14, 1867, and was graduated from the University of Minnesota in 1888 and with the Ph.D. degree from the Johns Hopkins University in 1893. He was assistant State geologist of Minnesota during 1893-99 and taught geology at the University of Minnesota during 1897-98. In 1899 he became professor of geology and curator of the museum at Northwestern University. He acted during 1907-08 and again during 1916-19 as dean of the college of liberal arts at Northwestern. He served as geologist on the Geological and Natural History Survey of Wisconsin during 1899-1907, investigating the geology of the iron-bearing and copper-bearing rocks of the Lake Superior region and the lead and zinc deposits of Wisconsin. He was also geologist for the U. S. Geological Survey (1904-25), the Illinois Geological Survey (1906-20), and the Oregon Bureau of Mines and Geology (1913-15). From 1897 to 1906 he was associate editor of the *American Geologist*. He published: *Preliminary Report on the Copper-Bearing Rocks of Douglas County, Wisconsin* (1900); *Report on the Lead and Zinc Deposits of Wisconsin* (1906); *Copper and Other Mineral Resources of Prince William Sound, Alaska* (1906); *Glaciers of Prince William Sound and Kenai Peninsula, Alaska* (1910-12); and *Mineral Resources of Kenai Peninsula, Alaska* (1910-12).

**GRAPEFRUIT.** See HORTICULTURE.

**GRAPES.** See HORTICULTURE.

**GRASS CLOTH.** See CHEMISTRY, INDUSTRIAL.

**GRASSHOPPER MENACE.** See ENTOMOLOGY, ECONOMIC.

**GRAVINA, MANFREDI, COUNT.** An Italian statesman, died in Danzig, Sept. 19, 1932. Born in Palermo in 1883, he entered the Italian navy in 1900, serving in the Turco-Italian War of 1911 and the World War and particularly distinguishing himself in the latter by his torpedo boat exploits. He became naval and aeronautical attaché to the Scandinavian States in 1919 and negotiated in Copenhagen the following year the treaty with Litvinov, the Soviet agent, for the resumption of relations between Italy and the U.S.S.R. He was also a member of the Italian



peace delegation at Paris, and following his retirement from the naval service in 1922 represented his country at several Assemblies of the League of Nations. In September, 1928, he was appointed by the League Council High Commissioner for Danzig for the years 1929-32. His chief duty was the settlement of disputes arising between Danzig and Poland, for whom the Free City serves as the chief outlet for commerce, and he did much to prevent the further growth of animosity. He was a member of the editorial committee of the *Nuova Antologia* and published a large number of political pamphlets and historical monographs, including *La Cma dopo il* (1900, 1907); *Attualita Politiche* (1926); *Problemi Navali* (1929); and *Problemi Italiani* (1930).

**GREAT BRITAIN.** The official title of the political union embracing England, Scotland, and Wales. Great Britain forms the main part of the United Kingdom of Great Britain and Northern Ireland, which includes the Isle of Man and the Channel Islands. Capital, London; ruling sovereign in 1932, George V. In this article the Isle of Man, the Channel Islands, and in some cases Northern Ireland, are included under Great Britain for statistical purposes. See **BRITISH EMPIRE; IRELAND, NORTHERN.**

**AREA AND POPULATION.** The area and population of Great Britain and its sub-divisions, according to the censuses taken in 1921 and 1931, are shown in the accompanying table.

AREA AND POPULATION OF GREAT BRITAIN

Divisions	Area in sq. miles	Population	
		1921	1931
England (including Monmouthshire) . . .	50,874	35,681,019	37,789,738
Wales . . . . .	7,466	2,205,680	2,158,193
Scotland . . . . .	30,405	4,882,497	4,842,554
Isle of Man . . . . .	221	60,284	49,338
Channel Islands . . . .	75	90,230	93,061
Total . . . . .	89,041	43,176,521*	44,932,884

\* Including 256,811 persons in the Army, Navy, and Merchant Marine abroad.

The population of England and Wales was 80 per cent urban and 20 per cent rural at the census of 1931, compared with 79.3 per cent urban and 20.7 per cent rural in 1921. Scotland in 1921 had a population 77.3 per cent urban and 22.7 per cent rural. In general, there has been a steady decline in both the birth rate and in emigration. Births in 1931 in England and Wales totaled 632,081 (648,811 in 1930); deaths, 491,630 (455,427); marriages, 311,402 (315,109). For Scotland the 1931 births numbered 92,220 (94,538 in 1930); deaths, 64,229 (64,283); marriages, 32,667 (33,323). In 1931 the birth rate was 15.8 and the death rate 12.3 per thousand of population for England and Wales; for Scotland, the rates were 19.0 and 13.3, respectively. Persons leaving the United Kingdom in 1931 for non-European countries numbered 213,851 (63,493 aliens and 149,564 British subjects), against 327,992 (107,026 aliens and 220,966 British subjects) in 1930. The 1931 arrivals from non-European countries numbered 255,768 (70,955 aliens and 184,813 British subjects), against 290,369 (92,943 aliens and 197,426 British subjects) in 1930. In 1931, for the first time on record, immigrants of British nationality into Great Britain (71,382) exceeded emigrants of British nationality (34,310).

The 1931 census showed a decline of population in the administrative County of London,

coupled with a large net increase in the population of Greater London. The inhabitants of the City and the 28 metropolitan boroughs in 1931 numbered 4,397,003, a decrease of 87,520 since the 1921 census. In the Greater London area—comprising the City and the Metropolitan Police Districts, and including roughly the area within a 15-mile radius of Charing Cross—the 1931 census showed 8,203,942 persons, or an increase of 723,741 since 1921. The population of the other leading cities in 1931, with 1921 figures in parentheses, was: Glasgow, 1,088,417 (1,034,174); Birmingham, 1,002,413 (922,107); Liverpool, 855,539 (805,046); Manchester, 766,333 (735,774); Sheffield, 511,742 (511,696); Edinburgh, 438,998 (420,264).

**EDUCATION.** Primary education is free and compulsory between the ages of 5 and 14. In England and Wales in 1931, there were 20,869 ordinary public elementary schools, with accommodation for 7,102,667 pupils and an average attendance of 4,930,076. The 2924 primary schools in Scotland had accommodation for 867,506 pupils and an average attendance of 594,006. For secondary and technical education, there were in England and Wales in 1930-31, 1957 "efficient" schools, with 492,578 pupils; in Scotland, 251 schools, with an average enrollment of 155,389. For higher education, there were in England in 1931-32, 11 universities, with 3027 members of the teaching staff and 36,781 students; in Scotland, four universities, with 998 teachers and 11,692 students; in Wales, one university, with 343 teachers and 3176 students.

**AGRICULTURE.** Agriculture is relatively unimportant in Great Britain, engaging only 7 per cent of the working population, as against 41 per cent in France and 31 per cent in Germany. Of the total land area in 1930, 22.5 per cent was under cultivation, 56.8 per cent was permanent grass and pasture, and 20.7 per cent was wood, forest and other land. In 1931, the total arable acreage declined by 105,645 acres to 29,015,520 acres. The cereal acreage dropped to 5,304,380 from 5,659,947 acres in 1930 and farm workers declined by 25,000. The area and production of the chief crops in 1930 and 1931 are shown in the accompanying table from the 1932 U. S. *Commerce Yearbook*. Livestock in England, Scotland, and Wales in June, 1931, included 24,146,630 sheep, 7,058,650 cattle, 1,091,162 horses, and 2,472,444 swine. See **AGRICULTURE** under *World Agriculture*.

UNITED KINGDOM: AREA AND PRODUCTION OF CROPS

[Including Northern Ireland]

Crop	Area <sup>a</sup>		Production <sup>b</sup>	
	1930	1931	1930	1931
Wheat . . . . .	1,405	1,250	42,253	37,775
Barley . . . . .	1,129	1,118	38,914	39,543
Oats . . . . .	2,947	2,772	158,556	146,158
Potatoes . . . . .	684	709	166,486	142,015
Turnips and swedes	1,084	1,022	14,525	12,972
Sugar beets <sup>c</sup> . . . .	349	234	8,058	2,005
Beet sugar <sup>d</sup> . . . .	..	..	452	269
Hops <sup>e</sup> . . . . .	20	20	28,336	18,928
Flax <sup>f</sup> . . . . .	29	7	12,013	3,091
Hay . . . . .	2,244	..	3,363	2,975

<sup>a</sup> Thousands of acres. <sup>b</sup> Thousands of units—bushels except as indicated. <sup>c</sup> Unit, long ton. <sup>d</sup> Exclusive of Northern Ireland. <sup>e</sup> Seasons ended following year. <sup>f</sup> England and Wales. <sup>g</sup> Unit, pound <sup>h</sup> Northern Ireland only; very little raised in Great Britain.

**INDUSTRY.** According to a general and a special index of industrial profits in Great Britain over



the 12-year period 1920-31, prepared by Sir Josiah Stamp, such profits reached their highest point in 1929 and their lowest point in 1921. Based on 1924 as 100, the general index for 1931 stood at 92 and that for 1930 at 109.9, as compared with 68.7 in 1921. The Board of Trade index of industrial production, based on 1924 production, declined to 93.8 for 1931 from 103.3 for 1930 and 111.8 for 1929. Industrial output during 1931 showed a steady and progressive decline until, in the third quarter, it was about 13½ per cent below the average level for 1930. However, suspension of the gold standard was accompanied by an increased output and the industrial activity for the full year declined only 9.3 per cent from that of 1930.

Output of the principal mining and metallurgical industries during 1931, with 1930 figures in parentheses, was: Coal, 220,150,000 long tons (243,882,000); pig iron, 3,758,000 long tons (6,192,000); steel ingots and castings, 5,179,000 tons (7,326,000). Coal exports in 1931 fell to just under 43,000,000 long tons, or 22 per cent less than in 1930. Despite benefits accruing from the abandonment of the gold standard and the imposition of a protective tariff, the British textile industry suffered a further recession from 1930 levels. Exports of yarns in 1931 declined 2½ per cent in volume and nearly 25 per cent in value; of cotton cloth, 29 per cent in volume and about 39 per cent in value. Purchases of raw cotton declined 10 per cent, while raw cotton imports from the United States, totaling 441,000,000 pounds, dropped about 25 per cent. The number of cotton spindles on Jan. 31, 1932, was 52,776.

Rayon production increased from 48,770,000 pounds in 1930 to 54,570,000 pounds in 1931. The output of motor cars was 223,000 (237,000 in 1930); of electricity, 11,401,000,000 units (10,914,000,000 in 1930); of shipping tonnage (launched), 467,000 (1,489,000 in 1930). At the end of 1931, 401,000 gross tons of shipping were under construction, as against 909,000 tons a year earlier. The number of registered unemployed on Sept. 26, 1932, was 2,858,011, or 33,239 more than on the same date a year earlier. The rate of wages in 1931 was estimated by the Ministry of Labor to be 2.4 per cent lower than the average for 1924. For the trend of industrial activity during 1932, see *History*. The production of steel in 1932 was 5,257,400 tons; of pig iron, 3,508,900 tons. New ships launched in Great Britain and Northern Ireland numbered 104, of 191,866 gross tons. Bankruptcies during 1932 numbered 8654, or 655 more than in 1931.

Annual reports of Britain's "Big Five" banks (Midland, Lloyds, Barclays, Westminster, and National Provincial) indicated that they weathered the financial crisis of 1931 satisfactorily. They reported aggregate net profits for the year of £9,163,779, or 8.5 per cent less than in 1930. Deposits and current accounts declined by £133,614,955, or 8 per cent.

**FISHERIES.** The quantity of fish of British taking landed in Great Britain during 1931 totaled 989,078 tons, valued at £15,904,316 (excluding shell-fish), compared with 1,093,948 tons, valued at £18,339,715 in 1930. Fishing boats registered on Dec. 31, 1930, numbered 14,284, of 283,944 net tons.

**COMMERCE.** The abandonment of the gold standard on Sept. 20, 1931, was expected to stimulate exports and effectively decrease imports. How-

ever the temporary stimulus which this step afforded some export industries was more than offset by the departure of many other countries from the gold standard, the adoption of import and exchange restrictions in various overseas markets, and the world depression generally. Moreover, there was abnormal importation in November and December in anticipation of emergency duties. After April, 1932, exports showed a decided tendency to decline.

The total foreign trade for 1931 contracted further, as compared with previous years, and there was an additional increase in the excess of imports over exports. As compared with 1930, imports decreased 17.4 per cent, from £1,043,975,261 to £862,174,709; domestic exports declined 31.8 per cent, from £570,755,416 to £389,163,817; and reexports declined 26.2 per cent, from £86,835,409 to £64,035,347. The quantity of merchandise imported showed a small increase of 2.3 per cent, while domestic exports declined in quantity by nearly one-fourth. British foreign trade for the years 1928 to 1932 is summarized in the accompanying table.

BRITISH FOREIGN TRADE, 1928 TO 1932 \*  
[In thousands of pounds sterling]

Calendar year	Imports <sup>b</sup>	Exports <sup>b</sup>	Reexports (imported British merchan- products <sup>c</sup> & else) <sup>c</sup>	Total exports <sup>a</sup>	Excess of im- ports
1928 ..	1,195,598	723,579	120,283	843,862	351,736
1929 ..	1,220,765	729,349	109,702	839,051	381,714
1930 ..	1,043,975	570,755	86,835	657,590	386,385
1931 <sup>d</sup> ..	862,174	389,163	64,035	453,199	408,975
1932 <sup>d</sup> ..	703,133	365,138	50,914	416,052	287,081

\* Not including bullion and specie movements.

<sup>b</sup> C. i. f. value.

<sup>c</sup> F. o. b. value.

<sup>d</sup> Preliminary figures.

Leading import items in 1931 included: Butter, £46,357,997; wheat, £30,345,157; tea, £29,633,149; raw fruit and nuts, £34,704,344; raw wool, waste and rags, £34,817,977; wood and timber, £29,144,442; beef, £29,814,042; raw cotton and cotton waste, £27,153,009; mutton and lamb, £18,915,588. The principal export items included: Cotton piece goods, £71,322,557 (£61,305,421 in 1930); coal, £34,653,774 (£45,661,280 in 1930); machinery, £32,839,207 (£40,974,006); iron and steel and manufactures, £30,410,185 (£51,261,119); vehicles, including locomotives, ships, and aircraft, £28,417,828 (£50,992,306); woolen and worsted yarns and manufactures, £25,150,313 (£36,962,726). The percentage of British imports obtained from within the Empire in 1931 was 28.7 per cent, against 29.1 per cent in 1930 and 29.4 in 1929. The leading sources of supply for Great Britain in 1931 were the United States, which furnished imports valued at £104,171,000, or 12.1 per cent of the total (£153,497,000, or 14.7 per cent, in 1930); Germany, £64,150,000, or 7.4 per cent; Argentina, £52,764,000 (6.1 per cent); Denmark, £46,697,000 (5.4 per cent); Australia, £45,674,000 (5.3); France, £40,883,000 (4.7); New Zealand, £37,832,000 (4.4); and British India, £36,743,000 (4.3). Exports went principally to British India, which took £32,302,000, or 8.3 per cent of the total (£52,944,000, or 9.2 per cent in 1930); Irish Free State, £30,314,000 (7.8 per cent); France, £22,537,000 (5.8 per cent); Union of South Africa, £21,849,000 (5.6); Canada, £20,560,000 (5.3); Germany, £18,413,000 (4.7); and the United States, £17,101,000 (4.4). The percentage of British domestic exports that

went to the Empire countries was 43.8 per cent in 1931, 43.5 per cent in 1930, and 44.5 in 1929.

Excluding gold movements, the British Board of Trade estimated that the balance of British international payments in 1931 showed a deficit of £110,000,000, compared with a credit balance of £28,000,000 for 1930 and of £103,000,000 for 1929. Gold movements showed an export excess of £35,000,000 in 1931, an import excess of £5,000,000 in 1930, and an export excess of £15,000,000 in 1929.

**FINANCE.** National accounts of the United Kingdom for the financial year ended Mar. 31, 1932, showed an apparent surplus of £304,000, due to the strenuous efforts of the National government to achieve a balanced budget (see 1931 YEAR BOOK). Actual receipts totaled £851,482,281, or £14,799,719 less than anticipated in the revised budget. Actual expenditures likewise declined to £851,117,944, or £13,643,056 less than the revised budget estimates. In the preceding fiscal year, revenue totaled £857,760,934 and expenditure £881,036,905, leaving a deficit of £23,275,971.

Revenue from income tax and surtax in 1931-32 exceeded the budget estimates by £19,000,000 and customs duties were £4,382,000 higher, while estate duties were £18,000,000 less than estimated, stamp duties £3,000,000 less, excise duties £1,330,000 less, and miscellaneous receipts £12,887,000 less. The decline in expenditure was due chiefly to a reduction of £12,629,000 in the estimates for unemployment relief. Expenditure on interest and management of the national debt was close to the estimate of £289,400,000 and was £3,677,000 less than in 1930-31. Not included in the budget expenditure figures is the amount of £39,610,000 borrowed from the treasury by the unemployment insurance fund.

The budget for the financial year ended Mar. 31, 1933, provided for an estimated surplus of £796,000, with a revenue of £848,898,000 and an expenditure of £848,102,000, including the self-balancing items of £82,098,000 and the sinking fund of £32,500,000. Compared with actual results of the preceding year, these totals showed an expected decrease in revenue of £2,584,000 and a decrease in expenditure of £3,016,000. See *History*.

The national debt increased by £20,634,000 during the year ended Mar. 31, 1932, to a total of £7,433,943,000; the total on Mar. 31, 1931, was £7,413,309,000. The debt on Mar. 31, 1932, was divided as follows: Funded internal debt, £1,467,075,541, an increase of £42,051,225; terminable annuities, £11,719,000, a decrease of £280,630; floating internal debt, £611,955,000, an increase of £17,630,000; other unfunded internal debt, £437,589,614, a decrease of £55,841,523; external debt, £1,090,836,656, an increase of £24,174,293. The net cash applied to debt redemption during the year was £25,391,467. On Sept. 30, 1932, the total debt was £7,708,000,000.

**SHIPPING.** According to the 1932 edition of *Lloyd's Register Book*, the British proportion of the world's steam and motor-ship tonnage was 28.6 per cent, as compared with 41.6 per cent in 1914. The decrease was relative, there being an actual increase in British tonnage to a total of 12,966 steam and motor vessels, of 11,986,394 net tons, in 1930. Sailing vessels (1930) numbered 5098, of 467,493 net tons. The idle merchant shipping tonnage in the ports of Great Britain and Ireland in August, 1932, was reported at

about 5,250,000 tons. The net tonnage of vessels clearing from British ports in the foreign trade in 1931 was 58,339,587, compared with 65,852,593 in 1930 and 68,679,630 in 1929. Of these, 38,104,025 tons were British in 1931, 42,619,497 in 1930, and 45,337,485 in 1929. The busiest ports in 1930, in the order named, were London, Liverpool, Hull, Manchester, Southampton, Glasgow, and Harwich.

**RAILWAYS.** The financial condition of British railways became increasingly serious during 1931 and 1932. Gross receipts of the "Big Four" railway systems (Great Western; London, Midland & Scottish; London & North Eastern, and Southern) totaled £156,284,000 in 1931, compared with £170,608,000 in 1930 and £180,927,000 in 1929. Due to economies, the decline in net revenue during 1931 was held to be about £6,000,000. Most of the lines passed or reduced dividends on ordinary stocks. In 1930, there were 24,403 miles of railway line open for traffic, which carried 1,217,200,000 passengers (excluding season ticket holders) and 304,300,000 tons of freight. Gross receipts of the "Big Four" railways in 1932 were £142,800,000 (preliminary), or 8.75 per cent less than in 1931.

**OTHER COMMUNICATIONS.** Public highways at the beginning of 1931 extended 177,256 miles (151,807 miles in England and Wales and 25,449 miles in Scotland). Of the total, 42,141 miles, or 23.9 per cent, represented main arterial highways, while the remaining 134,915 miles consisted of country lanes, tracks, and residential streets. Receipts into the road fund during the 1931 fiscal year were £23,000,000 (£22,100,000 in 1930). In August, 1931, 2,189,650 motor vehicles of all descriptions were registered, an average of one for every 21 persons. Civil air lines in 1930 reported 1,437,000 miles flown, with 25,094 passengers and 848 tons of cargo. Air lines connect London with the various European capitals, Palestine, India, Australia, Egypt, and South Africa. Telephone and telegraph systems are operated by the British Post Office. In 1932, the extension of direct telephone service to Canada and to the cities of Pretoria and Johannesburg, South Africa, gave British telephone subscribers connection with about 95 per cent of the world's telephones. The number of telephone subscribers increased by 66,300 during 1932 to a total of 2,133,000.

**ARMY AND NAVY.** See **MILITARY PROGRESS; NAVAL PROGRESS.**

**GOVERNMENT.** The United Kingdom is a limited monarchy, with an unwritten constitution, under which final legislative, judicial, and administrative authority is vested in a Parliament of two houses, acting through a cabinet drawn from its members. The House of Commons consists of 615 members, elected by male and female suffrage on the basis of one member for every 70,000 of the population. The House of Lords, with a voting strength of 740 members, consists of peers who hold seats (1) by hereditary right; (2) by creation of the sovereign; (3) by virtue of office; (4) by election for life, as with Irish peers; or (5) by election for the duration of Parliament, as with Scottish peers.

The composition of the House of Lords in 1932 was: Conservatives and Liberals, 706; Labor, 15; National Labor, 6; Bishops, 24; Royal Peers, 4; Archbishops, 2. The composition of the House of Commons elected Oct. 28, 1931, was: Government parties—Conservatives, 472; National Liberals,

35; Liberals, 33; National Labor, 13; Independent Nationals, 2; total, 555; Opposition parties—Labor, 52; Independent Liberals, 4; Independents, 4; total, 60. Members of the National Cabinet formed Nov. 6, 1931, included: Prime Minister and First Lord of the Treasury, J. Ramsay MacDonald (National Labor); Lord President of the Council, Stanley Baldwin (Conservative); Chancellor of the Exchequer, Neville Chamberlain (Conservative); Home Affairs, Sir Herbert Samuel (Liberal); Lord Chancellor, Lord Sankey (National Labor); War, Viscount Hailsham (Conservative); Foreign Affairs, Sir John Simon (National Liberal); Secretary of State for India, Sir Samuel Hoare (Conservative); Dominion Affairs, J. H. Thomas (National Labor); Colonies, Sir Philip Cunliffe-Lister (Conservative); Air, Marquis of Londonderry (Conservative); Scotland, Sir Archibald Sinclair (Liberal); Health, Sir Edward Hilton Young (Conservative); President of the Board of Trade, Walter Runciman (Liberal); Lord Privy Seal, Viscount Snowden (National Labor); First Lord of the Admiralty, Sir Bolton M. Eyres-Monsell (Conservative); Education, Sir Donald Maclean (Liberal); Agriculture and Fisheries, Sir John Gilmour (Conservative); Labor, Sir Henry Betterton (Conservative); Works, W. Ormsby-Gore (Conservative). For changes in 1932, see *History*.

#### HISTORY

**DOMESTIC DEVELOPMENTS.** The National government had been formed during the emergency of August, 1931, for the sole purpose of combating the financial crisis (see 1931 YEAR BOOK). Throughout 1932, its strategy was marked by bold departures from Britain's traditional trade and fiscal policies. The emergency protective tariff of Nov. 19, 1931, was made a permanent feature of the government's programme early in 1932 and was incorporated in the Ottawa tariff agreements, ratified by the House of Commons on November 3. The pound sterling, whose maintenance at par was long regarded as the symbol of British stability, underwent a long process of controlled depreciation.

The government won notable victories in balancing the 1931-32 budget, repaying the emergency credits raised in New York and Paris in 1931, and carrying through huge war-loan conversion operations. But, after noticeable improvement early in 1932, the general economic situation became worse. Exports declined further and unemployment at the beginning of September reached the record figure of 2,860,000, although decreasing by 110,000 during October. Waging an apparently inconclusive fight against the depression, the government pinned its hopes upon the benefits to British industry expected to result from the Ottawa agreements.

The Ottawa agreements caused the resignation of the more pronounced Free Traders on the Cabinet September 28. Aside from this defection, the temporary coalition of parties formed in 1931 continued in office to the end of 1932. The Conservatives, however, with their overwhelming majority in Parliament, assumed increasing control of the government's policies. Their programme of wage reductions and the economies effected in unemployment insurance payments led to extensive strikes and to rioting in the great cities. Meanwhile, municipal and by-elections revealed a steady drift of voters back to the Labor

party. The first session of the new Parliament was prorogued November 17, a new session being opened November 22.

**The Budget Battle.** Within five months after the abandonment of the gold standard on Sept. 20, 1931, the government had paid off \$565,000,000 out of the \$650,000,000 emergency credits secured from the Bank of France and the Federal Reserve Bank of New York, with the loss of only about \$50,000,000 in the British gold reserve. The last of these "crisis credits" were repaid on Sept. 10, 1932. Moreover, the fiscal year ended Mar. 31, 1932, with an actual budget surplus of £364,000, compared with a deficit of £23,275,971 in the preceding year. The budget for 1932-33, presented to the House of Commons April 19, provided for slight decreases in both revenue and expenditure (see under *Finance*). It did nothing to alter the income tax, the civil service salary reductions of the previous autumn, or the beer duty. A new tax of fourpence (about 8 cents) a pound on foreign tea and twopence (4 cents) a pound on tea grown within the empire was imposed. The general 10-per cent tariff was calculated to yield £27,000,000. The sensational features of the budget were the lack of provision for payment of \$95,550,000 due the U. S. government on the British war debt December 15 and the government's request for authority to borrow £150,000,000 with which to control sterling exchange. The budget likewise omitted the reparation and war debt payments due Great Britain during the year. Chancellor of the Exchequer Chamberlain explained that these omissions were due to the fact that the government did not know what was going to happen with regard to these problems. On November 10 the government formally requested continuation of the Hoover moratorium on war-debt payments pending a reconsideration of the question. When this request was refused at Washington, payment was made as scheduled. Reparation payments were cancelled by the Lausanne Agreement signed July 8, 1932, conditional upon a satisfactory adjustment of war-debt payments owing the United States (see *REPARATIONS AND WAR DEBTS*).

As a major step toward reduction of the heavy interest burden on the national debt, the treasury on June 30 announced that £2,085,000,000 of 5 per cent internal war-loan stock would be converted into a new 3½ per cent loan. The conversion offer closed on September 30, when the treasury stated that approximately £1,920,000,000 had been converted into the new loan, and that applications for redemption in cash on December 1 amounted to only £165,000,000, or about 8 per cent of the total. Subsequent conversion operations brought the total for the year to about £2,500,000,000, effecting a saving to the Treasury of about £40,000,000 annually.

At the end of 1932, however, the Government presented supplementary estimates of additional expenditures, amounting to £21,421,000 in 1932-33, which threatened to throw the budget out of balance unless further economies were achieved. The additional charge was due chiefly to the continued high level of unemployment.

**The Exchange Problem.** As a result of the encouraging trade and budgetary developments during March, the pound sterling displayed buoyancy and wide fluctuations which forced the government to tackle the thorny problem of monetary control. British industry favored de-

preciation of the pound to a low level, in the belief that this would stimulate the export trade, while London bankers favored stabilization at or near the par value of \$4.86. The latter policy would increase the capital values of, and interest payments upon, British foreign investments and international services, such as insurance and merchant shipping.

In this conflict of interests, the industrialists were temporarily victorious. The £150,000,000 Equalization Fund established in May to prevent fluctuations in the exchange value of the pound sterling was used at first to check the rising tendency of sterling exchange induced by the weakness of the dollar. With the return of confidence in the dollar in June, sterling began to depreciate once more. The managers of the currency used the fund to prevent extreme breaks, while allowing the pound to fall gradually to about \$3.46, where the decline was arrested. For several months thereafter, the pound remained fairly stable at between \$3.45 and \$3.47. Early in October, however, sterling was allowed to break below \$3.45 and on October 18, finding it impractical to maintain the pound at this level, the treasury officials removed the exchange controls and allowed a slump to \$3.40½, the lowest quotation since January 11. This was viewed as a step preliminary to trying out a new level of exchange, an experiment necessary to find the most advantageous level at which to stabilize the pound and return to the gold standard. Under the pressure of the \$95,550,000 war-debt payment due the United States on December 15, the pound continued its downward plunge to an average of \$3.1877 for the week of November 28–December 3. Thereafter it recovered, averaging \$3.2787 for the month of December.

By successive reductions, the minimum rate of discount of the Bank of England was cut from 6 per cent at the beginning of the year to 2½ per cent on May 12. Despite the lowered bank rate, the sharp depreciation of the currency, and the imposition of tariff duties, the Board of Trade's index of wholesale prices declined from 100 in January to 98 in June and July. In August, the index rose to 100. Some 200 industrial representatives in the House of Commons, led by Sir Robert Horne and L. S. Amery, continued to demand further inflation to check the price decline. The government refused to adopt this policy. Instead, it invited the United States and other leading countries to join in an international economic and monetary conference at which means of checking the fall in commodity prices were to be discussed. The Bank of England also cooperated with the Federal Reserve Bank of New York to make credit easier.

**Tariff Policy.** In its effort to stabilize the financial situation, the government placed increasing reliance upon a protective tariff. The imposition of high protective duties was expected to reduce imports and consequently redress the highly adverse trade balance, which was one of the main factors involved in the flight from the pound in 1931. The report of the Cabinet Committee on the Balance of Trade, framing a permanent tariff to replace the emergency decrees of the previous November, encountered strong opposition from the Free Traders in the Cabinet. The issue came to a head in January, when a split was prevented only by the abandonment of the traditional principle of the collective responsibility of the Cabinet.

Lord Snowden, Sir Herbert Samuel, Sir Donald Maclean, and Sir Archibald Sinclair had threatened to resign rather than accept the tariff favored by the majority of the Cabinet. However, they consented to remain when their colleagues agreed to allow them to speak and vote in opposition to the policies adopted by the majority. An official statement explaining that this agreement was necessary to maintain "national unity in the presence of grave problems" was issued on January 22. The Import Duties Act, introduced in Parliament February 4 and made effective March 1, imposed a minimum tariff of 10 per cent on all imports except raw cotton, wool, meat, fish, and wheat. It provided for the creation of a tariff commission, empowered to raise any duty as much as 100 per cent against countries discriminating against British goods. The Dominions and colonies were exempted from the new tariff until after the Ottawa Conference.

Successive modifications of the Import Duties Act were made during the remainder of the year. The chief of these were the schedule of new duties imposed April 25 and approved by the House of Commons—405 votes to 70—on April 28 and the Ottawa agreements ratified on November 3. The April schedule imposed an additional duty of 23½ per cent above the all-round duty of 10 per cent for a minimum period of three months on semi-finished steel. For most manufactured goods, there was an additional duty of 10 per cent, making 20 per cent in all; for a limited number of others, a total duty of 15 per cent; and for certain luxury or semi-luxury articles, total duties of 25 or 30 per cent. Foodstuffs were largely exempted, pending the outcome of the Ottawa Conference. The new duties fell on approximately 60 per cent of the total imports. As a result of these duties and the stimulation of exports due to depreciation of the pound, the adverse visible balance of trade during 1932 (£287,213,000) was the smallest in a number of years.

The Ottawa Agreements (Customs Duties) Bill, became effective November 15. Under it, the United Kingdom undertook to continue the duty-free admission, from the Dominions, of those products which were made subject to duties on importation from non-British countries under the Import Duties Act. Great Britain also agreed to impose special duties on other designated goods from foreign countries and, except with the consent of the Dominions concerned, not to reduce the existing duty of 10 per cent ad valorem on selected groups of commodities. In return the Dominions generally granted new or increased margins of preference to selected groups of British goods. The agreements were to continue in force for five years, and thereafter to be subject to termination with six months' notice. In essence, the Ottawa agreements amounted to the restriction of British imports of foodstuffs from foreign countries in favor of the Dominions in return for Dominion preferences to British manufactures. For details of the agreements, see CANADA under *History*.

By the end of the year, the various Ottawa pacts had been ratified also by Canada, Australia, New Zealand, India, Union of South Africa, and Southern Rhodesia. In addition Jamaica, Trinidad, the Bahamas, the Federated Malay States and several other colonies had adopted or enlarged tariff preferences in favor of the Dominions. However, the legislative bodies of New-

foundland and the Irish Free State had not yet ratified the pacts signed by their representatives at Ottawa.

On September 28, Lord Snowden, Sir Herbert Samuel, Sir Archibald Sinclair and eight junior Ministers not of Cabinet rank resigned from the National government in protest against the Ottawa agreements. They declared that the trade pacts would mean permanent tariffs and "food taxes" and were not only a peril to the harmony of the empire, but a barrier to the removal of restrictions on world trade. Their resignations caused Prime Minister MacDonald to reorganize the Cabinet. The nominal duties of Lord Privy Seal were taken over by Stanley Baldwin, in addition to the Presidency of the Council. Sir John Gilmour (Conservative) succeeded Sir Herbert Samuel at the Home Office and was succeeded as Secretary for Agriculture by Major Walter Elliot (Conservative). Sir Godfrey Collins (National Liberal) replaced Sir Archibald Sinclair as Secretary for Scotland. The "reshuffling" increased Conservative representation on the Cabinet, which now consisted of 14 Conservatives, 3 National Laborites, and 3 National Liberals. Backed by about 465 Conservatives, 35 Liberals associated with Sir John Simon, and 13 Labor adherents of Prime Minister MacDonald, the Cabinet still held a majority of about 400 votes over its Liberal and Labor opponents.

*Anti-Government Swing.* With this first break in the Cabinet, the tide of public sentiment adverse to the government gradually assumed more serious proportions. Within the elements supporting the government there was dissension, with the ultra-Conservatives under the newspaper barons, Lords Beaverbrook and Rothermere, demanding the resignation of MacDonald and his non-Conservative colleagues. In both Houses of Parliament there was criticism from all parties of Sir John Simon's conduct of the Foreign Office, particularly his Manchurian and disarmament policies. Some 150 Conservative back benchers in the House of Commons waged a fight for revision of the Ottawa trade agreements in the interests of domestic livestock producers. The government's failure to reduce unemployment and the establishment of the so-called means test, withholding unemployment insurance benefits from workers having resources to fall back on, added to general discontent. This unrest found expression in serious rioting in some of the larger industrial cities, a "hunger march" upon London in October, and an increase in labor disputes.

The political repercussion of these developments was evidenced in the municipal elections of November 2, in which the Laborites won 139 seats in 12 large industrial cities, where they had elected only 25 candidates a year earlier. In the whole country, Labor converted a net loss of 200 municipal council seats in 1931 into a net gain of 15 in 1932. The Communists, who organized the "hunger march" and who entered candidates in many boroughs, failed to win a single seat.

*Party Trends.* The Labor gains were significant in view of the radical swing to the Left which marked the annual Labor party conference held at Leicester early in October. Declaring its objective to be the establishment of a socialistic state, the party adopted planks calling for the nationalization of banks (including the Bank of England), railways, and farm land, and the establishment of national commodity boards with

full power to purchase or regulate imports. The party jettisoned the policy of "gradualness," which had marked the leadership of MacDonald, Snowden, and Henderson. On motion of Sir Charles Trevelyan, and against the warning issued by the party leader, Arthur Henderson, the conference instructed the next Labor government that on assuming office it must immediately promulgate definite socialist legislation and stand or fall in the House of Commons on the party's full programme. Secondly, the conference decided that if the King asked a Labor leader to form a new government, the party must then be consulted and its decision taken on the question of accepting office. The five-day conference ended October 7 with a resolution favoring the abolition of the House of Lords.

With his prestige weakened by the party's disregard of his advice, Arthur Henderson resigned as leader on October 18. His poor health, his duties as chairman of the Geneva Disarmament Conference, and his failure to secure a seat in the House of Commons, contributed to his withdrawal. He was succeeded by George Lansbury, 73 years old, a stopgap named to carry on until the right man appeared.

The annual conference of the Conservative party, held simultaneously at Blackpool, met the Labor challenge by a resolution providing for legislation to strengthen the House of Lords, to be passed by the existing Parliament. By extending the Lords' veto power to include financial measures of the House of Commons, the Conservatives hoped to block socialist legislation in the event of a Labor majority in the Commons. The conference voted unanimously to continue its support of the MacDonald government, approved the Ottawa trade agreements and the government's steps to establish imperial preferences in commerce, and opposed the establishment of democratic government for India.

Meanwhile efforts of Sir Herbert Samuel and others to reunite the divided Liberal party on the issue of free trade proved a failure. The party remained split in three groups headed by Lloyd George, Sir Herbert, and Sir John Simon, respectively. The Lloyd George Liberals denounced the National government on every issue. Sir Herbert and his followers approved all of the actions of the National government except the establishment of the tariff. And Sir John Simon's group approved even of the National government's tariff policy as necessitated by the times. Following the announcement of Sir Herbert Samuel on October 14 that the Liberals would support home rule for Scotland, the Scottish Liberal Federation voted overwhelmingly to ask Liberal members of Parliament to urge the government to give self-government to Scotland.

*DOMINION AFFAIRS.* At Ottawa the MacDonald government strove to substitute economic bonds for the disintegrating political links between the United Kingdom and the Dominions. The bargaining and recrimination which marked the Ottawa meeting were not conducive to more intimate ties within the Empire, but it was hoped that the economic advantages expected to accrue from the agreements signed there would more than compensate for temporarily ruffled feelings. These agreements were opposed by the Labor party and a large section of the Liberal party in Britain, by the Liberals in Canada, the Laborites and industrialists in Australia, and the extreme republicans in South Africa. On the other hand

they were approved by the governments in power in all the Dominions, including the Nationalist administration in South Africa. The Irish Free State was excluded from the preferences granted by Great Britain to the Dominions, as a result of the repudiation of the oath of allegiance and the withholding of the land annuities by the new Free State government of Eamon de Valera (see *IRISH FREE STATE* under *History*). Agitation and disorders continued in India in connection with the movement for greater autonomy, but on a relatively small scale, compared with events of the preceding two years (see *INDIA* under *History*). In South Africa, there were renewed evidences of republican agitation (see *SOUTH AFRICA, UNION OF*). Upon application of the British government, the mandated territory of Iraq (q.v.) was admitted to the League of Nations. On recommendation of a British Royal Commission, constitutional government was re-established in Malta (see *MALTA*).

**FOREIGN RELATIONS.** It was largely due to Prime Minister MacDonald's initiative and unflagging zeal that the reparations issue was successfully disposed of at the Lausanne Conference (see *REPARATIONS AND WAR DEBTS*). He also arranged for the holding of the 1933 World Economic Conference in London to consider plans for an international attack upon the world depression. In the other crucial issues confronting Britain during the year—disarmament and the League of Nations' conflict with Japan over Manchuria—the cautious and passive attitude of the Foreign Secretary, Sir John Simon, evoked dissatisfaction among all parties except the wing of the Conservatives favoring Japan. Sir John opposed the Hoover armament reduction proposals at Geneva (see *DISARMAMENT*) and tacitly declined to support either the American State Department or the League in their efforts to bring Japan to book for her alleged violation of the Kellogg-Briand Pact, the Nine-Power Treaty, and the League Covenant (see *JAPAN; LEAGUE OF NATIONS*).

The adoption of a permanent protective tariff system had a profound effect upon Britain's commercial relations with other nations. One notable result was the termination of the Anglo-Soviet trade agreement concluded by the Labor government in 1930. On October 18, the government announced that it had given the required six months' notice of the termination of the treaty. Dominions Minister Thomas explained that the step was necessary because the continued importation of "sweated" goods from the Soviet Union would violate the Ottawa agreements. Termination of the treaty deprived British consumers of large quantities of low-priced lumber, fish, and grain, which thereafter were to be supplied chiefly by Canada. The British note, however, requested the Soviet government to open negotiations for a new trade agreement. Previously (September 11) the Board of Trade had authorized the extension of Soviet trade credits in Britain from 12 to 18 months in order to stimulate Russian orders for British goods. Following ratification of the Ottawa agreements, the government invited Norway, Sweden, Denmark, and Argentina to open negotiations for bilateral trade agreements. Uruguay, Finland, and several other countries prepared to negotiate reciprocal commercial pacts with Great Britain.

The atmosphere of irritation which had marked Anglo-French relations during 1931 was succeed-

ed in 1932 by effective coöperation between the two Powers, particularly after the advent of the Herriot government. Sir John Simon supported the French (Tardieu) plan for the establishment of a Danubian federation (see *UNITED STATES OF EUROPE*), which was rejected by Germany and Italy at the Four-Power Conference held in London April 6-8. The conference, at which Great Britain, France, Germany, and Italy were represented, was preceded by a visit of Premier Tardieu to London (April 2 and 3) at which the whole range of Franco-British relations was discussed. At the Lausanne Conference, Prime Minister MacDonald induced Premier Herriot to virtually cancel French reparation claims on Germany. In return he entered into a consultative agreement resembling in certain respects the pre-war entente cordiale. By this agreement, the British government in substance was reported to have promised France not to covertly side with Germany against French policy, not to accept any American inter-allied debt concessions which were not offered to France, and not to join the United States in supporting a form of disarmament to which France was opposed.

British sympathy for Germany, rooted in the desire for restoration of German prosperity and trade, was alienated by the extremely nationalist tone of the Papen-Schleicher Cabinet in the face of French concessions. The German note of August 29, threatening to rearm unless the armament restrictions of the Versailles Treaty were immediately removed, was answered in a British note of September 18. While admitting Germany's moral right to terminate her inferior treaty status, the London government flatly denied the legality of the German claim to equal status. It urged Germany to reënter the Disarmament Conference and seek to attain her objective by "friendly negotiation and agreed adjustment" (see *DISARMAMENT*).

In an effort to secure Germany's return to the Geneva Disarmament Conference and to prevent the arms *impasse* threatened by her withdrawal, Britain, on October 4, suggested a second four-power conference at London. Italy accepted the proposal, but France and Germany declined. This failure was followed by the visit of Premier Herriot to London (October 12, 13), where he asked new British guarantees for French security in return for concessions which would be acceptable to Germany. The guarantees were not forthcoming and Premier Herriot subsequently announced a new French disarmament plan (see *FRANCE* under *History*). Germany's return to the Conference was secured through a joint declaration signed by representatives of Britain, France, Germany, Italy, and the United States at Geneva December 11, which gave Germany equality of status. See *GERMANY* under *History*.

**THE ANGLO-PERSIAN OIL DISPUTE.** British relations with Persia became strained when on November 27 the Persian government notified the Anglo-Persian Oil Company that the oil concession granted that company in 1901 for 60 years had been cancelled. The British government, which owned more than half the common stock of the company, depended upon the monopoly for the oil supply of the British navy. Asserting that the concession contract made no provision for cancellation, the British government announced that unless cancellation was rescinded by December 15, it would refer the question to the World Court under the Optional

Clause. Persia, denying the jurisdiction of the World Court, threatened to bring the case to the attention of the League Council. Great Britain acted first, however, invoking Article XV of the League Covenant on December 14 and requesting early consideration of the dispute. The Council tentatively set Jan. 23, 1933, for opening the arguments. See PERSIA under *History*.

**OTHER EVENTS.** A scheme for the coöperative production and marketing of the Empire's primary produce was launched November 3, with the establishment of the Empire Farmers' Co-op, Ltd. in London. The union of the three largest branches of the Methodist Church—the Primitive Methodists, the United Methodists, and the Wesleysans—was officially celebrated in London on September 20. The submarine *M-2* sank in the Channel January 27, with the loss of the 61 members of the crew. Deaths during the year included William Graham and Dr. Marion Philipps, both Labor leaders; Sir Sidney Low and Lytton Strachey, authors and historians; and Bishop Charles Gore of Birmingham, leader of the High Church party.

**BIBLIOGRAPHY.** Consult W. Y. Elliott, *The New British Empire* (New York and London, 1932); Sir Arthur Salter, "England's Dilemma: Free Trade or Protection," *Foreign Affairs*, January, 1932; H. V. Hodson, "Before Ottawa," *Foreign Affairs*, July, 1932; Francis W. Hirst, "The National Government's First Year" and J. Bartlett Brebner, "Imperial Conference Results," *Current History*, October, 1932.

**GREECE.** A republic in southeastern Europe, comprising the lower Balkan peninsula and many islands in the Aegean Sea. Among the administrative divisions are Macedonia, Central Greece, and Euboea, Peloponnese, Thessaly, Epirus, Western Thrace, and Crete (Krête). Capital, Athens.

**AREA AND POPULATION.** The total area is 50,257 square miles (41,641 square miles of mainland and 8616 square miles of islands). The population in December, 1930, was estimated at 6,394,000, compared with 6,204,684 at the census of 1928 and 5,016,889 in 1920. Between 1920 and 1930, a total of 1,221,849 Greeks were repatriated from Turkey. The chief cities, with the 1930 and 1920 populations, are: Athens, 452,919 (292,991 in 1920); Piraeus (Peiraieus), 251,328 (133,492); and Saloniki, 235,524 (170,321). Their rapid growth was due chiefly to the influx of refugees from Turkey. In 1929, living births numbered 181,820; deaths, 115,511; marriages, 44,450.

**EDUCATION AND RELIGION.** Illiterates over 10 years of age in 1928 numbered 1,962,330. During the 1928-29 school year, 704,510 pupils were attending all schools, of whom 609,595 were in primary, 87,015 in secondary, and 7900 in higher educational institutions. At the census of 1928, there were 5,961,529 adherents of the Greek Orthodox Church, 35,182 Catholics, 9003 Protestants, 126,017 Moslems, and 72,791 Jews.

**PRODUCTION.** Predominantly agricultural, Greece specializes in the production of tobacco and currants for export. The cultivated area in 1929 totaled 3,815,233 acres, or one-fifth of the total area; the forest area, was 5,944,059 acres, of which 4,121,119 acres were owned by the state. Production of the chief crops, in metric tons, for 1931 was (provisional): Wheat, 347,669; barley, 201,814; currants, 152,270; oats, 92,898; tobacco, 31,640. Corn, cotton, wine, olives, citrus fruits, and rice are other crops. Livestock in 1930 included 241,722 horses, 880,907 cattle,

and 6,799,067 sheep. Minerals produced include chromite, lignite, lead, calcined magnesite, and iron. The value of industrial production in 1930 totaled about 6,646,363,000 drachmas (drachma exchanged at \$0.0130 in 1930). Olive oil, wine, carpets, textiles, chemicals, and food items are the chief industrial products.

Preliminary crop estimates for 1932 were: Wheat, 19,474,000 bushels; all cereals, 45,000,000 bushels; tobacco, 28,000 metric tons; currants, 131,000 tons; olive oil, 104,000 tons; dried figs, 20,000 tons. Industrial production in 1932 was valued at 8,313,000,000 drachmas.

**COMMERCE.** The value of Greek imports in 1931 was equivalent to \$113,851,000 (\$136,828,000 in 1930) and that of exports to \$54,211,000 (\$77,814,000 in 1930). Textile materials, wheat, livestock, coal, lumber, and machinery were the leading imports, in the order named, and tobacco, currants, raisins, wine, olives, and olive oil were the chief exports. The 1931 imports came chiefly from Great Britain, which furnished 13 per cent of the total, against 9.5 per cent from the United States; Soviet Union, 6.9 per cent; France, 6.5 per cent; and Italy, 6.1 per cent. Exports went to the United States, which took 17.2 per cent; Italy, 16.7 per cent; Great Britain, 14.9; and Germany, 14. In 1932, imports totaled 7,870,863,000 drachmas; exports, 4,759,218,000 drachmas.

**FINANCE.** The Greek budgets for the fiscal years ending March 31 since 1929-30 are shown in the accompanying table compiled by the Institute of International Finance. Drachmas are converted at the par value of \$0.0130.

SUMMARY OF GREEK BUDGETS  
[In millions of dollars]

	Revenues	Expenditures	Surplus
1929-30 (actual) . . .	257.1	251.2	5.9
1930-31 (actual) . . .	166.1	158.1	8.0
1931-32 (actual) . . .	159.3	157.6	1.7
1932-33 (proposed) . .	111.0	111.0	..

The public debt on Mar. 31, 1932, totaled 42,967,000,000 drachmas (about \$557,588,000 at par). Gold loans amounted to \$382,269,000, of which \$164,759,000 represented prewar loans, \$65,894,000 debts to foreign governments, and \$151,616,000 postwar loans. Loans in drachmas totaled \$76,468,000; the floating debt was \$62,780,000; the railway debt, \$35,895,000; and the treaty debt, \$176,000. On Apr. 25, 1932, Greece abandoned the gold standard and on Mar. 31, 1932, suspended service on the internal and external debt (see *History*).

**COMMUNICATIONS.** In 1929, 2683 miles of railway line were open for traffic, of which 1322 were operated by the state. Highways extended about 8611 miles, with some 570 miles under construction. Six international air lines used Greece as a transit station between western Europe and the Near and Far East. The merchant marine on June 30, 1931, included 539 steam and motor vessels (of over 100 gross tons), aggregating 1,397,782 tons. The net tonnage of vessels with cargo and in ballast entering Greek ports during 1931 was 5,928,000; the tonnage cleared was 5,772,000.

**GOVERNMENT.** The Constitution, revised as of June 3, 1927, vested legislative power in a bicameral legislature. The Chamber of from 200 to 250 members was elected for four years by universal manhood suffrage; the Senate comprised 120 members, of whom 92 were elected by the



people, 10 by the Senate and Chamber jointly, and 18 by trade, industrial, and scientific organizations. The President was elected for five years by an absolute majority of the two chambers in joint session. There was a Cabinet, responsible collectively and individually to the Lower Chamber. The Constitution declared that the republican form of government could not be the subject of a constitutional amendment. President in 1932, Alexander Zaimis, elected Dec. 14, 1929. The Ministry, as reorganized Dec. 22, 1930, was headed by Eleutherios Venizelos. For changes in 1932, see *History*.

**HISTORY.** Greek history during 1932 was marked by a serious financial crisis and by heavy Royalist gains in the general election of September 25, followed by the resignation on October 31 of the noted statesman and Premier, Eleutherios Venizelos. The foreign exchange reserve, and with it the stability of the drachma, was in growing danger by the beginning of the year, due to the decline in exports, cessation of foreign loans, and adverse repercussions of the depreciation of the pound sterling. Consequently payment of interest and amortization on the external debt, the service of which required approximately 1,230,000,000 drachmas annually, presented great difficulties. Early in the year, Premier Venizelos visited London, Paris, and Rome in a vain effort to secure a \$50,000,000 loan and authority to suspend for five years payments into the sinking fund on its foreign debt. The Premier, in turn, rejected recommendations of the League of Nations' Financial Committee for reducing expenditures, balancing the budget, and suspending for one year the transfer abroad of sinking funds on Greek loans.

The appointment of Kriakos Varvaressos as Minister of Finance on April 22, to succeed George Maris, foreshadowed the abandonment three days later of the gold standard. At the same time the Premier announced that Greece would cease sinking-fund payments on both the internal and external debt, reduce the interest payments on the internal debt by 25 per cent, and pay interest on the external debt into a blocked account in the National Bank for a five year period, unless a foreign loan was forthcoming. A bill incorporating these measures retroactive to April 1, was enacted by Parliament May 10.

There was a short Cabinet crisis when Premier Venizelos and his colleagues resigned (May 21), owing to the refusal of parliament to adopt its measures, a serious railway strike, and adverse press comment. A tentative coalition cabinet, embracing all the opposition parties except the Royalists, was formed May 25 under Alexander Papanastassiou, but was forced to resign June 3 by the refusal of Venizelos to pledge the full support of his party. Venizelos was again called upon by President Zaimis and two days later announced his reconstructed cabinet. In the meanwhile, to avoid the possibility of a *coup d'état*, Gen. Theodoros Pangalos, former dictator, was banished with 11 supporters on June 1 for a five-months period.

On June 30, the Venizelos government notified the U. S. Treasury that Greece would not make the payment of \$130,000 due July 1 on account of the principal of her \$30,292,000 debt to the United States. In accordance with the moratorium agreement of the debt-funding treaty, Greece exercised her option to postpone these principal, but not interest, payments for two and a half

years. About the same time (June 10) arrangements were concluded for French financial control of the Greek state railways. Despite these efforts to conserve and strengthen the foreign-exchange reserve, the gold exchange reserve of the Bank of Greece decreased from \$39,080,000 at the end of 1930 to \$9,095,000 on June 30, 1932. Meanwhile the drachma was steadily depreciating—from a par value of \$0.0130 to \$0.0060 in October, 1932. As the external debt was payable in foreign currencies, depreciation of the drachma added steadily to the debt burden of the country.

The campaign previous to the election of a new Lower Chamber and one-third of the Senate on September 25 was one of the most bitter recorded since the World War. It revolved principally about the personality of the veteran Premier, whom the opposition sought to hold responsible for the financial crisis and acute economic distress. The opposition was led by the Royalists under Panayoti Tsaldaris, who, despite their anti-republican sympathies, were supported by several small anti-Venizelos but republican groups, led by M. Papanastassiou, George Cafandaris, and others. Premier Venizelos repeatedly announced that he would refuse to resign in favor of the Royalists, in case they won the election, on the ground that they planned to restore the monarchy. In this stand he was supported by the Military League of republican army officers, who seriously considered a *coup d'état* and the establishment of a dictatorship for five years.

The election resulted in a stalemate, with no party holding a majority. The Venizelists lost 81 seats, while the Royalists gained 76, the Agrarians 9, and the Communists 9. Of the 250 seats in the new Chamber, the Venizelist Liberals held 102, the Royalist People's party 96, the Progressives (Cafandaris) 15, Agrarians 11, Communists 9, Farm-Labor bloc (Papanastassiou) 6, and the Radical Nationalists 5. The lineup in the Chamber forced President Zaimis to choose between a new election and a coalition cabinet. He chose the latter alternative. On October 31, Premier Venizelos resigned and the Royalist leader, Tsaldaris, was asked to form a cabinet. He had promised to oppose open discussion of the monarchy temporarily, to recognize the status quo, and to facilitate a solution of the financial situation. His cabinet, a coalition of all the anti-Venizelist parties, was announced November 4 as follows: Premier and Minister of Finance, Panayoti Tsaldaris; Foreign Affairs, John Raillis; Justice, M. Papathanasis; Interior, Gen. John Metaxas; War, Gen. George Kondylis; Navy, Adm. Hadjikyriakos; Agriculture, M. Theotokis; Communications, M. Stratos. On November 6 Premier Tsaldaris appointed M. Agenopulos to the Finance portfolio. The latter immediately announced that henceforth Greece could pay the interest on her debts to the United States and Great Britain only in paper drachmas; he proposed arbitration of the question of Greece's foreign obligations.

On November 12 Premier Tsaldaris announced that his parliamentary programme called for the abolition of several ministries, shortening of the military training period, and establishment of new government monopolies to rehabilitate Greek finances. Venizelos then announced that he would tolerate the new government but declined to give it a vote of confidence. Accordingly a vote of



lerance was passed November 13, after which the Chamber recessed for two months, with the mizelos Liberals reserving the right to reconvene it at any time.

On November 10, Greece defaulted on a \$440,000 interest payment due on the \$12,000,000 American loan of 1928. The Greek government, setting that the 1928 loan was a war loan, demanded arbitration as to the validity of the loan conditions. Under pressure of the United States government, which was supported by the British government, the Cabinet on December 30 pronounced that Greece would pay \$67,000, or 30 per cent of the sum due November 10. The government offered to pay a similar percentage of the service charges due on British and other European loans.

On December 27, five judges of the Athens Court of Appeals ruled that Samuel Insull, American public utilities magnate, was not subject to extradition, under the Greek-American extradition treaty. Insull's extradition was requested by the United States government, after he had been indicted by a Cook County (Ill.) grand jury. See LAW, under *Extradition*.

A severe earthquake in the Chalcidice peninsula on the night of September 26 killed 141 persons, injured 403, and ruined more than 3000 houses (see EARTHQUAKES). Former Queen Sophie of Greece, wife of former King Constantine who died in exile at Palermo in 1923, died at Frankfort-on-Main on January 13 (see her biography).

**GREEK ARCHÆOLOGY.** See ARCHÆOLOGY.

**GREEK STUDIES.** See PHILOLOGY, CLASSICAL.

**GREENLAND.** Ranking second in size to Australia among the islands of the world, Greenland is situated in the North Atlantic to the north and east of Canada. The estimated area, covered for the most part with a thick layer of ice, is 839,782 square miles; the population on Jan. 1, 1931, of the settled area (46,740 square miles) included 16,495 native Eskimos and 324 Europeans, mostly Danes. The settled area along the southern coasts is divided into the provinces of North, South, and East Greenland, with 7238, 489, and 883 inhabitants, respectively. Julianesaab, with 3532 inhabitants, is the principal settlement. Godthaab and Godhavn are the administrative cities for South and North Greenland. Trade, which is chiefly in furs, sealskins, and oil, is a monopoly of the Danish government. Exports in 1929-30 were valued at 2,906,000 Danish crowns (worth \$0.267 at par) and exports at 10,742,000 crowns. In the 1930-31 budget estimated revenues and expenditures balanced at 4,457,000 crowns. Administrative authority rests with a director residing in Copenhagen. Director in 1932, J. Daugaard-Jensen.

**HISTORY.** While the dispute among the governments of Norway, Denmark, and Iceland over possession of territory on the east coast of Greenland was still pending before the Permanent Court of International Justice at The Hague, Norway on July 12, 1932, enlarged the controversy by formally occupying and annexing another stretch of coast (see WORLD COURT). The area claimed by Norway in 1931 extended between 71 degrees 30 minutes and 75 degrees 40 minutes North Latitude. That claimed in 1932 lay between 61 degrees 30 minutes and 63 degrees 10 minutes North Latitude. The Danish author-

ities immediately submitted this second dispute to the World Court. M. Stauning, the Danish Prime Minister, declared that the occupation was in direct violation of the Danish-Norwegian agreement of 1924, and an intrusion into an administrative area of the colony of Greenland. Meanwhile a large Danish expedition under Dr. Lauge Koch was carrying on extensive scientific studies and airplane mapping activities in East Greenland. Dr. Koch sailed from Copenhagen June 15, 1932, with five ships, airplanes, and over 90 men. He returned on September 18. See POLAR RESEARCH.

**GREEN SHIRTS.** See PEACE.

**GREGORY, AUGUSTA, LADY.** An Irish dramatist, died in Gort, County Galway, May 22, 1932. She was born in Roxborough, County Galway, Mar. 5, 1859, youngest daughter of Dudley Persse. In 1881 she married Sir William Gregory, who had been member of Parliament for Galway and Dublin and governor of Ceylon. She played an important part during the '90s in the Irish literary revival. Of special merit were her renderings of the Irish sagas, in *Cuchulain of Muirtemne* (1902) and *Gods and Fighting Men* (1904), in an Anglo-Irish idiom, a modified form of English fashioned by the Celtic peasant, which expressed better the thoughts and feelings that had formerly found utterance in the expiring Gaelic tongue. She also used this dialect with great effect in her plays. Among her translations into the idiom are several plays of Molière, which were published as *The Kiltartan Molière* (1910), and also Sudermann's *Trja* (1908) and Goldoni's *Mirandolina* (1910). William Butler Yeats, Edward Martyn, John Millington Synge, George Moore, and other moving spirits of the revival owed much to her help and encouragement. Her last protégé was the playwright, Sean O'Casey.

Lady Gregory devoted herself especially to the Irish National Theatre in Dublin, which with Edward Martyn and George Moore she founded in 1899 and which was later endowed as the Abbey Theatre under the auspices of the National Theatre Society. At this theatre there were produced many of her own plays, the most distinctive and popular of which were her one-act comedies of modern Irish life. Among these are: *The Workhouse Ward*; *The Full Moon*; *Coats*; *The Image*; *Dervorgilla*; *Hyacinth Halcy*; *The Jackdaw*; *The Goal Gate*; *The Rising of the Moon*; *Spreading the News*; *Kincora*; *Twenty-five*; *The White Cockade*; *The Canavans*; *The Unicorn from the Stars* (with W. B. Yeats); *The Travelling Man*; *The Deliverer*; *Macdaragh's Wife*; *The Bogle Man*; *Damer's Gold*; *Shanwalla*; *Hanrahan's Oath*; *The Dragon*; *The Golden Apple*; *The Story Brought by Brigit*; *Dave*; and *Sancho's Master*. She accompanied the Irish Players (the Abbey Theatre's company) to the United States on their tours of 1911-12 and 1913. In the latter year she also published *Our Irish Theatre*. She remained a director of the Abbey Theatre until her death.

Lady Gregory's important books, in addition to those mentioned, are: *Poets and Dreamers* (1903); *Saints and Wonders* (1908); *Seven Short Plays* (1909); *The Kiltartan History Book* (1909); *The Kiltartan Wonder Book* (1910); *Irish Folk History Plays* (1912); *New Comedies* (1912); *The Kiltartan Poetry Book* (1919); *Hugh Lane's Life and Achievement* (1921); *Three Wonder Plays* (1922); *Three Last Plays* (1928); and *Coole* (1931). For the "Cel-

tic Renaissance" she collected and arranged *Visions and Beliefs in the West of Ireland* (1920). She also edited her husband's autobiography in 1894 and in 1898 *Mr. Gregory's Letter Box*, the correspondence in 1812-30 of her husband's grandfather, William Gregory, Under-Secretary of State for Ireland.

**GREGORY, CHARLES NOBLE.** An American lawyer, died in Washington, D. C., July 10, 1932. He was born in Otsego Co., N. Y., Aug. 27, 1851, and was graduated with the LL.B. degree from the University of Wisconsin in 1874. He practiced law in Madison, Wis., until 1894 and was also attorney there for the Chicago, Milwaukee & St. Paul Railway. After serving as associate dean of the law college at the University of Wisconsin, he was appointed in 1901 dean of the law college at the State University of Iowa and in 1911 dean of the law department at George Washington University. He remained at the latter institution until 1914. In 1909 he was president of the Association of American Law Schools. He was also a former editor of the *Tariff Reform Advocate* and of the *American Journal of International Law*. His works include *The Life of Justice Miller of the Supreme Court of the United States* (1907) and *Abstracts of Cases in Lloyd's Reports of Prize Cases* (4 vols., 1919).

**GREGORY, JOHN WALTER.** A British geologist and explorer, died by drowning June 6, 1932, when his canoe capsized in the Urubamba River, Peru. Born Jan. 27, 1864, he attended the Stepney Grammar School, Bow, and from 1879 to 1887 was engaged in the wool trade with his father. On becoming an assistant in the geological department of the British Museum, he made geological explorations of the western United States (1891) and British East Africa (1892-93) and was naturalist with Sir Martin Conway's expedition across Spitzbergen (1896). In 1900 he was called to the University of Melbourne, where he was professor of geology and mineralogy until 1904. He was also director of the geological survey of the Mines Department of Victoria during 1902-04. He then accepted the geological chair at the University of Glasgow, which he held until 1929. Among the important expeditions which he headed were to Lake Eyre (1901-02), Cyrenaica (1908), Southern Angola (1912), and Chinese Tibet (1922). At the time of his death he was head of a British scientific mission studying Andean geological formations. Made a fellow of the Royal Society in 1901, he received the Victoria Medal of the Royal Geographical Society (1919), the gold medal of the Scottish Geographical Society (1922), and the gold medal of the Royal Society, Edinburgh (1924). He was also a member of the Calcutta University Commission (1917-19) and president of the British Geological Society (1928-30). His works include, in addition to over 200 scientific papers on geology, *The Foundation of British East Africa* (1901); *The Dead Heart of Australia* (1906); *The Rift Valleys and Geology of East Africa* (1921); *The Menace of Color* (1925); *Human Migration and the Future* (1928); and *Elements of Geology* (1928).

**GRENADA, gre-nā'da.** An insular possession of Great Britain in the Windward group of the British West Indies. Area, 133 square miles; population at the census of 1921, 66,302; estimated Jan. 1, 1931, at 76,967. Grenada includes half the Grenadine Islands, the other half being administered from St. Vincent. The capital

is St. George's with a population of about 5000. The chief products are cacao, sugar, spices, lime juice, and cotton. In 1930 revenue was £141,946; expenditure, £91,453; public debt, £183,510; imports were valued at £193,252 and exports at £172,648. The colony is under the Governor of the Windward Islands, whose headquarters are at St. George's but has its own legislative council. Colonial Secretary for Grenada in 1932, H. R. R. Blood, see WINDWARD ISLANDS.

**GRINNELL COLLEGE.** A coeducational, non-sectarian institution of higher learning in Grinnell, Iowa, founded in 1846. The enrollment for the autumn of 1932 was 683, while that for the summer session was 95. There were 70 faculty members. The productive funds amounted to \$2,063,405, and the income for the year, exclusive of dormitories, was \$335,000. The library contained 90,000 volumes. President, John Scholte Nollen, Ph.D., LL.D.

**GADELOUPE, ga'da-lōp'. A** French insular possession in the Lesser Antilles in the West Indies, consisting of two islands separated by a narrow channel, the one on the west being Guadeloupe proper or Basse-Terre, and the one on the east Grande-Terre. Total area, including five small dependent islands, 688 square miles; population (1931 census) 267,407. Basse-Terre is the capital, with a population, in 1926, of 8379; chief town and port, Pointe-à-Pitre, with 30,465 inhabitants in 1931.

The budget in 1930 balanced at 40,593,956 francs; public debt was 1,385,850 francs; exports were valued at 192,719,000 francs and imports at 229,059,000. Gadeloupe is under a governor and an elected council. Governor in 1932, M. Choteau, appointed in 1931.

**GUAM, gwām.** An insular possession of the United States, situated at the southern end of the Mariana, or Marianne, Islands in mid-Pacific about 1500 miles from Manila and 5053 miles from San Francisco. The largest and most populous island of the Mariana group, it has an area of 210 square miles. The total population on June 30, 1932, was 19,673 (18,297 natives, 784 non-natives, and 592 members of the naval establishment). Capital, Agaña, with about 8500 inhabitants.

The public-school registration in 1931-32 averaged 3676 pupils. Education is compulsory between the ages of 7 and 12. Spanish and English are spoken in addition to the native Chamorro. Cacao, coffee, copra, corn, rice, sugar, sweet potatoes, and timber are the chief products of the island, but only copra and coconut oil are exported. The trade of the island is principally with the United States and Manila. For the year ended June 30, 1932, imports totaled \$514,431 and exports \$53,821.

In connection with the Federal government's economy programme, it was ordered, June 11, 1931, that Guam be demilitarized and all fortifications removed. The work of dismantling guns was completed Oct. 31, 1931, and most of them were shipped back to the United States. Also the officer and enlisted personnel of the Marine Corps attached to the station was considerably reduced. For the fiscal year ended June 30, 1932, general revenue totaled \$155,181 and expenditure \$145,444. Guam is a United States naval station, of which the governor, who is appointed by the President, is commander. There is a native Congress, with advisory powers. Commandant and Governor in 1932, Capt. E. S. Root, U. S. N.

**GUATEMALA**, gwá'tá-má'lá. A Central American republic, situated between the Caribbean Sea and the Pacific Ocean, whose land frontiers are continuous with those of Mexico, British Honduras, Salvador, and Honduras. Capital, Guatemala City.

**AREA AND POPULATION.** With an area of 42,364 square miles, Guatemala in 1931 had an estimated population of 2,219,000, compared with the 1921 census population of 2,004,900. The urban population in 1921 numbered 534,176, or 27 per cent of the total. About 60 per cent of the population are pure Indian, the remainder being largely mestizos. For the period 1927 to 1931, births averaged 100,076 annually and deaths 47,440; birth and death rates per 1000 inhabitants for the same period were 45.6 and 21.6, respectively. The populations of the chief cities in 1921 were: Guatemala City, 120,707; Quezaltenango, 30,125; Cobán, 20,774; and Escuintla, 21,840.

**EDUCATION.** Approximately 80 per cent of the population are illiterate. There were 141,167 pupils in public and private elementary schools in 1931, as compared with 577,568 children of school age (5 to 17 years) in 1921. Public elementary schools numbered 2410, with an enrollment of 110,890. Enrollment in normal, secondary, and special schools totaled 4769 and that of the National University 714.

**PRODUCTION.** Agriculture is the principal occupation and coffee, the chief crop cultivated, normally constitutes 80 per cent of the value of all exports. The drastic decline in coffee prices dealt a severe blow to the national economy. General business operations in 1931 declined about 25 per cent from 1930 and 50 per cent from 1929. The 1931-32 coffee crop was estimated at 76,075,000 pounds, compared with 90,290,000 pounds in 1930-31, and 107,798,000 pounds in 1929-30. Production of other leading crops was: Bananas, 4,500,000 stems in 1931 (shipments), as against 4,874,000 stems in 1930, and a normal production of about 6,000,000 stems; sugar, 31,000,000 pounds in 1931, against about 40,000,000 pounds in 1930. Corn, wheat, rice, and potatoes are produced for local consumption. Livestock in 1931 included 373,000 cattle, 146,000 sheep, 55,000 horses, 77,000 swine, and 55,000 asses and mules. The forests, covering 1,316,000 acres, yield hardwood and chicle. Gold, lead, mica, chromium, and silver are produced in normal times. Industrial establishments are confined chiefly to coffee-cleaning plants and sugar mills.

**COMMERCE.** Total imports in 1931 were valued at \$12,971,000, as against \$16,474,000 in 1930, a decline of 21 per cent, while exports of Guatemalan products declined to \$15,167,000 in 1931, from \$23,578,000 in 1930. The United States in 1931 supplied 54.9 per cent of the total imports; Germany, 12.75 per cent; and the United Kingdom, 8.91 per cent. Exports went chiefly to the United States, which took 35.39 per cent; Germany, 33.1 per cent; and the Netherlands, 15.43 per cent. For the year ended June 30, 1932, Guatemala's imports from the United States were valued at \$3,643,000 (\$6,168,000 in 1930-31), and exports to the United States totaled \$3,776,000 (\$5,741,000 in 1930-31). The chief imports in order of value (1931) were cotton fabrics, iron and steel, wheat flour, cotton yarn and thread, gasoline, and machinery and tools. Coffee exports (1931) were valued at \$10,982,000

(\$18,936,000 in 1930); bananas, \$2,899,000 (\$2,437,000 in 1930).

**FINANCE.** For the fiscal year ended June 30, 1931, ordinary revenues totaled 10,652,907 quetzales (the quetzal equals \$1 at par), as compared with 13,426,739 quetzales in 1929-30. Ordinary expenditures for 1930-31 totaled 13,171,764 quetzales, compared with 13,270,799 quetzales in 1929-30. The budget estimates for 1931-32 balanced at 7,980,000 quetzales; preliminary returns indicated a deficit for the year. The national debt as of Dec. 31, 1931, stood at 13,457,965 quetzales and £1,540,863, or a total of 18,696,899 quetzales when the sterling debt was converted at par of exchange. By a law effective in April, 1932, the Central Bank was authorized to charge as high as 103 quetzales for \$100 United States currency, thus recognizing a 3 per cent depreciation of the quetzal. Guatemala in 1931 defaulted on several interest payments.

**COMMUNICATIONS.** Railway lines in operation in 1931 totaled 788 miles, of which 509 miles, operated by the International Railways of Central America, carried 1,956,000 passengers and 439,300 short tons of freight, earning gross receipts of \$3,960,000 (\$4,859,000 in 1930). In 1930, 1195 vessels of 2,443,000 net registered tons entered the ports, as against 1150 vessels of 2,080,000 tons in 1929.

**GOVERNMENT.** Executive power under the Constitution of Jan. 1, 1928, is vested in a president elected for six years and legislative power in the National Assembly, which consists of 69 members elected for four years by universal suffrage. A council of state of seven members, three elected by the National Assembly and four appointed by the President, has large advisory powers besides supervising public concessions and contracts. President in 1932, Gen. Jorge Ubico, who assumed office Feb. 14, 1931.

**HISTORY.** Increasing discontent with the régime of President Ubico was reported during the year, but there were no political disorders such as those occurring in neighboring states. Hostility between the governments of Guatemala and El Salvador was evidenced repeatedly. In June, President Maximiliano Hernandez Martínez of Salvador, in a telegram to the Salvadorean legation in Washington, charged that President Ubico was supporting a conspiracy headed by former President Arturo Araujo of Salvador to overthrow the Martínez régime. The Guatemalan government denied the charge. President Ubico strongly opposed the campaign undertaken by Foreign Minister Pacheco of Costa Rica to secure a joint denunciation of the Central American non-recognition treaties (see *COSTA RICA* under *History*). The Guatemalan Foreign Minister on November 29 declared that the treaties had proven more beneficial than harmful and should be revised rather than suppressed. The Guatemalan government thus was in accord with the United States in refusing to extend recognition to the revolutionary government of President Martínez in Salvador.

**GUGGENHEIM FELLOWSHIPS.** See *PAINTING*.

**GUIANA.** See *DUTCH, BRITISH, FRENCH GUIANA*.

**GYDNIA.** See *POLAND* under *Communications*.

**GYMNASTICS.** For the second year in succession, Frank Haubold, a member of the Swiss Turn Verein of Union City, won the national A.A.U. gymnastics all-around title in 1932. Once

again the battle for honors was between Alfred Jochim and his teammate Haubold, Haubold triumphing over the former champion by the slim margin of five-hundredths of a point. Jochim won at calisthenics and on the long horse, and Haubold on the parallel bars. Jochim previously had won the Metropolitan all-around championship. Haubold won on the pommel horse for the United States at the Olympics.

The United States Naval Academy team swept the intercollegiate championships, led by Charles A. Curtze, who won the individual all-around championship.

**GYPSUM.** The amount of crude gypsum mined in the United States during 1932 was about 1,364,900 short tons, or an estimated decrease of 40 per cent as compared with the figures reported for 1931, according to the U. S. Bureau of Mines. The amount of domestic and imported rock sold as uncalcined gypsum in 1932 was 505,461 tons, while the amount of calcined gypsum produced from domestic and imported rock was 1,031,280 tons. The corresponding figures for 1931 were 775,242 tons and 1,856,245 tons.

New building construction of all kinds was at unprecedentedly low levels during 1932 and the total demand for gypsum products declined. There were practically no developments of major importance in the domestic gypsum industry during the year. The Century of Progress Exposition, which will open in Chicago on June 1, 1933, experimented in building construction of a cheap non-inflammable type. In cooperation with officials of the Exposition, the gypsum industry worked out a type of board which appeared sufficiently weatherproof for exterior use, and which considerably lowered the cost of construction.

While there were slight reductions in the prices of certain products, the price structure of the gypsum industry as a whole held up remarkably well under adverse conditions. Crude gypsum prices varied only slightly from the previous year when producers reported sales at an average price of \$2.02 per short ton. The Canadian gypsum industry, which suffered less from the general business slump in 1931 than did that in the United States, decreased its output from 863,752 tons, valued at \$2,111,517 in 1931 to 485,205 tons, valued at \$1,178,000 in 1932. These figures represent decreases of 44 per cent in quantity and value, as compared with 1931.

**HADRAMAUT, THE.** See ARABIA.

**HAGUE TRIBUNAL.** See ARBITRATION, INTERNATIONAL.

**HAITI**, hä'tī. A West Indian republic, comprising the western third of the island of Haiti, the other part forming the Dominican Republic, or Santo Domingo (see DOMINICAN REPUBLIC). Capital, Port-au-Prince.

**AREA AND POPULATION.** With an area of about 10,204 square miles, Haiti had an estimated population of 2,550,000 in 1929, or 250 per square mile; in 1909 the estimated population was 2,029,700. Port-au-Prince had about 80,000 inhabitants in 1929. The estimated population of the other chief towns (1927) was: Cape Haitien, 12,500; Aux Cayes, 12,500; Gonaives, 10,000; St. Marc, 8000; Jacmel, 7500. The inhabitants are Negroes and mulattoes. The language of the educated classes is French and that of the masses a dialect known as Creole French.

**EDUCATION.** The population is largely illiterate. There were 1129 schools of all classes in 1930-31, with 92,355 pupils.

**PRODUCTION.** Haiti is a predominantly agricultural country, producing coffee, cotton, sugar, cacao, sisal, and pineapples for export. Logwood, hides and skins, lignum-vitæ, honey, tobacco, and turtle-shell are other products. The coffee crop is the outstanding factor in the national economy, exports in the fiscal year ended Sept. 30, 1931, totaling 57,972,000 pounds valued at \$6,687,000, as against 75,664,000 pounds valued at \$10,406,000 in 1929-30. The total value of exports in 1930-31 was \$8,963,419. The output of raw sugar in 1930-31 was 18,800 long tons (18,907 in 1929-30). Mining is unimportant commercially, and manufacturing is confined to the production of sugar, alcohol, rum, molasses, and other products for local consumption.

**COMMERCE.** The total value of all imports during the fiscal year ended Sept. 30, 1931, was \$9,570,318, compared with \$12,842,000 in 1929-30 and with \$17,238,000 in 1928-29. Exports during 1930-31 were valued at \$8,963,000 compared with \$14,145,000 in 1929-30 and with \$16,724,000 in 1928-29. As compared with 1929-30, the 1930-31 exports and imports declined 36.6 and 25.4 per cent, respectively, in value. Coffee and cotton in 1930-31 accounted for 78.7 per cent of the total export value. France took 50.8 per cent of the total exports, while the United States supplied 68.6 per cent of all imports.

**FINANCE.** For the fiscal year ended Sept. 30, 1931, revenues totaled 31,746,582 gourdes (\$6,349,316 and expenditures 36,190,070 gourdes (\$7,238,014). This compared with revenues of 38,648,000 gourdes (\$7,729,000) and expenditures of 40,643,000 gourdes (\$8,128,600) in the fiscal year 1929-30. A law of Sept. 29, 1932, imposed a surtax of 5 per cent of the import duty and other clearance charges on all imports. The President was authorized to stop the collection of the surtax by decree as soon as revenue was sufficient to balance the budget. The public debt of Haiti totaled 82,705,649 gourdes (\$16,541,129) at the end of the 1929-30 fiscal year, as compared with 78,357,576 gourdes (\$15,671,515) on Sept. 30, 1931. The gourde was equivalent to \$0.20 United States currency.

**COMMUNICATIONS.** There are two privately owned railway systems, with a total of 158 miles of line. One system, the National Railways, which suspended operations in May, 1931, resumed traffic in January, 1932. Highways, extending 1072 miles in 1931, provided the chief means of communication. In the fiscal year 1930-31, vessels entering Haitian ports numbered 682 of 1,332,000 net tons, as against 712 of 1,377,000 tons in 1929-30.

**GOVERNMENT.** The Constitution adopted June 12, 1918, provided for a national assembly, consisting of a senate and house of representatives. The National Assembly was elected for the first time on Oct. 14, 1930, legislative functions having been carried on in the interim by a council of state of 21 members appointed by the President. As amended in 1928, the Constitution vested executive power in a president elected for six years and ineligible for reelection. The President in 1932 was Sténio Vincent, elected Nov. 18, 1931, by the 36 Deputies and 15 Senators, sitting as a National Assembly. Under a treaty between the United States and Haiti concluded Sept. 16, 1916, and to expire in 1936, the constabulary, finances, public health, public works, and agriculture of the Republic were supervised by American advisers appointed by the President of Haiti on

recommendation of the President of the United States. The post of American High Commissioner was abolished in 1930, and most of the duties of that office were taken over by the newly appointed American Minister. The administration of public health, public works, and agricultural training was turned over to Haitian officials in 1931, the United States retaining control of finances and the constabulary.

**HISTORY.** On September 3, representatives of the American and Haitian governments signed a treaty and two protocols under which the intervention of the United States was to be ended "as soon as practicable and in an orderly manner." The first step toward American withdrawal had already been taken in the agreement of Aug. 3, 1931 (see 1931 YEAR BOOK), which terminated American control of all departments of the Haitian administration, except the constabulary, or Garde, and finances. The 1932 treaty envisaged the complete Haitianization of the Garde and the withdrawal of the American marines on Dec. 31, 1934, instead of awaiting the expiration in May, 1936, of the American-Haitian treaty of September, 1915, upon which the American occupation is based. However, an exchange of notes stipulated that withdrawal of the marines might be postponed "if serious disturbances or other difficulties in Haiti now unforeseen should arise. . . ." The treaty further authorized the United States to establish a military mission, with considerable supervisory powers over the Garde.

With regard to finances, the treaty provided that customs revenue should continue to be collected by an American fiscal representative until the extinction of the \$23,660,000 loan raised in the United States in 1922. At the current rate of amortization, the loan would probably be retired about 1942, or six years after the expiration of the 1915 treaty. In the meantime, the American fiscal representative was to exercise extensive control over the Haitian budget and the collection of internal revenue.

Although ratification of the treaty was urged by President Vincent, the Haitian National Assembly on September 21 unanimously rejected it. In doing so the Assembly approved a report of its committee stating that the new treaty "reinforced," rather than liquidated, the treaty of 1915. In an exchange of notes between the two governments, made public on October 10, the State Department at Washington again announced that the United States intended to withdraw its marines but warned that continued refusal of the Haitian Assembly to accept the new treaty might delay such withdrawal until 1936. However, complete Haitianization of the Garde in the Department of the South was contemplated by Dec. 31, 1932.

Appearing before the U. S. Senate Finance Committee on Feb. 10, 1932, Georges Leger, brother of the Haitian Foreign Minister, charged the United States with dominating Haiti ever since the military occupation of 1915. He said the American financial advisers had been virtual dictators in Haiti, that extension of the 1915 treaty from its original expiration date in 1926 to 1936 and the 1922 loan had been forced upon the Haitian people against their will, and that the American High Commissioner had prevented the reelection of President d'Artignave in 1922 because he was opposed to the loan. On the same day the U. S. Department of State issued a statement reviewing the financial situation in Haiti

since 1915. It stated that Haiti's total debt at the time of the American occupation, amounting to \$31,700,000, had been liquidated for a total of \$23,660,000, and that this bonded indebtedness was reduced to \$14,329,161 on Dec. 31, 1931, while a surplus of \$3,292,568 had been accumulated in the Haitian Treasury by Sept. 30, 1931. On February 16, Secretary of State Stimson replied to Mr. Leger's charges in a letter to Chairman Smoot of the Senate Finance Committee. He said that apparently the American High Commissioner had nothing to do with preventing the reelection of President d'Artignave in 1922. He denied Mr. Leger's statement that "a continual state of martial law had existed in Haiti" since 1915.

Norman Armour, Counselor of the American Embassy in Paris, on August 13 succeeded Dr. Dana G. Munro as Minister to Haiti. The American naval forces, including marines, in Haiti totaled 950 on Sept. 1, 1932.

The administration of President Stenio Vincent was vigorously attacked by the opposition press during the year. On August 20, the President proclaimed martial law for Port-au-Prince and certain other parts of the island. Five newspapers were suppressed and two editors were arrested on the ground that their anti-government agitation threatened to lead to bloodshed and to imperil the stability of the government. A law passed by the Assembly on Sept. 24, 1932, provided for the distribution of government-owned land in plots of about 12 acres per person.

**HALE, EDWARD EVERETT.** An American author and educator, died in Schenectady, N. Y., Aug. 19, 1932. He was born in Boston, Mass., Feb. 18, 1863, son of the Rev. Edward Everett Hale. Graduated from Harvard University in 1883, he taught English at Cornell University from 1886 to 1890. In 1892 he received the Ph.D. degree from the University of Halle. He was then called to Iowa State College as professor of English, and in 1895 accepted the same chair at Union College. Previous to his death he had retired as head of the English department at the latter institution. He wrote *Constructive Rhetoric* (1896); *James Russell Lowell* (1899); *Dramatists of Today* (1905); and *Sevard* (1910), and contributed to the *Dial* from 1893 to 1917 and to the *NEW INTERNATIONAL ENCYCLOPEDIA*.

**HALL, FRANCIS JOSEPH.** An American theologian, died in Baldwinsville, N. Y., Mar. 12, 1932. He was born in Ashtabula, O., Dec. 24, 1857, and was graduated from Racine College in 1882. He attended the General and the Western theological seminaries, and following his ordination to the priesthood of the Protestant Episcopal Church in 1886 became professor of dogmatic theology at the Western Seminary. From 1913 to 1928 he held the same chair at the General Seminary. He was also registrar of the diocese of Chicago from 1894 to 1913 and was church counsel in the heresy trial of Dr. Algernon S. Crapsey in 1906. His writings include: *Theological Outlines* (3 vols., 1892-95); *Historical Position of the Episcopal Church* (1896); *The Kenotic Theory* (1898); *Introduction to Dogmatic Theology* (1907); *Authority, Ecclesiastical and Biblical* (1908); *The Being and Attributes of God* (1909); *Evolution and the Fall* (1909); *The Trinity* (1910); *Creation and Man* (1912); *The Incarnation* (1915); *The Bible and Modern Criticism* (1915); *The Passion and Exaltation of Christ* (1918); *The Church and the Sacramental System* (1920); *The Sacraments* (1921);

*Eschatology* (1922); *Moral Theology* (with F. H. Hallock, 1923); *Christianity and Modernism* (1924); and *Christian Reunion in Ecumenical Light* (1930).

**HAMBURG**, STATE AND FREE CITY OF. A constituent republic of the German Reich, the state and Free City of Hamburg has an area of 160 square miles; the population (on Oct. 10, 1929) was 1,226,111, of whom 1,143,079 resided in the City of Hamburg and 83,032 in Landgebiet. The ordinary budget for 1931 balanced at 430,567,280 reichsmarks and the extraordinary budget at 9,859,300 reichsmarks (1 reichsmark = \$0.2382 at par). On Sept. 30, 1931 the public debt was 413,800,000 reichsmarks. Hamburg is the chief seaport of Germany; in 1930, 20,350 vessels of 27,990,248 tons entered and 22,744 vessels of 22,204,578 tons cleared. The Constitution of Jan. 7, 1921 (modified Mar. 21, 1924; May 19, 1926; Feb. 28, 1927) vests supreme power in the House of Burgesses of 160 members, which delegates executive authority to a Senate of 12 members. The elections of Sept. 27, 1931, returned 46 Social Democrats, 43 National Socialists, 35 Communists, 14 State party, 9 Nationalists, 7 People's party, 2 Centrists, and 4 others to the House of Burgesses. See GERMANY, under *History* for 1932 elections.

**HAMILTON COLLEGE**. A nonsectarian institution for the higher education of men in Clinton, N. Y., founded in 1812. A total of 463 students was registered for the 1932 autumn session. There were 44 members of the faculty for the year 1932-33. The productive funds of the college were approximately \$4,175,000 and the income for the year 1931-32 was \$377,840. The library contained 147,136 volumes, and 32,000 pamphlets. President, Frederick C. Ferry, Ph.D., Sc.D., LL.D.

**HAMPTON INSTITUTE**. An institution founded in 1868 in Hampton, Va., for the education of Negroes. The enrollment for the autumn term of 1932 was 988, while that for the summer school was 701. The faculty numbered 159. The endowment for the fiscal year ending June 30, 1932, was \$10,017,393 from which the income was \$456,500. Gifts to the endowment and investment funds amounted to \$77,681. There were 81,390 volumes in the library. President, Arthur Howe.

**HANDBALL**. Angelo Trulio, of the New York Athletic Club, was the outstanding performer in 1932 handball, winning six titles in the course of the year. With Al Banuet, who had held the national four-wall crown for three years turned professional on the Pacific Coast, Trulio, former national junior titleholder, was supreme. He won the national singles and doubles titles on the same day in March at the New York Athletic Club. Performing with his usual care and smashing perfectly, Trulio vanquished Sam Atcheson, of Memphis, in three games, 14-21, 21-9, 21-13. Later he paired with his clubmate, Maynard Laswell, to win the doubles by beating the defending champions, Joseph Bathe and Herman Dworman, of Detroit, 21-19, 21-11.

Before that achievement Trulio had won the Metropolitan and the New York State singles championships, beating Solly Goldman of the Trinity Club in the Metropolitan final, and downing Ed Hahn, of the Pastime A. C. in the State. He also won doubles titles in both tournaments, pairing with William Barry to take the

Metropolitan and with Laswell for the State honors.

One-wall handball activities were lessened when no national championship tournaments, senior or junior, were held, because no section or club applied for them. Irving Jacobs of the Union Temple, won the New York State title, and Jack Seaman, Trinity Club veteran player, took the Metropolitan championship. The Metropolitan one-wall doubles was captured by Ben Yedlin and Arthur Aiello, of the Trinity Club, and the New York State doubles went to the same pair.

The National A. A. U. four-wall hard-ball singles title was won by Edward Rogers of the Brooklyn Central Y. M. C. A., who teamed with James Lantry to win the doubles.

**HANNAH DAIRY RESEARCH INSTITUTE**. See DAIRYING.

**HARBORS**. See PORTS AND HARBORS.

**HARMSWORTH TROPHY**. See MOTOR-BOATS.

**HARNES RACING**. See HORSE RACING.

**HARRIMAN**, MARY WILLIAMSON AVERELL. An American philanthropist, died Nov. 7, 1932, in New York City, where she was born July 23, 1851, daughter of William J. Averell. She was married in 1879 to Edward Henry Harriman, who became one of the leading American railroad magnates and financiers, controlling the Union Pacific, Southern Pacific, Southern Pacific and Mexico, St. Joseph and Grand Island, Illinois Central, and Central of Georgia Railroads; the Pacific Mail and Portland & Asiatic Steamship Companies; and the Wells Fargo Express Co. On the death of her husband in 1909 she was the sole heir and executor of an estate appraised at more than \$100,000,000. Outstanding among her gifts was a 10,000-acre tract of land in the Highlands of the Hudson, known as Harriman Park, which she gave to the State of New York to afford recreational opportunities to the people. The land was accompanied by a gift of \$1,000,000 for its upkeep. Later, through additional gifts of land and money from J. P. Morgan and John D. Rockefeller, it was developed into the Palisades Interstate Park. Mrs. Harriman gave also \$80,000 for the endowment of the E. H. Harriman chair of forestry at Yale University and \$50,000 to the Bureau of Municipal Research in New York City, and established the Training School for Public Service in New York City and the Eugenics Record Office at Cold Spring Harbor, Long Island, N. Y. The latter in 1917 was given over to the Carnegie Institution of Washington for supervision by its department of genetics. Among her medical endowments were the Southern Pacific Hospital in San Francisco, which was accompanied by \$150,000 for the maintenance of a medical and surgical laboratory for the benefit of Southern Pacific Railway employees; the Edward H. Harriman research fund of the Adirondack Cottage Sanitarium at Saranac Lake; a research laboratory at Roosevelt Hospital, New York City; a bureau for the study of public health problems under the New York Academy of Medicine; and a fund for research into the problem of obstetrics at the Yale University medical school. She established in 1913 the fund for medals commemorating work for railroad safety under the American Museum of Safety and organized lectures for children on safety first. Her favorite cultural project was the American Orchestral Society, a training orchestra for young

musicians, of which she was the founder and principal financial backer for more than 10 years.

**HART, HASTINGS HORNELL.** An American social worker, died in White Plains, N. Y., May 9, 1932. He was born in Brookfield, O., Dec. 14, 1851, and was graduated from Oberlin College in 1875. On his graduation from the Andover Theological Seminary in 1880, he was ordained to the Congregational ministry and served for three years as pastor in Worthington, Minn. After 1883, when he became secretary of the Minnesota State Board of Corrections and Charities, he was identified with social work. In 1898 he accepted the position of superintendent of the Illinois Children's Home and Aid Society. He became associated with the Russell Sage Foundation in 1908 as director of the department of child-helping, and after 1924 was consultant in delinquency and penology. He investigated the prison and penitentiary systems of Wisconsin, Pennsylvania, Missouri, and other States, and in 1926 reported on United States Prisoners in County Jails and in 1929 gave testimony before a special committee of the House of Representatives on Federal penal and reformatory institutions. He was president in 1893 and general secretary from 1894 to 1901 of the National Conference of Charities and Corrections. During 1921-22 he was president of the American Prison Association, and in 1930 received the gold medal awarded by the Roosevelt Memorial Association for "the promotion of social justice." Among his numerous works are: *Preventive Treatment of Neglected Children* (1910); *A Social Welfare Programme for the State of Florida* (1918); *Social Progress of Mississippi* (1919); *Social Problems of Alabama* (1921); *How to Give Wisely \$25,000 to \$1,000,000* (1921); *The Third Degree: Methods of Obtaining Confessions and Information from Persons Accused of Crime* (1921); *The Restoration of the Criminal* (1922); *Penology, an Educational Problem* (1922); *County Jails in the Light of the "Declaration of the Principles of 1870"* (1925); and *Training Schools for Prison Officers* (1930).

**HARVARD UNIVERSITY.** A nonsectarian institution of higher education for men in Cambridge, Mass., founded in 1636. The number of students enrolled for the year 1932-33 was 8228, distributed as follows: college, 3390, including 611 seniors, 738 juniors, 852 sophomores, 1117 freshmen, and 72 out-of-course. Graduate schools: arts and sciences, 985; business administration, 960; education, 285. Professional schools: engineering (undergraduate and graduate), 218; theology, 48; law, 1509; medicine, 510; dentistry, 133; public health, 28; architecture, 75; landscape architecture, 35; city planning, 7; special students, 36. For the summer session of 1932, the registration was 1943. The officers of instruction for 1932-33 numbered 1635, of whom 273 were professors, 82 associate professors, and 167 assistant professors.

Visiting professors and lecturers during the year included: Henri Guy, president of the University of Grenoble, who came as lecturer on French for the second half-year; Pierre Caron, head of the division of modern history of the national Archives, Paris, who came as exchange professor from France for the second half-year; Wilhelm Köhler, director of the Weimar State art collection, who came as Kuno Francke professor of German art and culture for the entire year; Thomas Stearns Eliot, editor of the Lon-

don *Criterion*, who came as Charles Eliot Norton professor of poetry for the academic year; Serge Elisseeff, professor of the history of Japanese literature in the Russian Institute, University of Paris, who came as lecturer on Chinese and Japanese for the academic year; João Frederico Normano, associate director of the Harvard Bureau of Economic Research in Latin America, who came as lecturer on economics for the entire year; Miles Lawrence Hanley, associate professor of English at the University of Wisconsin, who came as lecturer on English for the academic year; Robert Cedric Binkley, professor of history at Western Reserve University, who came as lecturer on history for the entire year; and David Mitrany, assistant European editor of the *Economic and Social History of the War* (Carnegie Endowment for International Peace), who came again as lecturer on government for the academic year.

The book value of endowment funds of the university in June, 1932, exclusive of land and buildings used for educational purposes, was \$123,415,389. The total expenses for the year were \$14,111,225. Building activity included the completion of the Harvard Memorial Church and the astrophotographic building of the Harvard College Observatory in Cambridge, Mass. Construction was also carried forward on the group of buildings comprising the new Oak Ridge Astronomical Observing Station at Harvard, Mass. In the autumn of 1932, a new wing of the Fogg Art Museum was completed to house the Naumburg art collection. A new residential unit was completed on the site of Russell Hall as part of Adams House, thus concluding the major construction connected with the Harvard House Plan. The library contained 3,336,282 volumes and pamphlets. President, Abbott Lawrence Lowell, LL.B., LL.D.

**HARZBURG FRONT.** See GERMANY under *History*.

**HASTINGS, CHARLES SHELDON.** An American physicist, died in Greenwich, Conn., Jan. 30, 1932. He was born in Clinton, N. Y., Nov. 27, 1848, and was graduated from Yale University with the Ph.B. degree in 1870 and the Ph.D. degree three years later. He then studied at the Universities of Heidelberg and Berlin and at the Sorbonne in Paris, and on his return to America in 1877 was appointed associate professor of physics at Johns Hopkins University, Baltimore. In 1884 he was called to the chair of physics at the Sheffield Scientific School at Yale, where he remained until his retirement as professor emeritus in 1915. He was considered one of the foremost American experts in optics, devising a method which enabled him to determine not only the spherical aberration and astigmatism of a lens but the variation of its focal plane and its magnification with variation of the wave-length of light. In the field of astronomy he made correcting lenses for transforming visual into photographic refractors and brought the spectroscope to a high degree of perfection. The largest telescope which he designed is the 30-inch photographic objective at the Allegheny Observatory. There have also been constructed from his calculations the telescopes at the Yale Observatory in South Africa, the Chabot Observatory in Oakland, Calif., and the observatories of Yale, Pennsylvania, and Heidelberg Universities. He was the author of a *Text-Book on General Physics* (with F. E. Beach, 1899); *Light: A Consideration of*



*the More Familiar Phenomena of Optics* (1901); and *New Methods in Geometrical Optics* (1927).

**HAUPTMANN**, GERHART. See GERMAN LITERATURE.

**HAVERFORD COLLEGE.** An institution of higher education under the control of the Society of Friends in Haverford, Pa., founded in 1833. Registration for the autumn term of 1932 totaled 312 students. There were 44 members on the faculty. The productive funds of the institution amounted to \$4,014,445 (book value). The library contained 117,444 volumes. President, William Wistar Comfort, Ph.D., Litt.D., LL.D.

**HAWAII**, hā-wiʻā. A territory of the United States, consisting of a group of islands in the north central Pacific Ocean 2809 miles southwest of San Francisco. Capital, Honolulu.

**AREA AND POPULATION.** With a gross area of 6407 square miles, Hawaii had a population of 368,336, or 57.5 per square mile, at the census of 1930, compared with 255,912 in 1920. The estimated population on June 30, 1932, was 380,507. The population of the nine inhabited islands in 1930, with the area in square miles in parentheses, was as follows: Oahu, 202,887 (598); Hawaii, 73,325 (4018); Maui, 48,750 (728); Kauai, 35,806 (547); Molokai, 5032 (261); Lanai, 2356 (139); Niihau, 136 (97); Midway, 30 (2.7); and Kahoolawe, 2 (69). The racial composition of the population as of June 30, 1932, was estimated by the board of health as follows: Japanese, 146,189; Filipino, 65,515; Caucasian, other than Portuguese, Puerto Rican, and Spanish, 43,517; Portuguese, 28,595; Chinese, 27,235; Hawaiian, 22,230; Caucasian-Hawaiian, 17,056; Asiatic-Hawaiian, 14,459; Korean, 6653; Puerto Rican, 7000; and Spanish, 1253. Of the total 1930 population, 81.4 per cent were native born, as compared with 65.9 per cent in 1920. In 1931 there were 10,831 births and 3805 deaths. The average birth and death rates for the five-year period 1927 to 1931 were 32.4 and 11.5, respectively. Honolulu in 1930 had 137,582 inhabitants (83,327 in 1920); Hilo, 19,468 (10,431).

**EDUCATION.** On June 30, 1932, there were 78,663 pupils enrolled in 181 public schools, and 12,617 pupils in 74 private schools. The enrollment of regular undergraduates in the University of Hawaii during 1931-32 was 1369; in addition there were 117 graduate students and 720 part-time students, making a total of 2206, not including summer session students. English is the language of instruction. Appropriations for the department of public instruction in the revised budget for the biennium commencing Jan. 1, 1932, totaled \$11,617,910.

**PRODUCTION.** Sugar and pineapples are the chief agricultural products of Hawaii, but coffee, bananas, rice, sisal, tobacco, cotton, and meat are important products also. Large plantation companies control much of the land devoted to sugar and pineapples. In 1930, there were 5942 farms on the islands. Raw sugar production in 1930-31 was 993,787 short tons from 134,680 acres (924,464 short tons from 136,127 acres in 1929-30); the 1931 pineapple output set a new record of 12,726,000 cases (of 24 cans each), an increase of 46,000 cases over 1930. Coffee production is increasing, shipments to continental United States in 1931 totaling 6,637,000 pounds (5,887,000 in 1930). Manufacturing is confined chiefly to the preparation of pineapples and sugar for market, but other lines of manufacture are expanding. In 1930, there were 21,028 persons en-

gaged in mining and manufacturing industries. The depression was reflected in the internal revenue payments for the fiscal year ended June 30, 1932, totaling \$3,785,879, or nearly \$1,000,000 less than in the previous year.

**COMMERCE.** During the calendar year 1931, Hawaii sold goods valued at \$101,548,555 to the United States and purchased commodities valued at \$79,092,387 from the mainland. The comparative figures for 1932 were \$82,688,000 and \$58,504,000, respectively. Exports to countries other than the United States were \$1,189,280 in 1931 (\$1,992,046 in 1930), and imports from other countries were \$7,864,381 (\$9,486,645). Sugar exports in 1931 totaled \$55,233,469; fruits (mostly pineapples), \$39,256,875; coffee, \$1,401,608; molasses, \$1,330,378.

**FINANCE.** For the fiscal year ended June 30, 1932, revenues collected by the territory aggregated \$12,208,679 and expenditures were \$12,422,947. The bonded debt on June 30, 1932, stood at \$32,405,000, an increase of \$405,000 during the year. For the same year the income of the various counties comprising the territory aggregated \$11,511,852, as against \$11,713,979 in 1930-31. The assessment of real and personal property for 1932 totaled \$328,685,005, against \$390,556,301 in 1931.

**COMMUNICATIONS.** In the 1931-32 fiscal year, 1225 vessels with a gross tonnage of 10,318,131 arrived at the territorial ports, a decrease of 58 vessels, and 37,751 gross tons from the previous year. All the principal islands are supplied with steam railways (361 miles in all). Inter-island steamship and airplane services were maintained. Telephonic communication with the mainland was inaugurated in 1931.

**GOVERNMENT.** The Governor and Secretary of the Territory are appointed for four years by the President of the United States. There is a legislature of two houses, the Senate of 15 members, elected for four years, and the House of Representatives of 30 members, elected for two years. A delegate, elected biennially, represents the Territory in the Congress of the United States. Governor in 1932, Lawrence M. Judd, appointed in 1929; Secretary, Raymond C. Brown, delegate to Congress, Victor S. K. Houston.

**HISTORY.** As the result of a vicious outrage on a white woman that occurred in Honolulu a consequent murder and subsequent trial in 1932 attracted widespread attention in the United States. On January 8 occurred the murder of Joseph Kahahawai, a Hawaiian, who with four other suspects of Hawaiian or Oriental descent, had been on parole pending retrial upon a charge of rape and assault on Mrs. Thomas H. Massie, the wife of an American naval lieutenant on duty in Hawaii. Four persons were arrested and charged with the murder—Lieutenant Massie; Mrs. Granville Fortescue, mother of Mrs. Massie and socially prominent in New York and other American circles; and Edward J. Lord and Albert O. Jones, both enlisted men in the navy. After a sensational trial, all four were found guilty of manslaughter on April 29 and sentenced to 10 years' imprisonment by Judge A. M. Cristy. On May 4 Governor Judd commuted the sentence of the four, after they had served one hour.

Meanwhile the affair had aroused a storm of criticism on the mainland. On January 9 a report on the Massie case by Rear Admiral Yates Stirling Jr., U.S.N., commandant of the 14th Naval District at Pearl Harbor, had been made public.



He declared that the inefficiency of the Hawaiian police and race antagonism were a menace to navy men and their families residing there (see 1931 YEAR BOOK). There was a growing demand in the United States for the abolition of civil government and its replacement by a military or naval régime. The U. S. Government sent Assistant Att. Gen. Seth W. Richardson to investigate crime conditions in Hawaii. His report, submitted to the U. S. Senate April 4, declared that the investigators found "no organized crime, no important criminal class, and no criminal rackets." They did find "extreme laxity in the administration of law enforcement agencies" and inefficiency in the administration of justice which "had given rise to a feeling of personal unsafety among a substantial portion of the citizens." Mr. Richardson opposed any change in the form of the territorial government, but recommended that the President be empowered to appoint a territorial attorney general in charge of law enforcement.

Governor Judd acted to correct conditions in the islands which were arousing mainland criticism by calling two special sessions of the Territorial Legislature—January 8 to March 28 and March 29 to June 3. Legislation was passed providing for the appointment of a public prosecutor for the city and county of Honolulu, removable by the attorney general; reorganization of the Honolulu police department, of the courts and jury system, and of criminal procedure; and establishment of a board of prison directors to have entire control and supervision of prisons and prison camps. The statutes governing rape, abduction, and seduction were made more drastic. Other measures were passed completely revising the system of taxation and tax laws and instituting a programme of governmental economy.

Despite these measures, a number of bills were introduced into the United States Congress to restrict the large measure of autonomy enjoyed by the Territory. These bills aroused the almost unanimous opposition of the islanders and of government officials in Hawaii and the United States. In his annual report for 1932, the Secretary of the Interior announced that the Administration would "continue to insist upon the American policy of local self-government and to hold the local government responsible for the results." He added that "The islands' principal problem now is the counteracting of the influence of a chain of mainland newspapers which have done their best to promote racial controversy within the islands and prejudice from without." For this latter purpose Governor Judd on Nov. 20, 1932, appointed a legislative commission to assist Hawaii's delegate in Congress in opposing the anti-autonomy bills.

In the territorial election of Nov. 8, 1932, the Democrats made the most decisive gains in 10 years. Lincoln Loy McCandless defeated Victor Houston, Republican incumbent, for the office of delegate to the Congress. He campaigned on a platform demanding exclusion of Filipino labor from Hawaiian plantations and attacking Mr. Houston's act in recommending that Governor Judd pardon the four defendants in the Massie trial. Several of the Honolulu officials criticized in connection with the Massie case were defeated, including Sheriff Patrick Gleason. The new Legislature consisted of 31 Republicans and 14 Democrats. See UNITED STATES.

Consult Lillian Symes, "What About Hawaii?", *Harper's Magazine*, October, 1932.

**HAY.** The hay crop of the United States in 1932 according to estimates published by the Department of Agriculture amounted to 81,788,000 tons harvested from 67,117,000 acres, the average yield per acre being 1.22 tons. In 1931 the total yield was 73,436,000 tons, the area harvested 66,138,000 acres and the average yield per acre, 1.11 tons. The 1932 production was made up of 69,609,000 tons of tame hay and 12,179,000 tons of wild hay. The crop of tame hay consisted mainly of alfalfa hay (see ALFALFA) and clover and timothy hay each amounting to about 26,000,000 tons. Due to dry weather, the clover and timothy hay crop was more than 1,500,000 tons less than in 1931 and 1930. The tame hay crop of 1932 was below the average crop for the five years 1924-1928 which was 74,000,000 tons. To offset the small yield of tame hay and the shortage of farm stocks of old hay which were nearly 3,000,000 tons below the average on May 1, a larger acreage of wild hay, including marsh, salt, and prairie hay, was cut. The acreage of wild hay was 14,298,000 acres, an increase of about 17 per cent over the acreage of the preceding year.

The leading tame hay producing States and their yields in 1932 were as follows: New York 4,914,000 tons, Iowa 4,468,000 tons, California 4,354,000 tons, Minnesota 3,699,000 tons, and Wisconsin 3,672,000 tons. These States produced nearly 30 per cent of the tame hay crop of the country. The production of wild hay in the leading States was reported as follows: Nebraska 2,189,000 tons, Minnesota 1,865,000 tons, South Dakota 1,633,000 tons, and North Dakota 1,583,000 tons. These States produced nearly 60 per cent of the total wild hay crop. The acreage cut in these States was 2,919,000; 1,865,000; 2,512,000, and 1,862,000 acres respectively, or about 64 per cent of the acreage harvested.

During the fiscal year ended June 30, 1932, the hay imports of the United States amounted to 20,000 short tons and the exports to 3000 long tons. Hay inspection schools were held during the calendar year in Michigan, Ohio, and Oregon to train officials in grading and marketing and to acquaint producers and shippers with the adopted hay grades for the United States. Studies by the United States Department of Agriculture and the agricultural experiment stations were continued to develop machinery and methods for the artificial drying of hay that will produce a high-quality product profitably.

**HAYDEN**, REAR ADMIRAL EDWARD EVERETT, U.S.N., RET. An American naval officer, died in Washington, D. C., Nov. 17, 1932. He was born in Boston, Mass., Apr. 14, 1858, and was graduated from the U. S. Naval Academy in 1879. He was appointed assistant geologist with the U. S. Geological Survey in 1885, and the following year became marine meteorologist with the U. S. Hydrographic Office and editor of the *Pilot Chart*. In 1898 he was put in charge of the naval observatory at Mare Island, Calif., and in 1899 of the branch hydrographic office in Manila. He was director of the department of chronometers and time service of the U. S. Naval Observatory, Washington, from 1902 to 1910. From 1910 to 1915 he was commandant of the U. S. Naval Station, Key West, Fla., and from 1916 until his retirement in 1921, with the rank of rear admiral, president of the general court martial at the Norfolk (Va.) Navy Yard. He was the author of *West Indian*

*Hurricanes and the March Blizzard* (1888) and of various pamphlets and articles on standard time, the law of storms, and tropical hurricanes.

**HAYDN, FRANZ JOSEF.** BICENTENARY OF DEATH. See CELEBRATIONS; MUSIC.

**HAYTI.** See HAITI.

**HEIMWEHR.** See AUSTRIA under *History*.

**HEJAZ.** See *Kingdom of Saudi Arabia* under ARABIA.

**HERCULANEUM.** See ARCHÆOLOGY.

**HEREDITY.** See ZOOLOGY.

**HERNÁNDEZ, ɛr-nān'dāth, JOSÉ CONRADO.** A Puerto Rican jurist, died in San Juan, June 20, 1932. He was born in Aibonito, Feb. 19, 1849, and was graduated from the Jesuits' College at San Juan in 1865 and from the law department of the University of Salamanca, Spain, in 1873. After engaging in general practice he was appointed in 1877 assisting prosecuting attorney in Humacao and in 1880 was made judge of the first instance of Aguadilla and in 1883 of Mayaguez. In 1888 he was sent to Cuba as judge of the first instance for the district of Santiago and the following year was appointed judge of the criminal court of Pinar del Rio. In 1891 he was transferred to the Philippine Islands, where he was judge of the supreme court at Cebú until 1893 and at Manila until 1898. While in the Philippines he received a special commission from the Manila supreme court to prosecute the insular treasurer and officials of the treasury department for the embezzlement of \$1,500,000. In 1898 he returned to Puerto Rico as judge of the circuit court at San Juan, and upon the establishment of civil government in Puerto Rico after the Spanish-American War was named by President McKinley associate justice of the supreme court. He served as chief justice of that body from 1909 to 1921.

**HERR, EDWIN MUSSEY.** An American mechanical and electrical engineer, died in New York City, Dec. 24, 1932. He was born in Lancaster, Pa., May 3, 1860, and was graduated from the Sheffield Scientific School of Yale University in 1884. Between 1886 and 1890 he was engineer of tests, superintendent of telegraph, and division superintendent on the Chicago, Burlington & Quincy Railway. He next became division master mechanic on the Chicago, Milwaukee & St. Paul Railway. During 1892-93 he was general superintendent of the Grant Locomotive Works in Chicago and in 1894 of the Gibbs Electric Co. in Milwaukee. After acting as assistant superintendent of motive power for the Chicago & Northwestern Railway, he was made in 1896 superintendent of the same department for the Northern Pacific Railway. In 1898 he began his long association with the Westinghouse Co., acting until 1905 as general manager of the Westinghouse Air Brake Co. in Wilmerding, Pa., and until 1911 as first vice-president and director of the Westinghouse Electric & Manufacturing Co. in East Pittsburgh. Elected president of the latter company, he directed its expansion during the next 20 years into one of the largest electrical manufacturing companies in the world, doing an annual business of more than \$150,000,000. At the time of his death he was vice-chairman of the board of directors. He was also an officer or director of the Radio Corporation of America, the Westinghouse Lamp Co., the Bryant Electric Co., the Westinghouse Air Brake Co., the Westinghouse High Voltage Insurance Co., and the Union Switch & Signal Co. In 1920 he was decorated

with the Order of the Rising Sun of Japan in recognition of the company's effective aid in the electrical development of that country. As a member of the Yale Corporation he contributed to the development of the Sheffield Scientific School. He was also a member of the Franklin Institute, the National Industrial Conference Board, the American Manufacturers Export Association, and the board of the Carnegie Institute of Technology.

**HERRESHOFF, J(OHN) B(ROWN) FRANCIS.** An American chemist, died in Atlanta, Ga., Jan. 30, 1932. He was born in Bristol, R. I., Feb. 7, 1850, and attended Brown University, where he was professor of analytical chemistry from 1869 to 1872. He then devoted himself to industrial chemistry and research, becoming superintendent of the Laurel Hill (N. Y.) Chemical Works in 1876. He later became vice-president and trustee of the Nichols Copper Co. His most important invention was the improvement of the process for manufacturing sulphuric acid. In 1908 he received the first award of the Perkin medal, which had been provided for in the will of Sir William Henry Perkin in recognition of the contributions of American chemists. He retired in 1917.

**HERRIOT PLAN.** See DISARMAMENT.

**HESSE.** See GERMANY under *Area and Population*.

**HETCH HETCHY.** See AQUEDUCTS under *San Francisco*; TUNNELS; WATER SUPPLY.

**HICKSITE FRIENDS.** See FRIENDS.

**HIDES.** See LEATHER.

**HIGH SCHOOLS.** See EDUCATION IN THE UNITED STATES.

**HIGHWAYS.** See ROADS AND STREETS; PARKS, NATIONAL.

**HILL, DAVID JAYNE.** An American diplomat and historian, died in Washington, D. C., Mar. 2, 1932. He was born in Plainfield, N. J., June 10, 1850, and was graduated from the University of Lewisburg in 1874. He taught rhetoric at Lewisburg for several years, and in 1879 was elected president. During his administration the institution was renamed in honor of William Bucknell, its liberal benefactor. In 1888 he was elected president of the University of Rochester, where he remained until 1896. He then spent nearly three years studying public law at the Universities of Berlin and Paris, which fitted him for his later diplomatic career. On his return to the United States in 1898 he was appointed Assistant Secretary of State, and during his residence in Washington was also professor of European diplomacy at the School of Comparative Jurisprudence and Diplomacy. In 1903 he was named United States Minister to Switzerland and in 1905 Minister to the Netherlands. He served from 1908 to 1911 as Ambassador to Germany.

An ardent advocate of peace, Dr. Hill was a delegate to the Second Peace Conference at The Hague in 1907, and was later made a member of the Permanent Administrative Council of The Hague Tribunal. He favored, however, the establishment of world peace not through a League of Nations but through an organization strictly juridical in nature. He was president for some years of the National Association for Constitutional Government and was also a member of the American Academy of Arts and Letters. His monumental work was *A History of Diplomacy in the International Development of Europe*, of which three volumes had been com-

pleted: *The Struggle for Universal Empire* (1905); *The Establishment of Territorial Sovereignty* (1906); and *The Diplomacy of the Age of Absolutism* (1914). His other writings are: *Elements of Rhetoric* (1877); *Life of Washington Irving* (1877); *Science of Rhetoric* (1878); *William Cullen Bryant* (1878); *Elements of Psychology* (1886); *Social Influence of Christianity* (1888); *Principles and Fallacies of Socialism* (1888); *Genetic Philosophy* (1893); *The Conception and Realization of Neutrality* (1902); *The Life and Work of Hugo Grotius* (1902); *The Contemporary Development of Diplomacy* (1904); *World Organization as Affected by the Nature of the Modern State* (1911); *The People's Government* (1915); *Americanism—What It Is* (1916); *The Rebuilding of Europe* (1917); *Impressions of the Kaiser* (1918); *Present Problems in Foreign Policy* (1919); *American World Policies* (1920); and *The Problem of a World Court* (1927).

**HIPPER, VICE ADMIRAL FRANZ VON.** A German naval officer, died in Hamburg, May 25, 1932. He was born in Weilheim, Bavaria, Sept. 13, 1863. Entering the Navy in 1881, he was advanced through the grades to rear admiral in 1912. At the outbreak of the World War he was in command of the reconnaissance forces of the High Seas Fleet, which bombarded Scarborough (1914) and whose efficiency was admirably displayed at the Battle of Jutland on May 31, 1916. With the destruction of the *Queen Mary* and the *Indefatigable* by von Hipper's squadron during the first hour of the battle, Beatty retired on the Grand Fleet with what was practically a beaten force, a condition without precedent in British naval history. The battle itself was indecisive, but the high standard of gunnery and manoeuvring of the German scouting fleet was credited with having saved the main fleet in the face of British superiority in ships and guns. The Germans never again attacked the British fleet, although their battle cruisers, under von Hipper's command, repeatedly raided the British coast. In August, 1918, von Hipper was appointed vice admiral and commander-in-chief of the High Seas Fleet. He retired in December of that year.

**HISPANIC SOCIETY OF AMERICA, THE.** An international organization founded in New York City in 1904 to establish a public library and museum designed to be a link between the English-, Spanish-, and Portuguese-speaking peoples, and to advance the study of the Spanish and Portuguese languages, literature, and history, and the study of the countries wherein Spanish and Portuguese are or have been spoken languages. Since 1904, when a collection of paintings, manuscripts, maps, and coins, and a library of about 40,000 volumes were placed in charge of the society, valuable additions have been made to this collection, and a number of temporary exhibitions have been held of the works of noted Hispanic artists. Membership of the society is limited to 100, is honorary, and includes specialists and scholars of all nationalities distinguished in the Hispanic field. The society has published more than 200 catalogues, reprints of old manuscripts, and monographs. The president is Archer M. Huntington and the secretary, George Bird Grinnell. The museum and headquarters of the society are at 156th Street, West of Broadway, New York City. See **ART EXHIBITIONS.**

**HISTORICAL ASSOCIATION, AMERICAN.** A society for the promotion of historical studies and writings, formed in 1884 by a group of American scholars and chartered by Congress in 1889. Under provision made by the United States government, it publishes annual reports and is charged with the office of communicating its proceedings and its information on the state of historical study and writing to the secretary of the Smithsonian Institution, for transmission to Congress. In 1932 the association had a membership of 3336, who represented not only every State of the Union but also Canada and many European and South American countries.

The forty-seventh annual meeting of the association was held in Toronto, Ont., Canada, Dec. 27-29, 1932. Meeting concurrently were the Mississippi Valley Historical Association, Conference of Historical Societies, Agricultural History Society, American Catholic Historical Association, National Council for Social Studies, American Society of Church History, and Canadian Historical Association. Among the general topics presented and discussed at the sessions were: The United States: The National Interest ("The Original American Conception of National Interest" and "National Interest and Recent American Thought"); Diplomatic History ("Canada and the Peace Settlement of 1782" and "British Government Propaganda and the Oregon Treaty"); Economic History: Crises and Panaceas ("Some Populist Panaceas," "Investment Banking in the United States, 1861-73," and "Some Aspects of American States Debts in the 'Forties'"); The British Commonwealth; The United States: The Frontier ("A Generation of the Frontier Hypothesis"); and The Far East ("Certain Psychological Factors in the Present Far Eastern Situation.")

The prizes awarded by the association in 1932 included the George Louis Beer Prize for "the best work upon any phase of European international history since 1895," to O. H. Wedel of the University of Arizona for *Austro-German Diplomatic Relations, 1908-14*; and the Jusserand Medal for "a published work of distinction on any phase involving the history of the intellectual relations between the United States and any foreign country," to Howard Mumford Jones for his book entitled *America and French Culture, 1750-1848* (Univ. of North Carolina Press).

The official organ of the association is the *American Historical Review*, a quarterly. The *Annual Report* contains proceedings, important papers read at the annual meeting, texts of significant documents, reports on American archives, reports on history teaching, and papers on agricultural history. The officers for 1932 were: president, Herbert E. Bolton, University of California; first vice-president, Charles A. Beard, New Milford, Conn.; second vice-president, William E. Dodd, University of Chicago; secretary, Dexter Perkins, University of Rochester; treasurer, Constantine E. McGuire, Washington, D. C.; assistant secretary-treasurer, Patty W. Washington, Washington, D. C.; editor, Lowell Joseph Ragatz, George Washington University. Headquarters are at 40 B Street, S.W., Washington, D. C.

**HISTORY.** See **FRENCH LITERATURE**; **GERMAN LITERATURE**; **ITALIAN LITERATURE**; **LITERATURE, ENGLISH AND AMERICAN**; **PHILOLOGY, MODERN**; **SCANDINAVIAN LITERATURE**; **SPANISH-AMERICAN LITERATURES**; **SPANISH LITERATURE.**

**HITLER, ADOLF.** See GERMANY under *History*.

**HOBART COLLEGE.** An institution for the higher education of men in Geneva, N. Y., founded chiefly under the auspices of the Protestant Episcopal Church in 1822 and permanently chartered by the Regents of the University of the State of New York in 1825. William Smith College, a coördinate institution for the separate instruction of women, administered by the Hobart College corporation, and with instruction given by the Hobart College faculty, was established in 1908. The student enrollment in Hobart College for the autumn of 1932 was 316, while the enrollment in William Smith College was 132. The combined faculty of the two colleges numbered 44. The endowment amounted to \$1,918,000, and the income for the year was approximately \$236,000. President Murray Bartlett, D.D., S.T.D., LL.D.

**HOCKEY.** The Toronto Maple Leafs were crowned Stanley Cup champions and world's professional champions at the end of the spirited 1931-32 hockey season. The Leafs finished second in the Canadian division of the National Hockey League, and they were supreme in the post-season games. According to the rules, the leaders of the two divisions, the New York Rangers and the Montreal Canadians, defending champions, met in the play-off for first place teams, the Rangers winning three of four games, and thereby being accorded the National Hockey League championship for the season. Meanwhile Toronto subdued the Chicago Black Hawks and the Montreal Maroons defeated the Detroit Falcons in the second and third place play-offs. Next, Toronto defeated the Maroons in the semi-final, and the youngsters on the first line, Harvey Jackson and Charley Conacher, working perfectly, defeated the Rangers for the famed Stanley Cup, in three straight games, 6-4, 6-2, 6-4.

The Providence Reds were best in the Canadian-American League, a six club minor-league combination that caught public fancy in every city except in New York where the Bronx Tigers played to small crowds. The Reds finished the season seven points ahead of the Boston Cubs and then succeeded in wading through the play-offs without much trouble, beating Boston in the finals, three straight games. Quebec won the Eastern Canada Hockey Association championship and La Brassiere Champlain Cup, finishing first in the league standing and then trouncing Chicoutimi in the play-off. The Buffalo Bisons won the International League championship. The championship of the American Hockey League, a mid-Western organization, was won by the Chicago Shamrocks, after a play-off with Duluth.

The Winnipeg "Winnipegs" won the Olympic title for Canada for the fourth consecutive time, giving the Dominion the championship in this event since it was inaugurated in 1920. The National A.A.U. championship was captured by the Atlantic City Sea Gulls, a team made up for the most part of imported star players from Canada. The Toronto Nationals won the Allan Cup, emblematic of the world's senior amateur championship, and the Sudbury Wolves gained the Memorial Cup, for the junior amateur championship of the world.

**HOG CHOLERA.** See VETERINARY MEDICINE.

**HOGS.** See LIVESTOCK; VETERINARY MEDICINE.

**HOLBROOK, MAJ. GEN. WILLARD AMES,** U. S. A., RET. An American soldier, died in Washington, D. C., July 18, 1932. He was born in Arkansas, Wis., July 23, 1860, and was graduated from the U. S. Military Academy in 1885. From second lieutenant in the 1st cavalry he was advanced through the grades until in 1920 he became chief of cavalry, with the rank of major general. He served in Cuba during the Spanish-American War, in the Philippines where during 1901-02 he was civil governor of the province of Antique Panay, at the Pennsylvania Military Academy during 1905-09, and at the Army Staff College and School of Line at Fort Leavenworth during 1913-16. During the World War, as a major general in the National Army, he commanded the Southern Department, having supervision of the Mexican border from May to September, 1918. Later at Camp Sheridan, Ala., he was in command of the 9th division, and on its demobilization was commander of the Camp Grant demobilization centre from February to May, 1919. His services during the War won him the Distinguished Service Medal. He was retired from the regular army July 23, 1924.

**HOLLAND.** See NETHERLANDS, THE

**HOLLAND, WILLIAM J (ACOB).** An American educator, clergyman, and naturalist, died in Pittsburgh, Pa., Dec. 13, 1932. He was born in Bethany, Jamaica, W. I., Aug. 16, 1848, and was graduated from the Moravian College and Theological Seminary in Bethlehem, Pa., in 1867, from Amherst College in 1869, and from the Princeton Theological Seminary in 1874. Ordained to the Moravian ministry, he held pastorates in Philadelphia (1872-74) and Pittsburgh (1874-91). He then became chancellor of the Western University of Pennsylvania (now the University of Pittsburgh) where he remained until 1901. During his administration there were added to the original college and engineering school departments of medicine, law, dentistry, and pharmacy and the enrollment was increased eight-fold. He was also the author of the act creating the college and university council of the State of Pennsylvania. In 1898 he became director of the Carnegie Institute in Pittsburgh, and after 1922 was director-emeritus. He served also as trustee of the Carnegie Library and was vice-president of the Carnegie Hero Fund Commission during 1904-22 and president thereafter. In 1922 he was made a member of the Carnegie Corporation.

Dr. Holland won renown as a zoölogist and paleontologist. In the field of lepidoptera alone he discovered more than 800 new species. He was also an authority on the Tertiary fauna and dinosauria of the Jurassic age found in Wyoming, Colorado, and other Rocky Mountain States. In 1887 he was appointed by the National Academy of Sciences and the U. S. Navy Department as naturalist of the eclipse expedition to Japan, and two years later acted in the same capacity on an eclipse expedition to West Africa. He was one of the founders and first president of the Academy of Science and Art of Pittsburgh, and during 1907-09 served as president of the American Association of Museums. He was a fellow of the Zoölogical and Entomological Society of London, the Royal Society of Edinburgh, the American Association for the Advancement of Science, and the American Geological Society, and held decorations from the governments of France, Italy, Germany, Austria-Hungary, Russia, Spain,

and Belgium. Honorary degrees were conferred on him by Washington and Jefferson, Amherst, Dickinson, and Bethany Colleges and by the universities of St. Andrews, New York, and Pittsburgh. Outstanding among his publications are: *The Butterfly Book* (1898); *The Moth Book* (1903); *To the River Platte and Back* (1913); and *The Butterfly Guide* (1915).

**HOLY CROSS, COLLEGE OF THE.** A Roman Catholic College for men, under the Society of Jesus, in Worcester, Mass., founded in 1843. The enrollment for the autumn of 1932 totaled 1094, with distribution as follows: Arts course, 783; science course, 132; philosophy course, 173; and graduate school of chemistry, 6. The faculty numbered 79. The library contained 75,000 volumes. President, the Rev. John M. Fox, S.J.

**HOLY LAND.** See PALESTINE.

**HOME DEMONSTRATION WORK.** See AGRICULTURAL EXTENSION WORK.

**HOME ECONOMICS.** See AGRICULTURAL EXTENSION WORK; FOOD AND NUTRITION.

**HOME LOAN BANK SYSTEM.** See UNITED STATES; BANKS AND BANKING; PUBLIC FINANCE.

**HOME MANAGEMENT.** See AGRICULTURAL EXTENSION WORK.

**HOMICIDE.** See CRIME.

**HONDURAS**, hōn-dōō'rās. A Central American republic, bounded on the north and east by the Caribbean Sea, on the west by Guatemala, Salvador, and the Gulf of Fonseca, and on the south by Nicaragua. Capital, Tegucigalpa.

**AREA AND POPULATION.** The estimated area is 46,250 square miles; population, according to the census of 1930, was 859,761, as compared with 700,811 in 1926. The inhabitants are mostly Indians with a strain of Spanish blood. The chief towns, with their populations in 1930, are Tegucigalpa, 40,049; San Pedro Sula, 24,292; La Ceiba, 13,073; Choluteca, 12,371; Juticalpa, 10,809. The chief ports are Amapala on the Pacific and Puerto Cortez and Omoa on the Atlantic. Births and deaths during the fiscal year 1930-31 numbered 33,540 and 14,991, respectively; the rates per 1000 inhabitants were about 39 and 17.4, respectively.

**EDUCATION.** Education is free, secular, and nominally compulsory for children from 7 to 15 years of age. In 1930-31, there were 128,033 children of school age, of whom 54,491 attended school. The National University at Tegucigalpa had 179 students in 1930-31. There were in addition 13 secondary schools, with 609 pupils; 1107 students in normal schools, and 415 in commercial schools.

**PRODUCTION.** Honduras is the world's largest producer of bananas. Sugar, coffee, and coconuts are the other leading agricultural products. Banana exports during 1931 totaled 30,924,000 stems, as compared with 26,982,000 stems in 1930. For the fiscal year 1930-31, bananas comprised 86 per cent of the value of all exports. Sugar exports during the same year (1930-31) fell to 11,750,000 pounds from 35,510,475 pounds in 1929-30. Low sugar prices were causing the transference of much land from sugar to banana cultivation. Coffee exports declined also, to 2,482,000 pounds for 1930-31, from 3,046,000 pounds in 1929-30. A further decline in coffee production was indicated for 1931-32. The banana industry, upon which about 30 per cent of the population is dependent, is largely controlled by the United Fruit and other foreign fruit companies. Silver, gold, lead, copper, iron, zinc,

antimony, and coal are found, but only the first four were exported in commercial quantities. There are a few manufacturing industries of minor importance.

**COMMERCE.** For the fiscal year ended July 31, 1931, exports were valued at \$20,028,000 (\$26,171,000 in 1929-30) and imports at \$10,291,000 (\$15,946,000 in 1929-30). The value of the chief exports in 1930-31 was: Bananas, \$17,306,000 (\$22,981,000 in 1929-30); gold and silver, \$1,492,000 (\$1,245,000); coffee, \$267,000 (\$402,000); sugar, \$186,000 (\$555,000). Foodstuffs and beverages, cotton fabrics, and petroleum products were the leading imports. Imports from the United States in 1930-31 were 7,368,000, or 71.6 per cent of the total, against \$11,886,000, or 74.5 per cent of the total, in 1929-30. The United States took 72.4 per cent of the total exports in 1930-31, as against 74 per cent in the previous year (\$14,500,000 and \$19,352,000, respectively). United States statistics for the fiscal year ended June 30, 1932, showed imports from Honduras of \$10,473,000 (\$11,722,000 in 1930-31), and exports to Honduras of \$5,539,000 (\$7,095,000).

**FINANCE.** Ordinary revenues for the fiscal year 1930-31 amounted to 11,818,672 pesos and expenditures to 13,875,144 pesos, leaving a deficit of 2,056,472 pesos (the peso equals \$0.50 at par). Of the total deficit, 417,112 pesos were retired by loans from Honduran banks and commercial houses, leaving an unpaid balance of 1,639,360 at the end of the year. This compared with receipts of 14,314,000 pesos, expenditures of 15,022,000 pesos, and a deficit of 707,440 pesos in 1929-30. The budget estimates for 1931-32 were reduced to 15,400,119 lempiras. (The gold lempira replaced the silver peso as the unit of currency during 1931 and 1932; it had the same par value of \$0.50 United States currency.) On June 30, 1931, the foreign debt stood at 8,523,876 pesos and the internal debt at 17,004,311 pesos. During the revolution of 1932 (see *History*), the government authorized the issuance of a war loan of \$500,000, with the customs revenue pledged as security, and decreed provisional suspension of payments on the internal debt. Furthermore funds held in special accounts for public health, education, and other civil purposes were appropriated to meet war expenses.

**COMMUNICATIONS.** Railway lines totaled 1060 miles in 1931. With the exception of the government owned National Railways (57 miles long) they were all owned by foreign fruit companies. Highways in 1930 extended 196 miles. Air-lines connected the leading cities with the other countries of the two Americas. The transportation facilities are for the most part concentrated in the northern coastal region.

**GOVERNMENT.** According to the Constitution as amended in 1924, executive power is vested in the President nominated and elected by popular vote, and holding office for four years; legislative power is in the Congress of Deputies consisting of 48 members chosen for four years directly by popular vote. A prominent commission of five members transacts the routine business for Congress while that body is not in session. President in 1932, Dr. Vicente Mejía Colindres (Liberal), who assumed office Feb. 1, 1929, for a four-year term.

**HISTORY.** A presidential election and two revolutions kept Honduras in turmoil during most of 1932. In the election, held October 30, Gen. Tiburcio Carias Andino, candidate of the Conserva-

tive party, defeated Angel Zúñiga Huete, the Liberal candidate. The campaign was marked by unusual bitterness, particularly after President Mejía Colindres in the spring of 1932 withdrew all restrictions upon the press and on free speech. Many partisan political newspapers sprang into existence and dealt freely in personalities of the rival candidates. On June 8 a rebellion in Northern Honduras was announced in Tegucigalpa. The main body of the rebels was routed by 500 government troops under Gen. Justo Umana, after a battle costing 51 lives, and by June 14 the insurgents under Díaz Zelayas had been dispersed in the Piedras Negras hills. The government announced that the revolutionists carried the colors of Gen. Carias Andino, but the latter issued a statement condemning the revolt and disavowing any connection with it.

Dissatisfaction with the result of the election led to a much more serious uprising by the defeated Liberals in mid-November. The revolt broke out November 13, when insurgents captured the cities of San Pedro in the north and Nacaome, key to the southern district of Honduras. Numerous towns and villages in various parts of the republic were occupied by rebel bands, but government troops aided by Nationalists recaptured most of these points, in some cases after heavy fighting. Three hundred casualties were reported in a 12-hour battle for the possession of San Pedro on November 15. Despite initial government victories, the insurrection gained strength by the successive desertions of units of government troops. The garrison at Comayagua joined the revolt on November 24 and on December 11 the important garrison at Amapala under Gen. Andres Garcia espoused the cause of Gen. José María Reina, who returned from exile in Guatemala and proclaimed himself provisional president. Other prominent army officers joined Gen. María Reina's ranks. The latter, moving his forces from Amapala Island in the Gulf of Fonseca to the mainland, joined forces at Aceituno with another rebel contingent under Gen. José María Fonseca. He then marched upon Tegucigalpa, but in the Curaren region about 50 miles southwest of the capital, he was confronted with government forces under his brother, Gen. Camilo Reina. At the close of the year a decisive battle was believed to be impending. Government forces had succeeded in cutting the insurgent army's communications with Amapala.

The Honduran Congress was called in emergency session on December 15. It approved decrees declaring martial law throughout the republic and commandeering for military purposes all funds in special treasuries. During a second special session, Congress approved the issuance of a \$500,000 war loan and decreed the provisional suspension of internal debt payments, diverting the funds for war purposes. Meanwhile the revolutionary disturbances and the general fear of looting had brought business almost to a standstill.

In the spring, there had been a considerable improvement in business as a result of the settlement of differences between the government and foreign fruit companies operating on the north coast. By the decree of Mar. 2, 1932, the government reduced to \$3 gold the \$10 per hectare (2.47 acres) tax to which the companies objected. The government also sanctioned the extension of certain of the company railway lines, which it had previously opposed.

**HONG KONG.** A possession of Great Britain at the mouth of the Canton River, about 90 miles to the south of Canton, China; comprising the island of Hong Kong, with an area of 32 square miles, and the opposite Peninsula of Kowloon, separated from it by a strait about a half-mile wide. Total area, 391 square miles. In addition, considerable land in Kowloon Bay has been reclaimed from the sea. At the 1931 census the population was 840,473 including 19,369 non-Chinese. Registered births and deaths in 1930 numbered 11,134 and 19,260, respectively. Chinese emigrants in 1930 totaled 188,900 and Chinese immigrants 223,136. The city of Victoria (including Peak) had a Chinese civil population of 358,351.

Hong Kong's prosperity has been built primarily on its extensive transit trade, the free port of Victoria being the distributing centre for that part of China and French Indo-China situated south of Foochow and north of Saigon. Local industries include the refining of sugar and tin, rice polishing, furniture making, ship-building, and engineering. Provisional trade returns for the fiscal year ended Mar. 31, 1932, showed total imports of about 721,553,000 Hong Kong dollars and exports of 528,951,000 dollars compared with imports of 639,398,000 dollars and exports of 496,953,000 dollars in 1930-31.

In the budget for 1931, receipts and expenditures were estimated to balance at 29,800,000 Hong Kong silver dollars, as compared with a budget total of about 23,800,000 dollars in 1930 (Hong Kong silver dollar averaged \$0.2433 U. S. currency for 1931). Expenditure for defense totaled 3,957,611 Hong Kong dollars in 1930. The colony is headquarters for the China squadron of the British navy. A total of 49,609 vessels (including 21,235 junks and 6326 steamers under 60 tons) aggregating 40,511,050 tons entered and cleared in the foreign trade in 1930. The colony is administered by a governor, assisted by an executive council of 9 members and a legislative council of 17 members Governor and Commander-in-Chief in 1932, Sir William Peel, appointed in 1930.

**HOOVER, HERBERT.** See UNITED STATES under *Administration: Presidential Campaign.*

**HOOVER DAM.** See RECLAMATION; TUNNELS; WATER POWER.

**HOOVER MORATORIUM.** See REPARATIONS AND WAR DEBTS

**HOOVER PLAN.** See DISARMAMENT.

**HOPKINS, E(DWARD) WASHBURN.** An American philologist. died in Madison, Conn., July 16, 1932. He was born in Northampton, Mass., Sept. 8, 1857, and was graduated from Columbia College in 1878 and with the Ph.D. degree from the University of Leipzig in 1881. After teaching Greek, Sanskrit, and comparative philology at Bryn Mawr College, he was called to Yale University in 1895 as professor of Sanskrit language and literature and of comparative philology. He remained there until his retirement as professor emeritus in 1926. He was twice president of the American Oriental Society, and during the period that he was secretary of that society from 1896 to 1908 also edited its journal. His works include: *Caste in Ancient India* (1881); *Manu's Lawbook* (1884); *Religions of India* (1895); *The Great Epic of India* (1901); *India, Old and New* (1901); *Epic Mythology* (1915); *History of Religions* (1918); *Origin and Evolution of*

*Religion* (1923); *Ethics of India* (1924); and *Legends of India* (1928).

**HOPS.** The hop production in 1932 in the important European hop growing countries and in the United States was reduced by about 17 per cent from the yield in 1931 and was the lowest since 1923. The total crop of Germany, Belgium, England and Wales, Czechoslovakia, and the United States as reported by the International Institute of Agriculture was 73,440,000 pounds as compared with 90,787,000 pounds in the preceding year, a reduction of over 38 per cent below the average annual yield for the five years 1926-1930. The total acreage in these countries declined from 99,000 acres in 1931 to 84,000 acres in 1932, a reduction of 12.5 per cent and 25.5 per cent below the annual average of the five year period. The production of the European countries was reported as follows: England and Wales 21,056,000 pounds, Czechoslovakia 16,451,000 pounds, Germany 10,929,000 pounds and Belgium 884,000 pounds. Private estimates placed the yields of Poland at 2,600,000 pounds, Yugoslavia at 2,300,000 pounds and France at 1,500,000 pounds. The combined production of Canada and Australia in recent years has averaged about 3,500,000 pounds.

In the United States as reported by the Department of Agriculture the hop crop of 1932 amounted to 24,120,000 pounds produced on 22,000 acres at an average yield per acre of 1096 pounds. In 1931 the yield was 26,410,000 pounds, the area 21,000 acres, and the average acre yield 1234 pounds. The 1932 production by States was as follows: Oregon 13,020,000 pounds, California 6,600,000 pounds and Washington 4,500,000 pounds. The acreage was 15,500, 4000 and 2500 acres and the average yield per acre 840, 1650 and 1800 pounds respectively.

In the fiscal year ended June 30, 1932, the United States exported 3,817,000 pounds of hops and imported 1,253,000 pounds. The imports were larger than in the preceding year but the exports showed a marked decline.

**HORMONE, ISOLATION OF SEX.** See CHEMISTRY.

**HORSE RACING.** Thoroughbred horse racing was hard hit by the depression in 1932. The big tracks were never crowded with spectators and betting fell off in every place. Pimlico, Belmont, Saratoga, and others all felt the pressure and toward the close of the year plans for retrenchment in 1933 were being announced by most of the racing associations. The values of the stakes will be lowered, and in some cases meetings will be shortened.

To pick the outstanding horse of the 1932 season fairly is impossible. There never was such a season of breakdowns and accidents to the thoroughbreds that promised great things. But out of the chaos comes the figure of the four-year-old, C. V. Whitney's gallant Equipoise, champion handicap division horse and probably the outstanding turf figure of the year. Equipoise, the same horse that uncovered a blind quartercrack on the morning of the 1931 Kentucky Derby, came back after a year of leisure and recuperation to win 10 races, come second twice, and third once, in fourteen starts and to win \$107,375 in the season, placing him eighth on the list of all-time money winners with a grand total of \$267,210.

Equipoise had the greatest following and justified the trust placed in him. One of the most

amazing of his feats was the running of a mile at Chicago in the early summer in 1.34 $\frac{1}{2}$ , a new world's record for a dirt track. Equipoise carried 128 pounds when performing this deed. Two other older horses were scheduled to meet him during the season but the race never took place. Phar Lap, the huge Australian horse that had won everything in Australia from a mile to two and a half miles, was shipped to the United States in early winter and won the rich Agua Caliente Handicap handily and went into second place in the list of all-time money winners with \$332,250. He was found dead from colic and indigestion in his stall at Menlo Park, Calif., Mar. 5, 1932. The other rival of Equipoise was Twenty Grand, winner of the 1931 Kentucky Derby, but this giant never rounded into his finest racing condition.

Bar Equipoise, there was no thoroughbred of any age that could be classed as an outstanding champion. William Woodward's Faireno must be awarded the three-year-old championship of a rather unsatisfactory season in this division. The year's crop was a brittle one. E. R. Bradley's Burgoo King, which made such a handsome start by winning the Kentucky Derby and Preakness on successive Saturdays in May, howed a tendon soon after. Mrs. L. G. Kaufman's two fine prospects, Tick On and On Post, both went amiss in early spring. Burning Blaze spread a hoof before the Kentucky Derby was run; Universe, winner of the Wood Memorial, first of the three-year-old stakes, was out of training a week later and unable to start in the Kentucky Derby. Although M. L. Schwartz's Gusto was the money winning three-year-old champion, Faireno's record was better. Gusto won four races and Faireno seven. Gusto's total of \$143,940 was swelled by victories in the \$70,000 Arlington Classic and the \$50,000 American Derby. Gusto also won the Jockey Club Gold Cup in which Faireno did not start because of a slight leg injury. Faireno was second money winner of the season with \$136,000 in seven triumphs and two seconds in 10 starts. In the Arlington Classic, won by Gusto, Faireno and Top Flight, great two-year-old filly of 1931, racing at top speed both broke and finished far behind the Schwartz colt. Faireno had previously won the Belmont, the Shevlin, and the Dwyer in succession and later went on to victories over Gusto in the Saratoga Handicap and the Hawthorne Handicap. Faireno topped his successful year by winning the Lawrence Realization at Belmont in September, in which he more than squared accounts with Gusto and also proved himself pounds better than War Hero, which had won both the Travers and the Gold Cup at Saratoga, in which fixtures Faireno was not a starter.

W. R. Coe's Ladysman was awarded the two-year-old crown, by grace of victories in the Arlington Futurity, the United States Hotel Stakes, and the Hopeful. He had some hard luck in the rich Futurity at Belmont in the fall, and this plum fell to Lee Rosenberg's Kerry Patch, an ill-considered outsider. Kerry Patch showed no real class outside of this one stake. A filly, Swivel, won the Pimlico Futurity and deserved high rating. C. V. Whitney's Caterwaul started the season with some brilliant spring victories but disappointed in later racing. As a lot, the two-year-olds seemed so evenly balanced that the merest shift in weights would result in a beating for the winner in the previous encounter.



**STEEPLECHASING** and hunt racing enjoyed a good season and the failure of such old standbys as Chenango, Green Cheese, Arc Light and Bangle was more than discounted by the brilliant racing of Thomas Hitchcock's Escapade, which won the Harbor Hill in record time. This race is always emblematic of the championship in the timber-topping division. The Sanford Stud Farm's Golden Meadows was extremely impressive in winning a minor race at Saratoga and the Gwathmey Memorial Steeplechase Handicap, and deserved equal rating with Escapade. Tourist II won the Brook and the Grand National Handicap.

In England the Aga Khan's long shot, April the Fifth, with Fred Lane up, won the historic English Derby at Epsom Downs in June, beating his stablemate, Dastur, three parts of a length. April the Fifth was held at 100 to 6 before the classic. Forbra, another long shot, won the gruelling Grand National Steeplechase at Liverpool, a race that holds a particular charm for American race followers. Owned by William Parsonage, a bookmaker, and ridden magnificently by J. Hamey, Forbra raced home at odds of 50 to 1. Egremont, 33 to 1, was second, and Shaun Golin, 40 to 1, winner in 1930, was third. Only nine of the starting field of 36 finished.

**HARNESS RACING.** The Marchioness, Mrs. Keeler's three-year-old, was the sensational harness horse of 1932, and many reinsmen of the Grand Circuit rated her the greatest trotter that ever raced. The Marchioness, faultlessly driven by Will Caton, won the Champion Stallion, the Horseman, the Kentucky Futurity, and the rich Hambletonian, and every one of her engagements except the Matron Stake. In winning the Champion Stallion in 2.03¾, 2.02, 2.02½, 2.04, she established a world's record for four heats by a trotter regardless of age. She later trotted in 2.00, and her final effort, before being exported to Italy late in the autumn, resulted in a record mile of 1.59¼ for three-year-old trotting fillies.

Ankabar, 2.01½, by Bingen Silk, 2.07¼, was the best stake winner of the aged division, winning six of the leading aged events of the year, including the \$10,000 Marshall House prize at Salem, N. H. The long legged chestnut gelding proved one of the great trotters of all time by twice winning in 2.01½, and beating all the other horses in his division. There were no outstanding two-year-olds, the crop being much less speedy than that of 1931. Spencer McElwyn, 2.04½, was the fastest two-year-old of the season.

**HORSE SHOWS.** Mention must be made in review of the year of 1932 in sports of the remarkable achievement of Seaton Pippin, Mr. and Mrs. Paul Moore's great hackney mare, which was the sensation of the horse show season. Coming into the National show at Madison Square Garden she had won almost 200 blue ribbons and championships over six unbeaten seasons. In the national, the superb twelve-year-old bay mare strode through the early classes and then won the coveted title of "champion of champions," an award given in 1932 for the first time. Immediately after this grand triumph Mr. and Mrs. Moore announced that Seaton Pippin would be permanently retired and used for breeding purposes.

**HORSE SHOWS.** See HORSE RACING.

**HORTICULTURE.** Rarely have horticulturists suffered a more trying year than in 1932. Because of restricted demands, overproduction was general with consequent low prices and mar-

ket gluts. As a result considerable fruit was never harvested at all. The destruction of the Georgia peach crop by a delayed March freeze did not disturb the market to the expected extent because of the general dullness. In the Pacific Northwest, especially in the Yakima and Wenatchee Valleys, an attempt was made to bolster the market by prohibiting the boxing of apples below a certain grade. However, the State courts ruled that such a regulation was legally invalid as it proscribed the constitutional rights of individuals.

Naturally the demand for trees and shrubs for planting fell off sharply, causing distress among nurserymen and plant growers. Not in many years was planting stock of all kinds so reasonably priced, with a result that department and chain stores sold plants and trees at absurdly low prices. Optimists saw a ray of sunshine in the general situation, believing that orchards on so-called marginal lands would be forced out of existence to the general betterment of the industry. The low prices of evergreens and other valuable species greatly stimulated their planting in many localities, a fact which should tend to more beautiful homes in the near future. But withal, 1932 will be long remembered as a severe year.

**THE WORLD SITUATION.** According to a report on world apple production and trade issued in September by the Bureau of Agricultural Economics, there are approximately 6,940,000 acres of cultivated apples producing an average annual yield of 550,000,000 bushels. The leading apple producing countries arranged in order of importance are the United States, France, Russia, Germany, Poland, Switzerland, Rumania, Canada, England, and Australia, the United States supplying approximately 35 per cent of the total. In the 8-year period 1923-1930, Canada averaged 9,798,000 bushels of apples, of which some 4,000,000 bushels were exported. Australia, with an estimated production of 7,120,000 bushels of apples in 1932, exported 4,416,000 bushels, largely to Europe. The United Kingdom is the greatest importer of fruit in the world, receiving in apples alone approximately 16,467,000 bushels per year in the six years beginning 1925-1926.

World pear production averaged 150,000,000 bushels per year with France leading with 25 per cent and the United States second with 15 per cent. The bulk of the French crop consists, however, of cider fruit. The United Kingdom is the major importing country of the world, averaging around 7,100,000 bushels per year. Pear production in the United States has moved sharply westward in recent years, to the extent that about 52 per cent of the pear trees are now located in the three Pacific coast States as compared with 15.8 per cent in 1910.

The increasing importance of South America in the fruit world was shown in shipments of some 6,959,000 pounds of Argentine grapes to the United States in the 1931-1932 season. France dealt a severe blow to American prune producers by doubling the import duty on dried prunes, effective April 21, 1932. Increased tariffs and increased planting during prosperous times forecast rather drastic changes in fruit production in various parts of the world in the near future.

**DOMESTIC PRODUCTION.** Crop yield records released by the U. S. Department of Agriculture on Dec. 15, 1932 show that the production of fruit was substantially below average and that the commercial production of vegetables grown for



canning was the lowest in several years, due primarily to a reduction in the acreage planted. Comparisons of crops produced in 1932 with those of 1931 show about 31 per cent less apples, 40 per cent less peaches, 15 per cent less prunes and 13 per cent less grapefruit. Following an exceedingly mild winter, a severe cold period in March practically eliminated the peach crop in Georgia and in certain of the central States. A long continued summer drought reduced the apple crop in the eastern States, particularly Virginia and West Virginia.

Actual figures as presented in the above mentioned release indicate a production of 139,156,000 bushels of apples in 1932 as compared with 202,415,000 bushels in 1931; 46,267,000 bushels of peaches in 1932 and 76,586,000 bushels in 1931; 21,981,000 bushels of pears in 1932 and 23,346,000 bushels in 1931; 2,162,000 tons of grapes in 1932 and 1,622,000 tons in 1931; 126,000 tons of cherries in 1932 and 111,000 tons in 1931; oranges, 48,788,000 boxes in 1932 and 49,734,000 boxes in 1931; grapefruit, 13,221,000 boxes in 1932 and 15,147,000 boxes in 1931; lemons, 7,000,000 boxes in 1932 and 7,800,000 boxes in 1931; cranberries, 525,000 barrels in 1932 and 651,000 barrels in 1931; pecans, 53,160,000 pounds in 1932 and 77,800,000 pounds in 1931; strawberries, 13,574,000 crates in 1932 and 11,322,000 crates in 1931.

Vegetables show even greater reductions as might be expected because of their annual planting. There were 9,049,000 crates of asparagus produced in the United States in 1932 as compared with 9,189,000 crates in 1931; lima beans, 17,600 tons in 1932 and 23,300 tons in 1931; snap beans, 175,300 tons in 1932 and 187,300 tons in 1931; cabbage, 964,400 tons in 1932 and 1,018,800 tons in 1931; cantaloupes, 17,096,000 crates in 1932, 17,998,000 crates in 1931; lettuce, 17,715,000 crates in 1932 and 19,466,000 crates in 1931; onions, 226,000 tons in 1932 and 241,300 tons in 1931; spinach, 133,400 tons in 1932 and 171,200 tons in 1931; tomatoes, 1,656,100 tons in 1932 and 1,446,200 tons in 1931; watermelons, 60,520,000 units in 1932 and 75,509,000 units in 1931.

Although the yields show a substantial reduction in most instances from the preceding year, they indicate, nevertheless, an enormous production of fresh fruits and vegetables in the United States.

**FOREIGN TRADE.** Data recorded in the monthly summaries of foreign commerce, published by the U. S. Department of Commerce, show notable declines in value of both imported and exported horticultural products during the first 10 months of 1932 as compared with the corresponding period of 1931. The total value of fruits, vegetables and preparations and nuts imported in the 1932 period was \$51,514,393 as compared with \$70,183,052 in 1931. For exports of the same items, the total value in 1932 was \$71,120,403 as compared with \$102,280,336 in 1931. Part of the reductions was due to lesser quantities handled but more largely to greatly decreased unit values. Bananas, because of their desirability and high nutritive value, remained much the largest item among imported fruits. Among import items to show conspicuous changes in a downward direction were lemons, pineapples, shelled almonds and shelled walnuts. Exported products of sharply decreased value included grapefruits, oranges, and boxed apples.

The generally unfavorable situation was fur-

ther aggravated by increased tariffs promulgated in many European countries, including Great Britain. In some of the smaller countries, duties on boxed apples and other fruits were completely prohibitive. The Ottawa Conference, held in the summer of 1932, with delegates from the various units of the British Empire assembled to develop policies for the stimulation of trade within the empire, was an indirect blow to American fruit growers, especially the box apple growers of the Pacific Northwest and the barreled apple exporters of Virginia and adjacent States.

**COÖPERATION.** As indicated in the annual report for the year ended June 30, 1932, the Federal Farm Board assisted during the fiscal year in the formation of 10 cooperative marketing associations for the handling of horticultural products. According to the board, there is now a total of 1417 fruit, vegetable, and nut associations in the United States, with a membership of about 180,000 producers. The percentage of important horticultural commodities handled co-operatively varies greatly, reaching a maximum of approximately 90 per cent in the cases of English walnuts and lemons. A total of 68 associations handled products in excess of one million dollars' value in the 1930-1931 marketing season. One of the largest organizations shipped 63,750 car-lots of horticultural products in that year.

An outstanding feature of the 1932 season was the signing of a contract in early December between the California Fruit Exchange and the Earl Fruit Company, in which the former will take over the marketing of deciduous fruits and grapes formerly handled by the latter organization. Otherwise the two units maintain their separate identities. The new marketing merger will handle between 75 and 85 thousand car-lots of fruit and fruit products and will become a tremendous factor in the fresh fruit trade.

**PLANT QUARANTINES.** From the horticultural viewpoint, plant quarantines have exerted in the past decade a profound influence on certain industries. For example, the exclusion of the narcissus and certain other bulbous plants has led to a rapid expansion of the bulb producing industry in the United States. Domestic quarantines regarding the corn borer and the Japanese beetle have interfered considerably with the interstate movement of sweet corn and fruits but, unfortunately, without material success from the viewpoint of hindering the spread of these insects. Phony peach, a virus disease of the peach tree, caused serious damage in the great peach area of Georgia and the Southeast. A simple and effective diagnostic test for the presence of the disease was developed by the U. S. Bureau of Plant Industry with promise that this formidable pest may be controlled. Notable progress was made in stopping the spread of the Mexican fruit worm in the citrus district of Texas by the simple expedient of storing the fruit for 15 days at a temperature which reached 30° F. at the centre of the fruits.

**RESEARCH ACTIVITIES.** In times of stress, such as prevailed in 1932, when only the highest grade products commanded a ready sale, knowledge of the most efficient methods of production and marketing was increasingly important. Progress in the field of horticultural research was somewhat hampered by decreased support but, nevertheless, was substantial. For example, the Oregon Agricultural Experiment Station, Oregon Sta. Bul. 300, 1932, found that with the onset of maturity,

rapid changes take place in the resistance of pear tissues to electric currents. One of the great difficulties of western fruit growers in the past has been a difficulty in determining when the fruit should be picked. Harvested too green, fruit never attains quality, and harvested too late, it fails to reach eastern markets without serious losses. The device for measuring resistance to an electric current was found very accurate in detecting maturity changes. The Missouri Agricultural Experiment Station, Missouri Sta. Research Bul. 171, 1932, in studying the movement of nutrients in the apple tree in late Autumn, observed that as much as 40 per cent of the nitrogen in percentage of dry weight was reabsorbed by the tree prior to leaf dropping. Interpreted practically, this finding showed the importance of protecting the foliage from insects and diseases so that the nutrients may not be lost to the tree. Of major importance to fruit growers in the irrigated regions was the finding of the California Agricultural Experiment Station, Amer. Soc. Hort. Sci. Proc., 1931, namely, that fluctuations of soil moisture from field capacity to permanent wilting percentage cause no response in grapes unless the minimum point is held for a considerable period. This information opens the way for large savings in irrigation costs as it opposed the accepted belief that the soil should be kept in a moist condition throughout the fruiting period. Plant breeders at various agricultural institutions continued active work in the production of improved fruits and vegetables. Red raspberry growing seriously menaced by plant diseases was greatly assisted by the production of the Latham and Chief varieties by the Minnesota Agricultural Experiment Station and the Newburgh variety by the New York Agricultural Experiment Station at Geneva.

**THE PEACE GARDEN.** Like a rainbow in a clouded sky stood out the dedication of the International Peace Garden on July 14, 1932, in the presence of some 30,000 Canadians and Americans, including many notable persons. Containing 3000 acres of broken terrain, located on either side of the 49th degree of latitude between Dunsen, North Dakota, and Boissevain, Manitoba, this international monument, like the Christ of the Andes, stands as a symbol of long continued peace between two sister nations. The Netherlands donated 250,000 bulbs, Japan an almost complete garden, and England a vast stock of roses to beautify the area. In time, this garden should prove one of the beauty spots of the Northwest and a mecca for the friendly citizens of both countries.

**MISCELLANEOUS.** An item in the Official Record of the U. S. Department of Agriculture stated that up to Oct. 31, 1932, a total of 39 plant patents had been granted by the U. S. Patent Office under the amendment to the Patent Law approved by President Hoover in May, 1930. Included in the group of patented plants were roses, carnations, peaches and plums, and a cultivated mushroom. A receiver of a patent is given exclusive right to use, vend, and asexually reproduce the new variety for a period of 17 years.

A laboratory building was dedicated on Sept. 23, 1932, at the Fruit Breeding Farm of the University of Minnesota, from which institution have come many notable fruits, including the Latham and Chief red raspberries. This new building will greatly facilitate important studies and the production of better fruits.

John Scheepers, well known commercial horticulturist of New York City, was knighted with the Order of Orange Nassau by Queen Wilhelmina of the Netherlands on her birthday as a tribute to the effective work that he had accomplished in ornamental gardening.

Dr. Howard H. Zimmerley, of the U. S. Department of Agriculture, was appointed director of the Virginia Truck Experiment Station at Norfolk vice T. C. Johnson who died on Mar. 31, 1932, following a protracted illness.

Dr. E. P. Sandsten, horticulturist of the Colorado Agricultural Experiment Station, was appointed director of the station following the resignation of Dr. C. P. Gillette on account of age. Dr. Sandsten's appointment brought the total number of horticulturists now serving as directors of agricultural experiment stations to eight.

The American Pomological Society, the oldest national organization of fruit growers in the United States, held its 65th meeting at Columbus, Ohio, in early February in conjunction with the annual meeting of the Ohio Horticultural Society. Dr. Liberty Hyde Bailey, dean of American horticultural writers, was the guest speaker, taking as his subject "Human Values in Rural Life."

Pertinent to the proposed repeal of the National Prohibition Act and its expected benefit to wine grape growers of California was the statement of the managing director of the California Vineyardists Association to the effect that wine grape production had increased from a pre-Volstead quantity sufficient to make 52 million gallons of wine to a 100 million gallon capacity in 1932.

The passing on Aug. 17, 1932, of A. W. Latham, famous pioneer horticulturist of Minnesota and for whom the Latham red raspberry was named, marked the end of a hardy band of settlers who, finding no worthwhile fruits in the Northwest, proceeded to develop hardy varieties able to resist that severe climate.

**BIBLIOGRAPHY.** Judging by the accessions to the United States Department of Agriculture Library, the output of horticultural books declined somewhat in 1932, a situation that was to be expected in view of economic conditions. That the home garden continued to be a favorite topic for writers is indicated in the following list, which also suggests that the moderate priced, easily read book was most popular: E. C. Auchter and H. B. Knapp, *Orchards and Small Fruit Culture*, Edition 2, New York, 1932; K. D. Boggs, *Prints and Plants of Old Gardens*, Richmond, 1932; W. P. Eaton, *Everybody's Garden*, New York, 1932; E. I. Farrington, *The Backyard Garden*, Boston, 1932; A. J. Macself, *Flowering Trees and Shrubs*, London, 1932; P. Murray, *Planning and Planting the Home Garden*, New York, 1932; G. W. Oliver and A. C. Hottes, *Plant Culture*, Edition 6, New York, 1932; H. S. Orloff, *Annals in the Garden*, New York, 1932; H. S. Orloff and H. B. Raymore, *Garden Maintenance*, New York, 1932; J. D. Oppenheim, *Citrusfruchte, Berlin-Charlottenburg*, Bangert, 1932; W. S. Rowe, *Living with Our Flowers Through the Four Seasons of the Year*, Cincinnati, 1932; L. B. Wilder, *The Fragrant Path*, New York, 1932.

**HOTELS.** See ARCHITECTURE.

**HOUSING ACTIVITY.** See ARCHITECTURE.

**HOWARD UNIVERSITY.** A nonsectarian institution for the higher education of men and women in Washington, D. C., incorporated by Act of Congress Mar. 2, 1867, "for the education

of youth in liberal arts and sciences," open to students without regard to race but principally for the education of Negroes. The registration for the Summer School and Autumn Quarter of 1932 totaled 1393. The faculty numbered 259. The total endowment amounted to \$855,852. The total appropriation of the United States government for 1932-33 was \$1,277,380. The University also received during 1931-32, \$45,883 from Private Sources in addition to \$11,476 for endowment. The Library contained 75,237 volumes. President, Mordecai Wyatt Johnson, S.T.M., D.D.

**HOWLAND, CHARLES PRENTICE.** An American lawyer, died in New Haven, Conn., Nov. 12, 1932. He was born in New York City Sept. 15, 1869, and was graduated from Yale University in 1891. On completing the law course at Harvard University in 1894 he was admitted to the New York bar, and began practice in New York City with the firm of Seward, Guthrie, Morawetz & Steele. From 1896 to 1921 he was a partner in the firm which was successively Anderson & Howland; Howland & Murray; Howland, Murray & Prentice; and Murray, Prentice & Howland. He was associated during the next four years with Rushmore, Bisbee & Stern. In 1925 he succeeded Henry Morgenthau as chairman of the Greek Refugee Settlement Commission, sponsored by the League of Nations for the repatriation of 1,000,000 or more Greek refugees from Asia Minor and eastern Thrace. He became director of research for the Council on Foreign Relations in 1927, and at the time of his death was research associate in government at Yale University. He was a member of the General Education Board and of the Rockefeller Foundation, a trustee of the Johns Hopkins University, and a director of the Foreign Policy Association.

**HUMANISM.** A religious movement emphasizing faith in man instead of belief in the supernatural. It has arisen largely (in the United States) from and in the left wing of Unitarianism, although it is now spreading in other liberal religious groups, including Universalists and Congregationalists. There are as yet but three definitely Humanist local societies, in Hollywood, Calif., Kansas City, Mo., and New York City, but some 40 or more Unitarian churches are led by ministers who have openly announced their belief in Humanism. The Unitarian policy of no creedal restrictions permits these men to remain in full Unitarian fellowship. The Hollywood Humanist Society and The First Humanist Society of New York were both organized in 1929, and the All Souls Unitarian Church of Kansas City recently became The Liberal Centre, the minister of which, the Rev. L. M. Birkhead, has long preached Humanism. The director of The Hollywood Humanist Society is the Rev. Theodore C. Abell, and the founder and leader of The First Humanist Society of New York, Inc., is the Rev. Charles Francis Potter, who has defined Humanism as "faith in the supreme value and self-improvability of human personality."

The tendency in Humanist societies and in churches led by Humanist ministers is toward the minimizing or abolition of prayer, worship, and Bible reading and the maintaining of an agnostic attitude on the questions of immortality and the existence of God. The movement is reported to be spreading rapidly in the colleges and universities. In 1932 at least 150 theses on Humanism were presented by candidates for the degree of Ph.D.

Information concerning the spread of Humanism in other countries is difficult to secure, but groups avowing beliefs identical with Humanism or essentially the same have been reported in Canada, Australia, England, Germany, Turkey, and in Bangalore, India. Publications include *The Humanist*, monthly, Hollywood, Calif.; *The New Humanist*, bi-monthly, Chicago, Ill.; and *The Huma*, weekly, under the auspices of The First Humanist Society of New York. The book and pamphlet literature is already extensive: more than 500 titles have been listed, including *Humanism*, *Humanist Sermons*, and *Humanist Religion* by Dr. Curtis W. Reese of Chicago, and *Humanism, A New Religion, A Humanist Encyclical*, and *The Humanist Attitude Toward Life* by Charles Francis Potter. Dr. John H. Dietrich, minister of The First Unitarian Church of Minneapolis, Minn., was a pioneer in preaching Humanism, and his many published addresses on Humanism have had a wide circulation, both in pamphlet and book form. Statistics of membership in Humanist societies and churches favoring Humanism are not yet available, as the movement is still so young, but a careful conservative estimate would indicate at least 10,000 avowed Humanists in the United States.

**HUNGARY.** A kingdom of central Europe, formerly constituting, with Austria, the Dual Monarchy of Austria-Hungary. Capital, Budapest. Regent in 1932, Nicholas Horthy de Nagybánya (elected Mar. 1, 1920).

**AREA AND POPULATION.** At the census of Dec. 31, 1930, Hungary had an area of 35,875 square miles and a population of 8,683,740, with 42.5 per cent of the total residing in cities of more than 10,000. The 1920 census population was 7,980,143. Of the 1930 total, about 90 per cent were Hungarians (Magyars), 6.8 per cent Germans, 1.7 per cent Slovaks, and the remainder Croats, Rumanians, Ruthenians, and Serbians. The population of the chief cities in 1930, with 1920 census figures in parentheses, was: Budapest, 1,004,681 (928,996); Szeged, 135,141 (119,109); Debrecen (Debreczen), 117,410 (103,186); Kecskemét, 79,505 (73,109); Pesterzsébet, 67,871; Ujpest, 67,374 (56,439); Kispest, 64,547 (51,064). In 1931, living births numbered 201,879; deaths, 143,690; marriages, 75,523.

**EDUCATION AND RELIGION.** About 15.2 per cent of the population over six years of age were illiterate in 1920. Elementary education is free and compulsory for children from 6 to 12 years of age. In 1929-30, there were 6794 elementary schools, with 908,295 pupils; 157 middle schools, with 61,087 pupils; 228 special and occupational schools, with 14,741 students; and four universities, with 10,691 students. The universities are at Budapest, Szeged, Pécs, and Debrecen. Roman Catholics comprised about 64.5 per cent of the population in 1929; Helvetian Evangelicals, 20.7 per cent; Augsburg Evangelicals, 6.1 per cent; Jews, 5.5 per cent; Greek Catholics, 2.4 per cent.

**PRODUCTION.** A fertile agricultural country, Hungary in 1931 had about 13,757,000 acres of arable land (60 per cent of the total area), 793,000 acres of vineyards and gardens, 4,144,000 acres of permanent meadow and pasture, and 2,707,000 acres of woods and forests. Livestock in 1931 included 1,813,894 cattle, 864,571 horses, 1,440,409 sheep, and 2,814,635 swine. The value of field crops declined steadily from about \$433,200,000 in 1928 to about \$171,000,000 in 1931.

Production of the chief crops in 1931 and 1930,

in bushels except as indicated, was: Wheat, 72,550,000 (84,388,000 in 1930); rye, 21,672,000 (28,406,000); barley, 21,867,000 (27,605,000); oats, 13,368,000 (17,999,000); corn, 59,749,000 (55,394,000); potatoes, 53,185,000 (67,660,000); sugar beets, 966,000 metric tons (1,461,000); beet sugar (in 1931-32), 125,000 metric tons (234,000); wine, 101,336,000 gallons (106,239,000); and tobacco, 80,403,000 pounds (75,372,000). All manufactured products in 1930 were valued at 2,496,000,000 pengös (\$436,550,000). The industrial output, in metric tons, in 1931 and 1930 was: Coal, 776,000 (812,000 in 1930); lignite, 6,110,000 (6,174,000); iron ore, 84,000 (157,000); pig iron, 160,000 (257,000); steel ingots and castings, 316,000 (369,000); cement, 280,000 (310,000). Unemployed trade unionists on Dec. 31, 1931, numbered 33,146; on June 30, 1932, about 34,000. The average number of workers in industry during 1930 was estimated at 216,000.

COMMERCE. The decline of Hungarian foreign trade during the years 1929 to 1932 is shown in thousands of pengös (pengö equals \$0.1749 U. S. currency at par):

	Imports (1,000 pengös)	Exports (1,000 pengös)
1929 .....	1,068,697	1,038,540
1930 .....	832,947	910,481
1931 .....	543,770	570,555
1932 ..	336,700	332,800

The 1931 imports, equivalent to \$96,122,000, were 35 per cent lower in value than in 1930, while exports, valued at \$99,189,500, declined 37 per cent. Import restrictions established in July, 1931, accounted for the maintenance of an export surplus. The chief imports, in order of value, in 1931 were hewn and sawn wood, coal, coke and briquets, chemicals and allied products, machinery, paper, raw cotton, and tobacco. Leading exports, in order of value, were cattle, poultry, wheat, wheat flour, machinery, and swine. Germany in 1931 supplied 24.1 per cent of the total imports; Rumania, 13 per cent; Austria, 12.6; and Czechoslovakia, 9.1. Austria purchased 30.1 per cent of the total exports; Germany, 12.1; Italy, 10.1; and Czechoslovakia, 4.3. The United States supplied imports valued at \$4,022,000 (\$6,927,000 in 1930) and purchased exports to the value of \$661,000 (\$679,000 in 1930).

FINANCE. Revised budget estimates for the fiscal year ended June 30, 1932, placed revenue at 918,000,000 pengös and expenditure at 922,900,000 pengös, compared with actual receipts of 829,600,000 pengös and actual expenditures of 974,000,000 pengös (preliminary) in the preceding fiscal year. According to preliminary returns, the 1931-32 budget closed with an actual deficit of 141,000,000 pengös.

The public debt stood at 1,992,600,000 pengös on Dec. 31, 1931, of which 1,561,100,000 pengös represented the foreign debt and 431,500,000 pengös the domestic debt. On Oct. 1, 1932, the foreign debt was equivalent to \$250,000,000. On Dec. 22, 1931, the government declared a partial one-year moratorium on the transfer of payments on foreign debts. The unit of currency is the pengö, worth \$0.1749 at par, which declined slightly during 1932 to \$0.1743 for the week ended October 29.

COMMUNICATIONS. Railways in 1931 extended 5387 miles, of which 4411 miles were owned and

operated by the state. Between 1929 and 1932, about 667 miles of modern highways were constructed, bringing the total mileage for the country to about 38,551 miles, of which about 12,712 miles were hard-surfaced. The five air lines reported 3593 flights aggregating 551,133 miles during 1930, in which 7962 passengers and 476 metric tons of freight were carried.

GOVERNMENT. Technically, Hungary is a constitutional monarchy with the throne vacant. The Horthy régime, which won control of the government on Aug. 7, 1919, decided that the question of who was to be chosen monarch would be postponed until the nation was liberated from external pressure. The Legislature has two Houses, the Lower House of 245 elected members, and the Upper House consisting of 244 representatives of appointed and elected groups. The composition of the Lower Chamber following the election of June 28, 1931, was: Party of National Unity (Bethlen party), 155; Christian Social Union, 32; Socialists, 14; Independent Agricultural party, 11; other parties, 12; Independents, 21. The Ministry formed Aug. 23, 1931, following the resignation of Premier Bethlen, was headed by Count Julius Karolyi. For changes in 1932, see HISTORY.

## HISTORY

ECONOMIC AND FINANCIAL CRISIS. Economic and financial conditions in Hungary, which became acute during 1931, grew steadily worse during the following year. The withdrawal of foreign credits, inability to float further foreign loans, and an unfavorable trade balance resulted in an increasing shortage of foreign exchange. By August, the government was forced to extend the transfer moratorium of Dec. 2, 1931 to the service of the international loan of 1924 authorized by the League of Nations. About \$40,000,000 of American short-term credits were "frozen" in Hungary, when the Hungarian banks on January 17 notified their American creditors that they would be unable to pay interest or commissions on these credits. On March 1, Premier Karolyi declared in Parliament that unless Hungary's foreign creditors were prepared to accept a considerable reduction in interest rates they might lose everything.

The pengö was maintained on a relatively stable basis only by severe restrictions on dealings in foreign currency and foreign bills of exchange. These restrictions, however, provoked retaliation in neighboring states and curtailed both imports and exports. There was a continual decline in price, as well as in volume, of the chief agricultural exports, accompanied by a further shortage of foreign exchange for the payment of interest on the foreign debt. While farm prices fell, industrial prices rose and peasant discontent was fanned by the steady pressure of the economic pincers. The report of the League of Nations Commissioner to Hungary for the third quarter of the year mentioned these factors as responsible for the deepening economic crisis and stated that in view of the growing budget deficit for 1932-33 drastic budget changes were necessary to avoid inflation.

THE POLITICAL REPERCUSSIONS. A combination of economic discontent and political intrigue finally caused the overthrow of the Karolyi government on September 21. Peasants protesting the auctioning of cattle seized for tax arrears were fired on at Pacsa on February 18. Several minor

parties now joined the Socialists in their attacks upon the government. On April 22, by a reduced parliamentary majority of 93 to 45, the government secured an extension for one year of the emergency powers granted it several months earlier to deal with economic issues. In June, Premier Karolyi was faced by a revolt of agrarian representatives among his supporters and won back their support only by agreeing that the banks would be restrained from pressing for the payment of agricultural debts until after the harvest. The Premier offered his resignation on June 30, but it was refused by Admiral Horthy, the Regent.

Attacked by the Socialists and other opposition parties on the Left and by the conservative Bethlen adherents on the Right, Count Karolyi's position became increasingly precarious. His Minister of Agriculture was decisively defeated at the poll in a by-election August 29. Similar setbacks in other by-elections and the intrigues of the Bethlen extremists finally forced him to resign on September 21.

**THE GÖMBÖS CABINET.** Count Karolyi was succeeded as Premier by Gen. Julius Gömbös, Minister of War in both the Karolyi and Bethlen Cabinets. A pronounced Magyar Nationalist, he rose to fame by organizing the counter-revolutionary army which overthrew Bela Kun in 1920 and by frustrating the effort of King Charles to regain the Hungarian throne in 1921. Later he founded the Anti-Semitic Fascist party of Awakening Magyars. An Italophile and an ardent admirer of Premier Mussolini, General Gömbös' advent to power terminated the French orientation which the Karolyi Cabinet had been forced to take by the exigencies of the financial situation. His Cabinet, announced September 30, was formed of comparatively young men and was the first in some 60 years not to include members of the nobility. The composition of his Cabinet was: Premier and Minister of War, Julius Gömbös; Foreign Affairs, Andreas Puky; Interior, Franz Keresztes Fischer; Finance, Bela Imredy; Education, Valentin Homan; Justice, Andreas Lazar; Trade, Tihamer Fabini; Agriculture, Nicholas Kally.

Gömbös immediately demonstrated his kinship with the leaders of the Papen-Schleicher Cabinet in Germany by addressing a huge irredentist demonstration in Budapest (October 2). Twenty thousand Hungarian veterans present solemnly swore "to reconquer the frontiers of pre-war Hungary—of the holy crown of Saint Stephen." The new Premier had accepted his post on condition that he would be allowed to dissolve parliament, if necessary. However he made a vigorous bid for parliamentary support by abolishing (October 10) the martial law placed in effect thirteen months earlier. Addressing the Lower Chamber October 11, he announced that the government would introduce nation-wide secret voting in the near future and establish public freedom and a free press. His striking speech included declarations favoring religious toleration, restraint of capitalistic greed, Pan-Europeanism, revision of the peace treaties, and equal military rights for Hungary. He promised reduction of the domestic interest rate, the regulation of the foreign debt problem by friendly agreement with creditors, and the provision of work, but not of unemployment payments, by the state. Regarding his foreign policy, he said it envisaged continued friendly relations with Italy and Poland, good

relations with Germany and Austria, and peace and understanding with Hungary's other neighbors provided they accorded her a voice in the settlement of Central European problems.

One of the first moves of the new Premier was a trip to Rome, where three days of discussion with Premier Mussolini (November 10-12) resulted in the signing of three conventions settling Italo-Hungarian accounts arising from the World War. The conventions placed in effect agreements on debts and credits reached in 1924 and 1927, settled all pending questions relative to the Italian occupation of Fiume, and established a mixed Italo-Hungarian commission to foster mutual trade relations.

Shortly after the visit of Premier Gömbös to Rome, he was visited at Budapest by the Austrian Chancellor, Dr. Engelbert Dollfuss. The new Premier's diplomatic activity, together with rumors of a conference of representatives of the Italian, Hungarian, Austrian, Bulgarian, and Albanian general staffs in Hungary, aroused considerable uneasiness in the Little Entente countries and in France. This uneasiness gave way to outright alarm when it became known that on Dec. 30 and 31, 1932, a large shipment of rifles and machine guns was transferred from Italy to Hirtenberg, Austria, from which point part of the consignment was transshipped to Hungary. The shipment was in violation of clauses of the peace treaties forbidding the transport of munitions over Austrian territory. It was regarded as additional evidence that Mussolini was cementing an alliance with Austria, Hungary, and possibly Germany to secure a revision of the peace treaties.

See UNITED STATES OF EUROPE.

**HURRICANES.** See JAMAICA; PUERTO RICO under *History*.

**HYDRO-ELECTRIC PLANTS.** See WATER POWER.

**HYGIENE, CHILD.** See CHILD WELFARE.

**ICE CREAM.** See DAIRYING.

**ICE HOCKEY.** See HOCKEY.

**ICELAND.** An island state united with Denmark by the Act of Union of Nov. 30, 1918. Situated to the northwest of Great Britain (to which it is next in size of European islands), and with its northern coast touching the Arctic Circle, Iceland has an area of 39,709 square miles, and a population of 108,644 in 1930. The capital, Reykjavik, had a population of 28,182 in 1930. In 1928-29, there were 238 elementary schools, with 8709 pupils; also continuation schools and a university at Reykjavik.

Fisheries are the chief support of the population, as only about one-fourth of 1 per cent of the land area is suitable for cultivation. Sheep and other livestock are raised. Hay, potatoes, and turnips are the chief farm products. The cod fisheries in 1930 reported a record catch of 70,000 metric tons (66,000 tons in 1929), but prices were lower. In the foreign trade for 1930, exports were valued at 57,000,000 crowns (1 crown equals about \$0.22); imports were valued at 66,000,000 crowns. Fish products accounted for 52,300,000 crowns of the total 1930 exports. State revenues for 1932 were 11,266,300 crowns and expenditures were 10,525,700 crowns. The National debt on Jan. 1, 1931, amounted to 40,200,000 crowns (about \$8,840,000).

Executive power is vested in the King of Denmark who acts through a responsible ministry; and legislative power in the King and Althing or

Parliament, which consists of 42 members, of whom 6 are elected for 8 years by proportional representation for the whole country, and 36 for 4 years by universal suffrage. The Althing is divided into two Houses, of which the upper has 14 members and the lower, 28. The right to vote is possessed by both men and women over the age of 25. King in 1932, Christian X; President of the Council and Minister of Trade and Communication, Tryggvi Thorhallsson. See *GREENLAND under History*.

**ICELANDIC PARLIAMENT, ANNIVERSARY OF.** See *CELEBRATIONS*.

**IDAHO. POPULATION.** According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 445,032, as against 431,866 in 1920. Boise, the capital, had (1930), 21,544 inhabitants.

**AGRICULTURE.** The following table shows the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod. Bu.	Value
Hay .....	1932	1,203,000	2,825,000*	\$11,736,000
	1931	1,107,000	2,158,000*	17,602,000
Wheat .....	1932	1,192,000	30,656,000	9,197,000
	1931	981,000	17,577,000	5,976,000
Potatoes ...	1932	99,000	19,800,000	4,554,000
	1931	110,000	24,200,000	6,776,000
Dry beans ..	1932	93,000	1,060,000*	1,282,000
	1931	178,000	2,083,000*	3,276,000
Apples .....	1932	.....	4,209,000	2,020,000
	1931	.....	5,000,000	2,700,000
Barley .....	1932	163,000	5,868,000	1,850,000
	1931	148,000	8,848,000	1,270,000
Sugar beets .	1932	53,000	692,000*	(*)
	1931	33,000	301,000*	1,816,000
Oats .....	1932	148,000	5,476,000	1,095,000
	1931	106,000	2,862,000	716,000

\* Tons.    \* 100-lb. bags    \* Not available.

**MINERAL PRODUCTION.** The metals lead, zinc, silver, gold, and copper continued, as a group, to furnish in 1931, 90 per cent or more of the total yearly mineral product of the State as measured by value. All, however, were mined on a reduced scale, and the market values of all these metals save gold at the same time suffered radical declines. The value of the total production of the five combined, \$21,494,867 for 1930, fell some 31 per cent below the corresponding figure for 1929; it was in turn cut almost in half, to a total of but \$11,418,013 for 1931; and, further, to an estimated \$7,443,270 for 1932. The greater part of the loss registered for 1931 was in production of lead, which fell to 198,729,228 pounds (1931), from 268,115,963 (1930); and in value to \$7,352,981 (1931), from \$13,405,798 (1930). Estimates of the totals for 1932 were: quantity, 142,000,000 lbs., value, \$3,976,000. The diminution in production by quantity reflected reduced mining activity; the proportionately greater loss in production by value reflected the additional feature of a fall in the price of the product. In the case of silver the proportionate losses were similar, the total mined being 7,220,923 ounces for 1931, as against 9,710,150 for 1930; by value, \$2,094,068 (1931) and \$3,738,408 (1930). Estimates of silver totals for 1932 were: 6,700,000 oz.; value, \$1,889,400. The zinc output fell to some 41,000,000 pounds (1931) from 75,298,172 (1930), and declined yet more sharply in value. The production of gold declined to 18,058 ounces (1931), from 21,198 (1930); the decline, necessarily in the same proportion by value, was to \$373,300 (1931), from 438,200 (1930). Except for the leading metals only one product, stone,

attained production valued in excess of \$500,000 for 1930; there were produced 536,810 short tons of stone, in value \$513,752. The total value of the State's mineral product, after allowance for duplications, was \$22,903,659 for 1930: for 1929, \$32,142,685.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 2951.64. During the year previous, 13.57 miles had been abandoned.

**FINANCE.** State expenditures in the year ended Sept. 30, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments, \$5,628,981 (of which \$605,687 was for local education); for interest on debt, \$379,693; for permanent improvements, \$6,122,938; total, \$12,131,612 (of which \$6,853,640 was for highways, \$1,107,310 being for maintenance and \$5,746,330 for construction). Revenues were \$12,350,863. Of these, property and special taxes furnished 24.3 per cent; departmental earnings and compensation to the State for officers' services, 5.0; sale of licenses, 27.5 (in which was included a gasoline sale tax that produced \$2,742,135). Funded debt outstanding on Sept. 30, 1931, totaled \$4,334,300, of which \$1,821,300 was for highways. Net of sinking-fund assets, the debt was \$3,770,351. On an assessed valuation of \$428,018,004 the State levied in the year ad valorem taxes of \$2,813,003.

**CHARITIES AND CORRECTIONS.** Through its Department of Public Welfare, the State conducted approximately the functions of a State board of health. This department also held jurisdiction over the State's mental hospitals, its Soldiers' Home, work to combat tuberculosis, and the administration of the old-age pension. The State's institutions for the mentally afflicted were: Northern Idaho Sanatorium, Orofino; State School and Colony, Nampa. The State Penitentiary, at Boise, was directed by a board consisting of the Governor, Attorney-General, and Secretary of State.

**ELECTIONS.** The popular vote on November 8 gave a substantial majority for the Democratic National ticket. Governor C. Ben Ross, Democrat, was reelected. James P. Pope, Mayor of Boise, Democrat, was elected United States Senator for the ensuing full term, defeating John Thomas, Republican, the incumbent. For President the popular vote was: Roosevelt (Dem.), 109,208; Hoover, (Rep.), 71,122.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, C. Ben Ross; Lieutenant-Governor, G. P. Mix; Secretary of State, Fred E. Lukens; Auditor, E. P. Gallet; Treasurer, George J. Barrett; Attorney-General, Fred J. Babcock; Superintendent of Public Instruction, Myrtle R. Davis; Inspector of Mines, Stewart Campbell.

**Supreme Court:** Justices, T. Bailey Lee, Bertram S. Varian, R. D. Leeper, Raymond L. Givens, Alfred Budge.

**IDAHO, UNIVERSITY OF.** A coeducational State institution of higher learning in Moscow, Idaho, founded in 1889, with a southern branch in Pocatello, established by Act of the State Legislature which converted the Idaho Technical Institute into a division of the State University; the change became effective in the autumn of 1927. The total enrollment at Moscow in the autumn of 1932 was 1994. Total enrollment at Pocatello was 821. The enrollment for the 1931 summer session was 536. The faculty numbered

approximately 180. The physical plant at the university was valued at approximately \$2,150,000, and that at the southern branch at approximately \$765,000, making a total of about \$2,915,000. The productive funds of the university amounted to \$2,080,375, and the income for 1930-31 was approximately \$1,535,112. The library contained 93,000 volumes. The outstanding event of the year was the ceremony October 12, commemorating the fortieth anniversary of the opening of the university. President, Mervin Gordon Neale, Ph.D.

**ILLINOIS. POPULATION.** According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 7,630,654, as against 6,485,280 in 1920. Chicago, the chief city, had (1930) 3,376,438 inhabitants; Peoria, 104,969; Springfield, the capital, 71,864.

**AGRICULTURE.** The following table shows the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod. Bu.	Value
Corn ....	1932	9,001,000	387,043,000	\$58,056,000
	1931	9,185,000	339,845,000	84,961,000
Hay .....	1932	2,329,000	3,102,000 <sup>a</sup>	16,114,000
	1931	2,346,000	2,932,000 <sup>a</sup>	22,564,000
Oats .....	1932	4,307,000	161,512,000	19,381,000
	1931	4,182,000	144,279,000	24,527,000
Wheat ...	1932	1,549,000	23,433,000	8,139,000
	1931	1,935,000	45,076,000	18,030,000
Potatoes .	1932	54,000	4,860,000	2,865,000
	1931	50,000	4,250,000	3,060,000
Barley ...	1932	371,000	10,574,000	2,538,000
	1931	297,000	8,613,000	3,273,000

<sup>a</sup> Tons

**MINERAL INDUSTRIES.** The coal-and-iron group of industries, dependent on the State's own coal and its importations of iron ore, were severely curtailed in 1931. There were mined 44,105,000 short tons of coal (1931), as against 53,731,230 (1930); by value the total for 1931 fell yet more sharply below the \$93,484,000 of 1930. The production of coke, entirely in by-product processes fell to 2,478,984 short tons (1931), from 3,576,577 (1930); in value, to \$14,042,457 (1931), from \$21,379,784 (1930). The output of pig iron fell somewhat more severely than the average for the Union as a whole, to 1,727,834 long tons for 1931, from 3,050,743 for 1930; by value, to \$29,178,510 for 1931, from \$54,290,144 for 1930. The producers of Portland cement shipped 6,425,909 barrels in 1931, or about 80 per cent of the quantity, 7,951,680 barrels, shipped in 1930; lower prices caused the value of yearly shipments to recede to \$5,342,446 (1931), or barely over half the \$10,519,102 of 1930. The production of petroleum was cut in somewhat like proportions to 5,039,000 barrels (1931), from 5,736,000 (1930); by value, to \$4,500,000 (1931), from \$9,100,000. Clay products had for 1930, the latest year of available tabulations, a value of \$17,520,430, as against \$27,391,068 for 1929. There was a considerable production of sulphuric acid, which amounted for 1930 to 243,772 short tons (60 deg. Baumé), in value \$2,347,524. Other minerals of which the production in 1930 substantially exceeded \$1,000,000 were sand and gravel (\$8,382,025) and stone, chiefly of the commoner grades (\$5,939,297). The total value of the mineral product of the State, duplications eliminated, was \$148,311,418 for 1930; for 1929, \$182,791,131.

**FINANCE.** State expenditures in the year ended June 30, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and

operating governmental departments, \$57,897,793 (of which \$12,003,648 was for local education); for interest on debt, \$8,358,487; for permanent improvements, \$56,268,617; total, \$122,547,331 (of which \$48,521,857 was for highways, \$3,587,943 being for maintenance and \$44,933,914 for construction). Revenues were \$122,608,219. Of these, property and special taxes furnished 43.7 per cent; departmental earnings and compensation to the State for officers' services, 2.9; sale of licenses, 46.5 (in which was included a gasoline sale tax that produced \$28,846,193). Funded debt outstanding on June 30, 1931, totaled \$196,836,320, of which \$153,070,000 was for highways. Net of sinking-fund assets, the debt was \$195,517,168. On an assessed valuation of \$8,249,429, 161 the State levied in the year ad-valorem taxes of \$32,172,773.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 12,472.46. Line to the total of 31.6 miles had been abandoned during the previous year, and 4.46 miles of line had been brought into operation.

**EDUCATION.** In the face of much reduction of budgets for public schools, effected during the year, among the 11,000 school districts, the intention was generally maintained to preserve the essentials of common-school education. Statistics for the public schools as a whole were obtainable only for the academic year 1930-1931. For that year the number of persons of school age in the State was rendered as 2,042,207. There were enrolled in the public schools 1,406,915 pupils. Of these, 1,086,692 were in common schools or elementary grades; in high schools, 320,223. The year's current expenditures for public-school education totaled \$134,502,656; capital outlay, \$28,942,338; debt service, \$8,433,556. Salaries of teachers averaged, by the year, \$1695.

**CHARITIES AND CORRECTIONS.** The central administrative authority for the care and custody of persons rested in 1932 in the Department of Public Welfare, as created by the Civil Administrative Code of 1917. It had as its head a director (Rodney H. Brandon). Under him were a superintendent of charities, administering charitable institutions; a superintendent of prisons, with like authority over penal institutions; and among other subordinates a supervisor of paroles, an alienist, and a criminologist. A division of child welfare dealt with dependent children. The department maintained a psychopathic institute, schools of psychopathic nursing, an institute for juvenile research, supervision over a system of mothers' pensions, and means for the education of crippled children, and inspected many private and local public institutions.

The State institutions under the direction of the department, with their populations of November 1, were: mental hospitals at Elgin, Chicago, Kankakee, Manteno, Peoria, Jacksonville, East Moline, Alton, Anna, and Chester, 24,202 inmates; penitentiaries at Joliet and Menard, a boys' reformatory at Pontiac, women's prison at Joliet, State Farm (for misdemeanants) at Vandalia, and women's reformatory at Dwight, with an aggregate of 10,965; institutions for the feeble-minded, at Dixon and Lincoln, 6371; Illinois School for the Deaf, at Jacksonville, 572; Illinois School for the Blind, at Jacksonville, 254; Industrial Home for the Blind, at Chicago, 93; Illinois Soldiers' and Sailors' Home, Quincy, 829; Soldiers' Widows' Home, Wilmington, 113;



Eye and Ear Infirmary, Chicago, 168; Soldiers' and Sailors' Children's School, Normal, 706; Research and Educational Hospitals, Chicago, 367; School for Boys (delinquent), St. Charles, 550; State Training School for Girls (delinquent), Geneva, 396. There were under parole on June 30, 1932, 5483 persons released from penal and correctional institutions.

**LEGISLATION.** The Legislature was repeatedly called into special session during the year by Governor Emmerson. An appropriation of \$20,000,000 for extra funds to relieve destitution was made at the end of January and an Unemployment Relief Commission was created to that end. In February was enacted an income-tax measure to become effective on July 1. (It was invalidated by the courts; see below.) Other acts passed in February permitted the West Park Board and certain school districts to incur bonded indebtedness without the sanction of a popular vote. A measure altering the system of assessment for Cook County was enacted in January, with the design to correct the faults that had brought about a failure of the revenues of Chicago. Provision was made for State regulation of dealers in securities. In July the Legislature ratified the proposed amendment of the Federal Constitution to alter the dates of Presidential inaugurations and sessions of Congress. The General Assembly convened in November, in its fourth special session, to adopt measures required in order to provide about \$45,000,000, sought by the State's Emergency Relief Commission, wherewith to meet the ensuing 7 months' expense of public assistance to the destitute, chiefly in Cook County and estimated to number a great part of some 1,300,000 unemployed.

**POLITICAL AND OTHER EVENTS.** A law providing a State income tax, which had been signed by Governor Emmerson on February 22, was declared by Judge Brown of the Sangamon County Circuit Court, in a decision rendered in April, to be unconstitutional, in that it violated Section 1 of Article 9 of the State constitution, in proposing a tax by graduation instead of straight valuation. The decision had the effect of impairing the State's prospect of much-needed revenue. The State Supreme Court, on appeal, held (October 22) that the tax was invalid. The State Supreme Court in decisions of April 8 and April 20 upheld the legality of the contested real-estate tax levied by Cook County for the years 1928 and 1929, holding that failure to assess personal property to the alleged total of \$16,000,000,000 did not invalidate the realty assessments. The effect of this ruling was to discourage the existing widespread abstention from tax payments among dissatisfied realty owners in Chicago.

The decision came only after Chicago had suffered severely from lack of ready money. A pay cut of 20 per cent had been decreed for thousands of city employees on January 4; bonds of the County Sanitary Board and of the Forest Preserve, due February 1, had been defaulted; 38,000 city employees had received only half a month's pay in March; the county commissioners had been unable to adopt a budget within the statutory time in February; a citizens' committee on public expenditures had reported on April 4 that the major taxing units of Cook County faced a deficit of \$200,000,000 in revenues. This committee was instrumental later in a reduction of some \$25,000,000 in the tax levy for the year 1931. Collections remained insufficient long after

the April court decisions, so that sales of 100,000 parcels of property in the county were sought and were ordered by the county court on July 23. Unpaid bills and payrolls, which had totaled \$59,833,628 on January 1, were estimated to have risen by \$10,000,000 by the end of July, the overdue payrolls alone then aggregating some \$36,000,000, while tax-anticipation warrants outstanding on January 1 totaled \$230,714,000. It was only in October, after the Federal Supreme Court had declined to assume jurisdiction in the taxpayers' contest, that Chicago was in a position to redeem part of the tax-anticipation warrants.

There occurred in Chicago on March 12 a riot that was the outcome of a Communist demonstration against the Japanese Consulate, as a protest against "Japanese imperialism." On February 5, after a trial lasting two months, two former trustees of the Sanitary District, Timothy L. Crowe and Frank J. Link, were found guilty of having padded the payroll of that agency to the extent of millions of dollars and were each sentenced to five years' imprisonment. A fire destroyed the Quincy Grain Elevator and most of the plant of the Omaha Packing Company on August 4, causing some \$6,000,000 of damage. Plans for the Chicago World's Fair of 1933 were aided by a Federal appropriation of \$1,000,000 in July.

Economic distress in Chicago and elsewhere in the State was severe during the year. Owing to the financial incapacity of Chicago the State incurred a heavy burden in having to provide relief for destitution. It borrowed \$3,000,000 from the Reconstruction Finance Corporation for relief on July 27, being the first State to which a loan was accorded. It applied further for \$23,279,475, of which, however, the Corporation granted on August 18 only \$6,000,000, demanding that the State and its subdivisions make provisions by appropriations from their own revenue before receiving further aid. In all, up to December 27, the Corporation made available to the State and its subdivisions, loans to the total of \$25,238,228. The coal operators of Illinois proposed to their miners' representatives on March 22 that the wages in the mines be reduced to the scale of the northern West Virginia field, from the \$6 a day and over that had prevailed. A \$5 basic wage scale for the Illinois mines was finally negotiated, but many of the miners refused to accept it, and there followed, late in August, a strike agitation attended with violence in the neighborhood of Benton. Severe banking difficulties in Chicago were averted by aid from the Reconstruction Finance Corporation early in the year and by reorganization and consolidation of large banks affected. The Middle West Utilities Company, a holding concern for properties having aggregate assets of some \$2,500,000,000, controlled by the Insull brothers, went into the hands of a receiver in April, and in October the Cook County Grand Jury found indictments against the two Insull brothers, who had left the country and were made the objects of extradition proceedings.

**ELECTIONS.** The popular vote cast on November 8 gave a majority of some 450,000 for the Democratic National ticket, thus upsetting a record of heavy Republican majorities in all Presidential elections since and including 1916. For President, the vote was officially reported as:



Roosevelt (Dem.), 1,882,304; Hoover (Rep.), 1,432,756.

Judge Henry Horner, Democrat, was elected Governor, defeating Len Small, Republican and former Governor. Representative William H. Dieterich, Democrat, was elected United States Senator, defeating Senator Otis Glenn, Republican. Twenty Democrats and seven Republicans were elected to the Federal House of Representatives; two of the 20 Democrats were elected at large. Democrats won control of the chief tax-spending bodies in Cook County. The so-called gateway amendment to the State constitution, an amendment to the bank-loan act, and a proposed issue of \$20,000,000 in bonds for relief of the destitute were reported approved by referendum vote.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, Louis L. Emmerson; Lieutenant-Governor, Fred E. Sterling; Secretary of State, William J. Stratton; Treasurer, Edward J. Barrett; Auditor of Public Accounts, Oscar Nelson; Attorney-General, Oscar E. Carlson; Superintendent of Public Instruction, Francis G. Blair.

**Supreme Court:** Chief Justice, Clyde E. Stone; Associate Justices, Norman L. Jones, Oscar E. Heard, Frederic R. de Young, Warren W. Duncan, Warren H. Orr.

**ILLINOIS, UNIVERSITY OF.** A coeducational State institution of higher learning in Urbana-Champaign, Ill., founded in 1867. The enrollment in the autumn of 1932 was 10,579, of whom 7981 were men and 2598 were women. The summer-session enrollment was 2910, of whom 1776 were men and 1134 were women. The number of persons on the teaching staff above the rank of assistant was 717, in the grade of assistant or lower there were 353, and the administrative officers and assistants (including Library assistants) totaled 138. The income for the year 1931-32 was \$6,714,016, of which \$4,440,448 was from the State. The productive funds from Federal endowment totaled \$649,013 and from private gifts, \$369,524. The library contained 916,452 volumes and 236,400 pamphlets. President, Harry Woodburn Chase, Ph.D., LL.D.

**ILLINOIS WATERWAY.** See CANALS.

**ILLITERACY.** See EDUCATION IN THE UNITED STATES.

**ILLUMINATION.** See ELECTRIC LIGHTING.

**IMAMATE OF YEMEN.** See ARABIA.

**IMBROS AND TENEDOS.** See GREECE.

**IMMIGRATION.** STATISTICS OF IMMIGRATION. During the fiscal year ending June 30, 1932, 35,576 immigrants entered the United States, a decrease of 61,563, or 63.4 per cent, as compared with the previous year. The decline in immigration from Europe was 41,330, or 66.8 per cent; from Canada it was 13,760, or 63.4 per cent; from Mexico it was 1162, or 34.9 per cent; and from all other countries it was 5311, or 52 per cent. Aliens of all classes admitted in the fiscal year 1932 totaled 174,871 of whom 35,576 were immigrants and 139,295 were non-immigrants. The outgoing aliens numbered 287,657, of whom 103,295 were emigrants and 184,362 were non-emigrants. This was an excess of 112,786 departures over admissions for the fiscal year ending June 30, 1932. When this record is compared with previous years the differences are startling. Thus, for the fiscal year ending June 30, 1931, the excess of departures over admissions was 10,237; while for the fiscal year ending June 30, 1930, the excess of admissions over departures was 173,789 and for the fiscal year ending June 30, 1929, the excess of admissions over departures was 226,839. Of the 35,576 immigrants for permanent residence admitted into the country during the year 1931-32, 12,983, or 36.5 per cent, were charged to the quota; 9490, or 26.7 per cent, were admitted under the immigration act of 1924 as husbands, wives, and unmarried children of American citizens; and 9328, or 26.2 per cent were admitted as natives of non-quota countries. The remainder, comprising 10.6 per cent of the total immigrants, entered the country as ministers, professors and other miscellaneous classes under the act. During the fiscal year 1931-32 a total of 19,426 undesirable aliens were deported, largely to Mexico, Europe, Canada, and China. This was a record for the country, deportations for 1930-31 numbering 18,142, for 1929-30 numbering 16,631, for 1928-29 numbering 12,908, and for 1927-28 numbering 11,625. During the year 1931-32, 2637 indigent aliens were, at their own request, removed to their native countries, over two-thirds of these having last resided in Michigan, New York, Illinois, and Pennsylvania.

TABLE I—INWARD AND OUTWARD PASSENGER MOVEMENT, JULY 1, 1931, TO JUNE 30, 1932

Period	INWARD					Aliens de- barred from entering <sup>a</sup>	OUTWARD					Aliens de- ported after land- ing <sup>b</sup>
	Immigrant	Aliens admitted Non-immigrant	Total	United States citizens arrived	Total		Emigrant	Aliens departed Non-emigrant	Total	United States citizens departed	Total	
1931												
July . . .	3,174	12,861	15,535	30,944	46,479	761	7,428	20,450	27,878	46,961	74,839	1,681
August . . .	4,090	16,580	20,670	59,372	80,042	657	9,541	23,009	32,550	65,895	98,445	1,584
September .	5,017	20,940	25,957	62,581	88,538	684	8,733	20,398	29,126	42,247	71,378	1,446
October . . .	3,913	17,096	21,009	32,427	53,436	806	10,857	16,525	27,382	35,016	62,898	1,663
November . .	2,899	9,832	12,731	16,823	29,554	573	11,318	14,271	25,589	23,224	48,813	1,525
December . .	2,642	8,086	10,728	16,932	27,660	485	10,727	17,370	28,097	24,351	52,448	1,336
1932												
January . . .	2,220	7,242	9,462	17,158	26,620	577	8,550	14,693	23,243	25,016	48,259	1,537
February . .	1,984	7,346	9,330	19,829	29,159	892	6,188	9,691	15,879	22,920	38,799	1,505
March . . . .	2,103	9,248	11,351	22,012	33,363	445	6,239	10,097	16,336	24,718	41,054	2,112
April . . . .	2,469	11,266	13,735	23,261	36,996	580	6,746	9,886	16,632	19,980	36,612	1,633
May . . . . .	2,479	10,579	13,058	19,233	32,291	540	8,577	12,262	21,839	22,152	43,991	1,597
June . . . . .	2,586	8,719	11,305	16,690	29,995	564	8,391	14,715	23,106	28,357	51,463	1,807
Total . . .	35,576	139,295	174,871	339,262	514,133	7,064	103,295	184,362	287,657	380,837	668,494	19,426

\* These aliens are not included among arrivals, as they were not permitted to enter the United States.

\* These aliens are included among aliens departed, they having entered the United States, legally or illegally, and later being deported.

Table I presents the inward and outward passenger movement of the 12 months of the fiscal year 1931-32.

**IMMIGRATION LEGISLATION.** In the closing months of the long session of the Seventy-Second Congress a number of measures were passed which were designed to improve the Immigration Service activities. The most important of these was the act approved May 25, 1932, to permit aliens who had been deported or ordered deported from the United States to reënter. The law in effect permitted an alien to apply, after one year from his deportation or departure, to the Secretary of Labor for permission to reapply for admission to the United States. The statute was aimed to afford relief in cases where, for example, deportation had separated a husband and wife, or parents and children, and where the admission of such aliens was not calculated to be a cause of danger to the country or its institutions. Another law passed was one permitting the Immigration Service to exact bonds in the case of immigrant students where there was doubt of the bona fides of the alien's status as a student under the law. Before, when such doubt existed, the alien was excluded by law; but the bond provision permitted a more equitable disposition of such cases.

**ALIEN DEPORTATIONS.** The policy of the Department of Labor of deporting so-called undesirable aliens on the grounds either that they were public charges or were engaging in activities subversive to the political and economic institutions of the United States was being, in recent years, enforced so vigorously that the matter had become an outstanding public question. During the last ten years, according to Dr. Jane Perry Clark, writing in the April *Current History Magazine*, the number of such deportations had reached 105,782. In 1931 alone, 18,142 undesirable aliens were actually deported while 11,709 left voluntarily in compliance with deportation orders.

The law permits the deportation of individuals falling into two distinct categories: those who may be deported within five years after their entrance into the country—that is to say, persons with physical or mental disabilities which were undetected at the time of admission, contract laborers, illiterates, and persons liable to become public charges; and those who may be deported at any time regardless of date of their entry—for example, aliens who have unlawfully entered the country, aliens guilty of crimes involving moral turpitude, those engaged in narcotic traffic, anarchists and extreme radicals. It is important to observe that the deportation law is not at all simple. The courts, for example, have defined entry to mean last entry regardless of the length of time the alien may have made his permanent residence in the United States. The legal determination of moral turpitude apparently has become highly involved. The courts, for example, have declared that violation of the Volstead Act involves moral turpitude whereas violation of a State liquor law does not. If after admission to the country a person is sentenced to prison for a term of a year or more, the offense having been one involving moral turpitude, and if the crime had been committed within five years of entry, the alien is liable to deportation. But an alien, no matter when he entered the country, is liable to deportation at any time if convicted of moral turpitude and sentenced to

prison more than once for the term of a year or more.

The history of radical deportations makes an interesting chapter in the whole chronicle. In the years 1929 and 1930 alien radicals were deported in large numbers; but only fifteen aliens were sent out of the country between 1926 and 1929 because of radical affiliations. With the onset of the depression the drive against radicals once more commenced so that in 1931, eighteen radicals were deported. Dr. Clark points out that the deportation problems involving illegal entrance are "most numerous and most baffling." Because of the long and exposed frontier of the United States access to the country has been comparatively easy and while the immigration service has exerted great efforts in an attempt to close the frontiers to aliens seeking to obtain illegal entry into the United States "it has proved well-nigh impossible to prevent aliens from entering, and the need for more effective barriers is greater than ever." Dr. Clark points out that the procedure attending the apprehension and examination of supposed aliens is characterized by considerable hardship on the persons involved. "A person trying to cross the border may be caught by the border patrol; a man's next-door neighbor may take a dislike to him and denounce him as a possible deportee; a hospital in which a woman is a patient may inform the authorities that she is deportable. In all cases the local immigration officials are supposed to accept the complaint, whether anonymous or otherwise, and investigate. Sometimes the immigration inspectors, in company with local police, have raided peaceful dances or reading rooms in the search for aliens. . . . Because of the various methods by which aliens may be reported to the authorities, much depends on chance as to whom the arm of the law strikes."

Dr. Clark puts her finger on the central weakness of the system when she says that: "In all cases the procedure is purely administrative, highly centralized within the Department of Labor in Washington." While, according to law and the decision of the Department of Labor the alien may be declared liable to deportation as an undesirable, the United States cannot deport him unless some other country is willing to receive him. Because the United States has not recognized Soviet Russia and therefore diplomatic representation and facilities for the issuance of passports do not exist, deportation to Soviet Russia is impossible. It is interesting to note, too, that expatriated citizens of other countries, such as Germany, may not be deported to that country for they have lost their citizenship. Experience under the law has indicated that often tragic hardships are visited on its victims. Not infrequently persons are deported to countries which they have never seen; men or women with American born spouses and children are sent out of the country never to return; because of national laws not infrequently a wife is compelled to go to the country of her husband's citizenship where she, in all likelihood, is friendless and unknown and there liable to become a public charge. Doctor Clark concludes by pointing out that the law must be simplified, clarified and codified in order that the many injustices it commits be eliminated, or at least softened. "Among the many possible changes in procedure," she says, "the need for more adequate review is one of the most urgent, and for this

the establishment of an independent board of review, similar in organization to the board of tax appeals, has been suggested as a method whereby fundamental rights may be more fully protected. Only when we realize that the alien in the United States is the product not only of the country from which he derives his legal citizenship but also of the country in which he makes his home can there be a real attempt to deal with the problems of 'undesirables.'"

**DEPORTATIONS.** For the fiscal year 1931-32 there were deported 19,426 aliens, the highest on record, which compared with 18,142 in 1930-31, and 16,631 in 1929-30. Of the total 19,426 deported, 17,274 were sent out of the country at the expense of the Immigration Service; 1479 were deported at the expense of the steamship lines responsible for bringing such persons into the country; 103 were permitted to reshipe foreign one way as members of crews or vessels; and 570 were permitted to depart voluntarily at their own expense. The principal cause for deportation was for entry after July 1, 1924, without the requisite immigration visa. This included all aliens who had effected surreptitious entry over land boundaries, those who had entered as stowaways, and deserting seamen. The second group of deportees was made up of those aliens who had remained here longer than the temporary period for which they had been admitted; and the third group of deportees constituted criminal and immoral aliens. The Immigration Service pointed out the particularly distressing group of cases handled were those made up of Chinese who entered the Southern land borders due to their enforced departure from certain Mexican states. The Immigration Service, in describing the plight of this group, said: "These aliens were destitute, had no other place to go, and fully knew they would be fed and deported to their native country without cost to them. The usual detention places for aliens under warrant proceedings became so congested under this influx that it was necessary to detain many of the Chinese in camps or barracks, all at great expense to this service. Prosecution of these aliens under the act of Mar. 2, 1929, for illegal entry were quite often abortive and did not relieve the situation by discouraging further entries of the Chinese from Mexico. In all, 2256 of such Chinese were deported from Pacific seaports in several parties by the end of the year, at a cost to our appropriation of \$288,650.81." Of the 19,426 deportations, 6530 were to Europe, 2379 to China, 2338 to Canada, 7116 to Mexico, 567 to other North America, the West Indies, Central, and South America, 84 to Africa, Australia, and Pacific Islands, 412 to other Asia. In addition to deportations, there were repatriated to their native countries at the expense of the States and the Immigration Service, a total of 2637 aliens. Also, 10,775 aliens, who had been apprehended and found subject to deportation because of having entered the country clandestinely or having remained longer than the temporary period for which they had been admitted, were permitted to depart voluntarily. The majority of this class of aliens granted voluntary departure returned across the land borders, either to Mexico or Canada. Thus, in all, the Immigration Service was responsible for the departure of 32,838 aliens, who were in the country unlawfully or who had fallen into distress.

**THE ADMINISTRATION'S POLICY.** In an address

delivered at Columbus in the course of the Presidential campaign on October 22, President Hoover declared that the policy of his administration, with respect to immigration, had been based four-square on the fact that in order to maintain the high standard of living of America's working population, it was imperative that a definite check take place upon the "flow of immigrants, fleeing from the lower standards of living abroad, flooding our country and offering to work for less wage than the American working man, at the gate of every factory in the United States." The President, while insisting that the restriction of immigration should be wise and humane—in not separating families or preventing the entrance of the relatives of residents already here—said the policy was to be based upon "a flow of selective streams of peoples to refresh our population with the ideas and contributions of foreign countries to our civilization." However, in times of great crisis where unemployment was prevalent, the President maintained that it was an act of injustice to the American people to permit the entry of aliens who, themselves, were fleeing from starvation abroad. The President, therefore, in 1930, by an executive order, stopped the entry of all immigrants to the United States except of the relatives of residents who are still here. Within that time, had the bars not been definitely raised, fully one-half million aliens would have been admitted who, according to the President, would have added by that amount to the army of the unemployed and placed an additional burden upon public and private relief programmes. President Hoover declared that he meant to maintain this policy during the continuance of the depression; after then the restrictive immigration programme based upon the selection of aliens would be resumed.

**STUDENTS.** According to the immigration act of 1924, bona fide students over 15 years were entitled to admission to the United States for a temporary period in order to attend some institution of learning approved by the Secretary of Labor. Such students were designated by the law as non-quota immigrants and were required to depart from the United States at the completion of their studies or upon their surrender of their student status. During the fiscal year 1931-32, 1266 such students were admitted into the country as compared with 1538 in the preceding year, and 1902 in the year ended June 30, 1930. Since the passage of the act of 1924, a total of 13,635 immigrant students gained entry, of whom 7492 left the United States, 1269 having done so during the year 1931-32.

**ORDER AGAINST FOREIGN STUDENTS.** An order issued by Secretary of Labor William N. Doak, in October, forbade foreign students admitted to the United States on a non-quota basis to engage in a vocation or part-time employment, to help them finance their education here. The issuance of the ruling immediately provoked a storm of protest among college administrators in the East, particularly where large bodies of foreign students were to be found. It was pointed out, for example, that more than 700 students at Columbia alone were affected by this order. Particularly pointed were the remarks of Dr. Stephen S. Duggan, Director of the Institute of International Education, who declared: "The fundamental issue at stake is whether the cultural relations of the United States with foreign

countries should be to such an extent under the control and administration of a department of the Government which, almost of necessity, looks upon the matter primarily as one of employment." Other administrators to protest were President Livingston Farrand, of Cornell, President Nicholas Murray Butler, of Columbia, and President Frederick B. Robinson, of the College of the City of New York.

**FILIPINO IMMIGRATION.** That Filipino men and women during the five years, 1926-30, were leaving the islands for the Continental United States and Hawaii in considerable numbers, is evidenced from figures presented in the annual report of the Governor General of the Philippine Islands for 1930. The accompanying table shows the departures and returns of native Filipinos to and from the Continental United States and Hawaii for the period in question. It will be noted that net immigration was quite high despite the unfavorable reception with which Filipino laborers were being received in the United States, particularly on the Pacific coast. While departures had fallen off in 1930 very considerably as compared with 1929, there was still a net increase of immigration.

MIGRATION OF FILIPINOS, 1926 TO 1930

Item	1926	1927	1928	1929	1930
Number going to continental United States.					
Males . . . . .	6,574	5,487	8,370	4,376	
Females . . . . .	113	191	198	107	
Number returning from continental United States:					
Males . . . . .	864	1,122	1,366	2,066	
Females . . . . .	80	99	104	253	
Number going to Hawaii:					
Men . . . . .	2,977	9,784	9,026	8,189	7,185
Women . . . . .	160	120	153	134	253
Minors . . . . .	219	170	143	46	377
Total . . . . .	3,356	10,074	9,322	8,369	7,815
Number returning from Hawaii:					
Men . . . . .	2,562	2,410	3,968	3,402	2,897
Women . . . . .	348	510	379	241	192
Minors . . . . .	480	645	492	348	324
Total . . . . .	3,390	3,565	4,839	3,991	3,413

**CANADIAN IMMIGRATION.** The United States was not alone in restrictions placed on the way of entry of new immigrants into the country. The records of Canada showed that during the calendar year 1931 there was a decrease of 74 per cent in the total number of immigrants admitted to the country as compared with 1930. The total admissions in 1931 were 27,530; in 1930 the admissions were 104,806. Of the 27,530 immigrants admitted in 1931, 7678 were British, 15,195 were from the United States, 1313 were classified as belonging to Northern European races, and 3344 to other races. In 1931, 213 Jews were admitted as compared with 3703 in 1930; 467 Italians as compared with 1104; 493 Magyars as compared with 3279; 560 Poles as compared with 4968; 503 Ruthenians as compared with 8045. That entry of aliens was definitely selected may be seen from the fact that the number of British immigrants in 1931 was 76 per cent lower than that for 1930; the decrease in the number of immigrants from the United States was 41 per cent; while the decrease of Northern European immigrants was

93 per cent and the decrease of immigrants from other races was 88 per cent.

**BRITISH EMPIRE MIGRATION.** The Economic Advisory Council in 1930 approved the appointment of a committee for the purpose of considering the question of overseas migration from the United Kingdom to other parts of the Empire. This committee, in reporting in 1932, differentiated between short and long term migration policies. The committee stressed the fact that in view of Great Britain's declining birth rate, emigration was no longer required as a safety valve against the pressure of increasing population for subsistence. The committee also pointed out that as emigration was a selective process it tended to draw off from the home country exactly those elements of the population that made the most desirable citizens. Thus, it said:

Emigrants are, therefore, not a random sample of the population. There are more males than females; there is already in this country a large excess of females. They are largely drawn from persons in the prime of life. They are above the average in physique and health, and more than all, they may certainly be assumed to be above the average in just those qualities of enterprise, leadership, and resilience which are needed at home. Thus emigration draws unduly upon those elements in the population of which this country has most need.

In view of the fact, however, that the present time was witnessing a marked surplus of labor, the committee tended to regard migration as a desirable short term policy. Nevertheless, the inauguration of a programme was bound to be attended by considerable difficulties. The crisis had fallen with particular severity on the Dominions where agriculture was bearing a heavy part of the economic depression; in view of the fact that agriculture heretofore had been the great immigrant absorbing industry, the Dominions were, therefore, at the present time, presenting small opportunities for newcomers. According to the committee, the Dominions probably would desire immigrants when matters returned to normal but at that time it might not be to the economic advantage of the home country to supply their needs. The committee went on to stress other factors in the situation. Thus, in many of the Dominions the population was inadequate "not only for the purpose of the efficient development of the vast territories and resources under their control, but also as a basis for political, social and industrial superstructure which has been created." The territories of the Dominions invited coöperation and the committee deemed it better for the population to be built up from British rather than from alien stocks. Hence, a steady flow of British migrants to the Dominions was counseled, although it seemed probable that such a flow was likely to be smaller in the future than it had been in past years. See LAW in 1932.

**IMPORTS.** See articles on various countries; and especially articles AGRICULTURE; CORN; IRON AND STEEL, ETC.

**IM THURN, SIR EVERARD.** A British explorer and colonial administrator, died in Prestonpans, East Lothian, Scotland, Oct. 10, 1932. Born in 1852, he attended Oxford University, and in 1877 was appointed curator of the British Guiana Museum and in 1882 a magistrate in the Pomeroon district of British Guiana. During 1897-99 he was also a member of the Venezuelan boundary commission. He did much exploring in British Guiana during this period, ascending successfully in 1884 Mt. Roraima, which had baffled all pre-

vious attempts. Entering the Colonial Office in 1899, he was made lieutenant governor and colonial secretary of Ceylon in 1901 and governor of Fiji and high commissioner of the Western Pacific in 1904. On his retirement in 1910 he devoted himself to anthropological research and was president of the Royal Anthropological Institute during 1919-20. He was created a Companion of St. Michael and St. George in 1892, a Companion of the Bath in 1900, a Knight Commander of St. Michael and St. George in 1905, and a Knight Commander of the Order of the British Empire in 1918. His publications include: *Among the Indians of Guiana* (1883); *A Tramp with Redskins* (1886); *Botany of the Koraima Expedition* (1886); and *Sketch of the Ceylon Pearl Fishery* (1903).

**INCHCAPE, JAMES LYLE MACKAY, 1ST EARL OF.** A British shipping magnate, died at Monte Carlo, Monaco, May 23, 1932. He was born in Arbroath, Forfarshire, Scotland, Sept. 11, 1852, and received his education there and in Elgin. In 1874 he went to India where he gained recognition as a shipping authority, being made Calcutta manager of the British India Steam Navigation Co. Later he became associated with the shipping firm of Mackinnon, Mackenzie & Co., of which he was senior partner at the time of his death. In 1914 the British India Steam Navigation and the Peninsular & Oriental Companies, controlling nearly 2,500,000 tons of the most valuable tonnage afloat, were merged under his direction. He was also vice-president of the Suez Canal Co., chairman of the P. & O. Banking Corp Ltd., director of the National Provincial Bank, the Atlas Assurance Co., Ltd., and other corporations, and until 1925 government director of the Anglo-Persian Oil & Affiliated Companies. He was thrice president of the Chamber of Shipping of the United Kingdom, in 1903, 1918, and 1919, and in 1926 was president of the British Shipping Federation.

While in India Lord Inchcape was a member of the legislative council of the Viceroy (1891-93) and of the Council of India (1897-1911). He exerted a potent influence upon government officials in their decision of 1893 to close the Indian mints to the free coinage of silver and to establish the gold standard at 16 to 1. In 1903 he was one of the representatives of the British government who conferred with representatives of the United States and Mexican governments on the question of introducing the gold standard into Mexico and China. He also negotiated, as the King's special commissioner, the commercial treaty which was signed with China after the Boxer Rebellion. In 1907 he was appointed by Lord Morley, then Secretary of State for India, chairman of the committee in regard to the finance and working of Indian railways. Four years later he was called upon to act as arbiter in a dispute which has arisen between the Indian railway companies and the railway board.

During the World War Lord Inchcape served on the war risks, imperial defense, and food production committees, and in 1915 was made chairman of the port and transit committee appointed by the government to expedite the discharge of vessels in British ports. In 1919 he was broker for the government in the sale of 196 of its standard ships, realizing thereby £35,000,000 (\$175,000,000) for the Exchequer. He also sold without personal remuneration the 418 enemy ships which had been allotted to Great

Britain by the Versailles Treaty (1920-21), the Mesopotamian war craft (1920), and vessels taken during the War as prizes (1921-23 and 1927). From 1918 to 1923 he was chairman of the committee appointed by the Treasury to control bank amalgamation. He also served in 1921-22 as a member of the National Economy (Geddes) Committee and in 1922-23 as chairman of the Indian retrenchment committee. When his youngest daughter, the Hon. Elsie Mackay, lost her life in an attempt with the British aviator, Capt. Walter Hinchliffe, to fly across the Atlantic, he gave her \$2,500,000 estate to the Empire as a memorial fund, to be used after 50 years' accumulation of interest to help retire the British national debt. He was created a baron in 1911, a viscount in 1924, and an earl in 1929.

**INCINERATORS.** See GARBAGE AND REFUSE DISPOSAL.

**INCOME TAX.** See PUBLIC FINANCE, TAXATION.

**INDEPENDENT METHODIST CHURCH.** See METHODISTS.

**INDEX NUMBERS.** See AGRICULTURE under *Agricultural Situation*; FINANCIAL REVIEW; FOOD AND NUTRITION; STATISTICS.

**INDIA.** A dependency of the British Empire comprising all that part of the Indian peninsula which is directly governed by British officials or indirectly governed through the rulers of native States subject to the British Parliament. The dependency is divided into British India, or the territory subject to British law, and the Indian States, ruled by native princes. Capital, New Delhi.

**AREA AND POPULATION.** The total area, including the Indian States and Agencies which are in political relations with the government, according to the census of 1931, was 1,819,000 square miles (1,805,332 square miles at the 1921 census), of which the British Provinces constituted 1,107,908 square miles and the Indian States 711,032 square miles. The population at the census of 1931 totaled 352,986,876, according to provisional returns. Compared with the 1921 population of 318,942,480, this represented an increase of 10.6 per cent. The British Provinces in 1931 had a population of 271,749,312 (247,003,293 in 1921) and the Native States and Agencies, 81,237,564 (71,939,187 in 1921). Of the total 1931 population, 181,921,914 were males and 171,064,962 were females. The area and population of the British Provinces and the Native States and Agencies in 1931 are shown in the accompanying table.

Approximately 41 per cent of the total 1931 population resided in Bengal, Madras, and the United Provinces. In 1921, over 90 per cent of the population was classed as rural, only 9½ per cent living in towns of 5000 or more.

The population of the leading cities, according to preliminary returns of the census of Feb. 26, 1931, with comparative 1921 figures in parentheses, was: Calcutta, with suburbs, 1,383,898 (1,327,547); Calcutta proper, 1,161,410 (907,851); Bombay, 1,157,851 (1,175,914); Madras, 647,225 (526,911); Delhi, 439,736 (304,420); Lahore, 429,403 (281,781); Rangoon, 400,419 (341,962); Hyderabad, 377,006 (404,187); and Bangalore, 306,365 (237,496).

**RELIGION, ETC.** The religious division of the population in 1931 was: Hindus, 238,330,912 (216,734,586 in 1921); Moslems, 77,743,928 (68,735,233); Buddhists, not available (11,571,268

BRITISH PROVINCES AND INDIAN STATES:  
AREA AND POPULATION

<i>British Provinces</i>	<i>Area in sq. miles</i>	<i>Population, 1931</i>
Ajmer-Merwara .....	2,711	560,292
Andamans and Nicobars .....	8,143	29,463
Assam .....	67,834	9,247,857
Baluchistan .....	184,638	868,617
Bengal .....	82,955	51,087,388
Bihar and Orissa .....	111,702	42,329,588
Bombay (Presidency) .....	151,673	26,398,997
Aden .....	80	51,478
Burma .....	233,492	14,667,146
Central Provinces and Berar .....	131,095	17,990,937
Coorg .....	1,593	163,327
Delhi .....	573	636,246
Madras .....	143,870	47,193,602
Northwest Frontier Province .....	36,356	4,684,364
Punjab .....	105,020	24,018,639
United Provinces .....	112,191	49,614,833
<b>Total Provinces .....</b>	<b>1,318,346</b>	<b>289,491,241</b>
<i>Indian States and Agencies</i>		
Baroda State .....	8,164	2,443,007
Central India Agency .....	51,597	6,632,790
Cochin State .....	1,480	1,205,016
Gwalior State .....	26,367	3,523,070
Hyderabad State .....	82,698	14,436,148
Jammu and Kashmir States .....	84,516	3,646,243
Mysore State .....	29,326	6,557,302
Punjab States .....	31,241	4,472,218
Rajputana Agency .....	129,059	11,225,712
Sikkim .....	2,818	109,808
Travancore .....	7,625	5,095,973
Western India Agency .....	35,442	3,999,250
<b>Total States .....</b>	<b>490,333</b>	<b>63,346,587</b>
<b>Total Provinces .....</b>	<b>1,318,346</b>	<b>289,491,241</b>
<b>Total India .....</b>	<b>1,808,679</b>	<b>352,837,778</b>

NOTE.—Figures for the Provinces include those of the States attached to them except in the case of Madras, where they exclude Cochin and Travancore

in 1921); Christians, 5,961,794 (4,754,064); Sikhs, 4,306,442 (3,238,803). The 1931 figures are preliminary. The Jains, Parsis, and Jews are minor religious sects. There were 2300 different castes, the largest, in the order named, being the Sheikh, Brahman, Chamar, Rajput, Ahir, Burmese, Jat, and Maratha. The so-called "untouchables" comprised 30 per cent of the Hindu population. The principal languages in use are Hindu, Bengali, and Telugu. About 2,500,000 persons speak English.

EDUCATION. At the 1921 census, 87.4 per cent of the males and 98.1 per cent of the females over six years of age were illiterate. In British India in 1928-30, there were 260,946 educational institutions, with a total of 12,515,126 pupils, of whom 9,224,084 were in primary schools, 2,246,208 in secondary schools, 70,487 in arts and science colleges, and 9027 (all males) in the 16 universities.

PRODUCTION. The census of 1921 showed 72 per cent of the total population engaged in pastoral and agricultural pursuits. Of the 746,094,771 acres in British India in 1929-30, 228,160,535 acres were sown, 49,713,921 acres were left fallow, 155,491,449 acres represented culturable waste other than fallow, and 87,276,573 acres unculturable waste. The area irrigated was 51,010,126 acres. Forests covered 87,276,573 acres. The livestock census of British India in 1929-30 showed 122,985,000 oxen, 31,645,000 buffaloes, 25,540,000 sheep, 35,943,000 goats, 1,701,000 horses and ponies, and 526,000 camels. India is one of the world's largest producers of sugar-cane, ranks second to the United States in the production of cotton, and has a monopoly of the world's jute supply. In 1931-32, the jute crop was reduced by 50 per cent, due to low prices

and the lack of demand. The area and production of the chief crops in the 1930-31 and 1931-32 seasons are given in the accompanying table from the U. S. *Commerce Yearbook*, 1932.

INDIAN CROPS: AREA AND YIELDS  
[Including Indian States]

<i>Crop</i>	<i>Area (thousands of acres)</i>		<i>Production <sup>1</sup></i>	
	<i>1930-31</i>	<i>1931-32</i>	<i>1930-31</i>	<i>1931-32</i>
Wheat .....	32,181	33,907	347,387	347,648
Barley .....	7,001 <sup>a</sup>	.....	102,735 <sup>a</sup>	.....
Rice, rough .....	82,706	84,034	2,468,186	2,512,038
Sugar .....	2,797	2,886	3,218 <sup>b</sup>	3,880 <sup>b</sup>
Tea .....	806	.....	391,081 <sup>c</sup>	.....
Rape and mustard .....	6,586	.....	991 <sup>b</sup>	.....
Sesamum .....	5,618	5,491	526 <sup>b</sup>	465 <sup>b</sup>
Linseed .....	3,020	2,580	378 <sup>b</sup>	.....
Castor seed .....	1,462	1,563	120 <sup>b</sup>	143 <sup>b</sup>
Peanuts .....	6,579	5,562	3,154 <sup>b</sup>	2,697 <sup>b</sup>
Cotton .....	23,812	23,522	2,497,072 <sup>c</sup>	1,942,592 <sup>c</sup>
Jute .....	3,492	1,858	4,502,000 <sup>c</sup>	2,224,000 <sup>c</sup>
Indigo <sup>d</sup> .....	61	51	1,534 <sup>c</sup>	1,232 <sup>c</sup>

<sup>a</sup> Not including Indian States (area only). <sup>b</sup> Unit, long ton. <sup>c</sup> Unit, pound. <sup>d</sup> Per cent of total area: 1929-30, 89—subsequent years, 93 <sup>e</sup> 1922-23 to 1926-27 average. <sup>f</sup> Thousands of units—bushels except as indicated.

Mineral production in 1930 was valued at \$96,115,000, as against \$108,665,000 in 1929. The production of the chief minerals in 1930, with 1929 figures in parentheses, was: gold, 329,232 troy ounces (363,869); silver, 7,072,000 troy ounces (7,298,000); lead, 79,730 long tons (80,233); manganese ore, 830,000 long tons (994,000); iron ore, 1,850,000 long tons (2,429,000); tungsten ore, 2452 long tons (1348); tin ore, 4271 long tons (3785); chromite, 50,684 (49,565); coal, 23,803,000 long tons (23,419,000); petroleum, 373,329,000 gallons (367,469,000); salt, 1,711,000 long tons (1,709,000); mica (exports), 2636 long tons (2662). Industrially, India is one of the seven leading countries in the world. Cotton textiles, jute, iron and steel, and sugar are leading manufactured products. Cotton consumption in 1930-31 was 1,025,060,000 pounds and the production of cotton piece goods totaled 2,561,133,000 yards. In 1931, there were 307 cotton mills with 9,021,879 spindles, 173,347 looms, and 614,039 employees; 17 wool mills, with 72,691 spindles and 1389 looms; 98 jute mills, with 53,900 looms; and 46 sugar mills, with a combined rated output of 99,100 tons per annum.

The low standard of living is indicated by the fact that only 318,516 persons filed income-tax returns during 1930-31. Among these, 2154 reported incomes of \$13,300 or over, while 61 per cent reported incomes of \$1333 or less and 33 per cent incomes of \$800 or less.

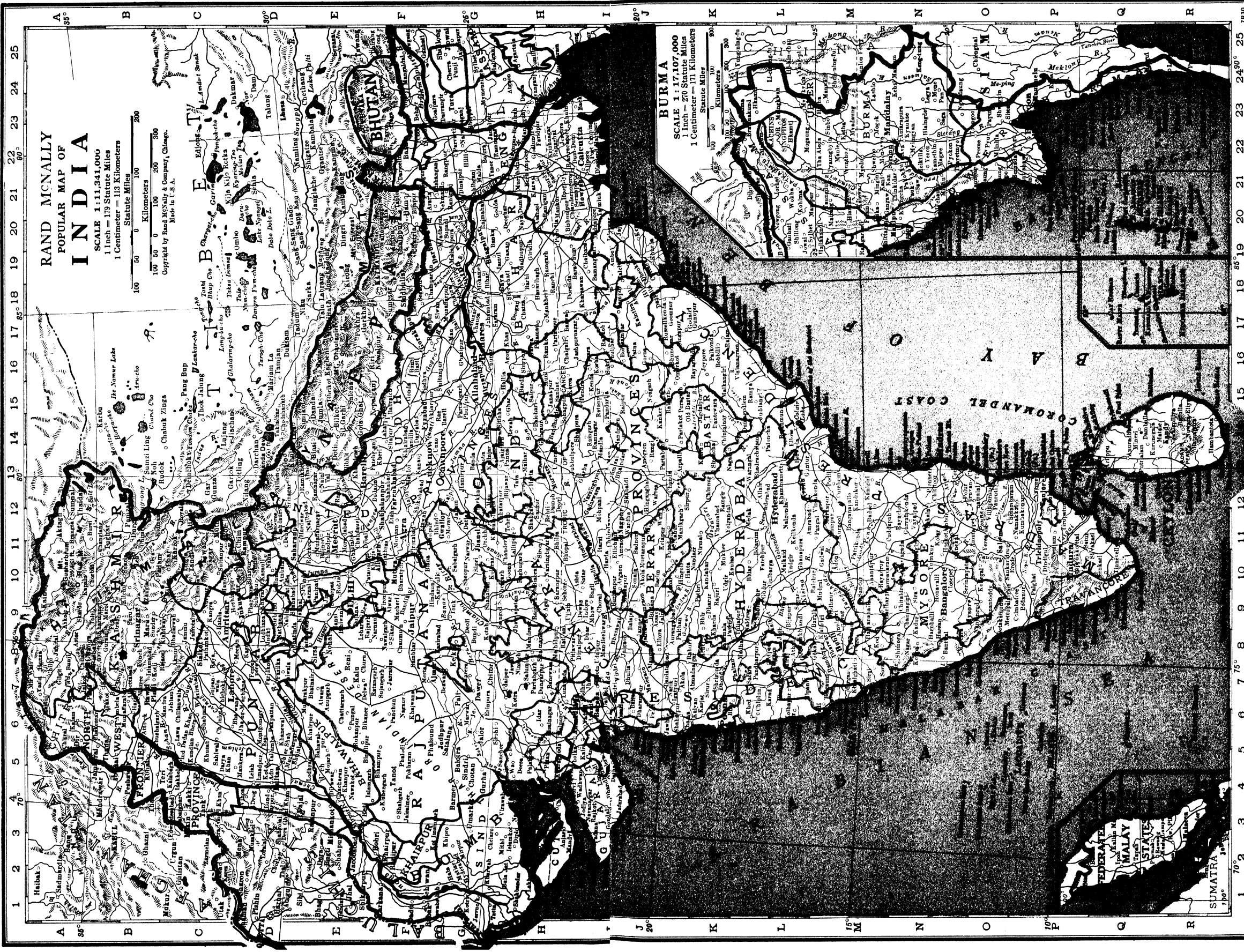
COMMERCE. India is one of the seven leading trading countries of the world. Total trade figures for the years 1929 through 1931, converted into U. S. dollars at the average rupee exchange rate of \$0.4482 for 1929, \$0.3906 for 1930, and \$0.36 for 1931, were as follows:

	<i>General imports</i>	<i>Exports of British Indian products</i>	<i>Total exports, including re- exports</i>
1929 ...	\$907,400,000	\$1,173,600,000	\$1,200,200,000
1930 ...	674,500,000	919,100,000	938,400,000
1931 ...	464,385,000	556,432,000	578,130,000

The 1931 total imports, which include government stores and treasure, decreased 42 per cent as compared with 1929 and 31 per cent as com-







RAND McNALLY  
POPULAR MAP OF  
INDIA

SCALE 1:11,341,000  
1 inch = 179 Statute Miles  
1 Centimeter = 113 Kilometers

100 50 0 100 200  
Statute Miles  
Kilometers  
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BURMA  
SCALE 1:17,107,000  
1 inch = 270 Statute Miles  
1 Centimeter = 171 Kilometers

100 50 0 100 200  
Statute Miles  
Kilometers







pared with 1930. The total 1931 exports were valued at 37 per cent less than in 1929 and at 19 per cent less than in 1930. A considerable part of the decline was due to the fall in prices.

Leading import items, in order of their 1931 values, were: Cotton yarn and manufactures, \$67,148,000 (\$129,965,000 in 1930); machinery, \$44,884,000 (\$59,910,000); vegetable, mineral, and animal oils, \$33,912,000 (\$41,878,000); raw and waste cotton, \$27,026,000 (\$16,201,000); iron and steel manufactures, \$25,785,000 (\$45,609,000); sugar, \$25,659,000 (\$42,731,000). Raw cotton, jute, and wool; jute manufactures; grain, rice, and flour; oilseeds, and tea were leading exports. Exports went chiefly to Great Britain, other British possessions, Japan, the United States, Germany, and France, in the order named; imports were supplied chiefly by Great Britain, the United States, British possessions, Japan, and Germany, in the order named. Imports in 1931 from the United Kingdom were \$166,767,000; from the United States, \$49,243,000. Exports to the United Kingdom were \$162,646,000; to the United States, \$50,480,000.

**FINANCE.** The closed budget account of the Central government for the fiscal year ended Mar. 31, 1931, showed revenue of £93,446,000 and expenditure of £102,135,000, leaving a deficit of £8,689,000. In the budget estimates for 1931-32, receipts were calculated at £101,150,000 and expenditures at £101,142,000. However, the Finance Minister, Sir George Schuster, in his annual budget speech in March, 1932, estimated a deficit for the year of £10,125,000. A surplus of £1,612,000 was estimated for the 1932-33 fiscal year.

The total debt on Mar. 31, 1931, aggregated 11,604,100,000 rupees (converting the sterling debt to rupees at 1s 6d.), equivalent at par to about \$4,235,476,500. Of this total, 7,883,000,000 rupees represented productive expenditure on railways, etc., 1,939,100,000 rupees unproductive expenditure, 1,491,400,000 rupees debts incurred on behalf of Provincial governments, and 290,600,000 rupees were on account of cash, bullion and securities held in the Treasury. The government repaid the 5½ per cent loan of £15,000,000 due Jan. 15, 1932, without having to draw on its reserves or issue further loans. A £10,000,000 5 per cent loan was raised in London in April to repay £6,000,000 due June 15. The rupee was stabilized at \$0.36499 in March, 1927, but upon abandonment of the gold standard by Great Britain on Sept. 21, 1931, the rupee fluctuated in value in terms of foreign currency to the same extent as did the British pound.

**COMMUNICATIONS.** Railway lines in operation Mar. 31, 1931, aggregated 42,281 miles of line, an increase of 579 miles during the preceding year. Of the total, 31,489 miles were Imperial State lines and 6267 miles were Indian State lines. Passengers carried on all lines during the year totaled 575,826,500 and the tonnage of goods and livestock was 110,643,000. Highways in British India and the Punjab extended 225,280 miles. Air lines linked India with London and intermediate points, with Austria, with Netherland India, and with French Indo-China. Vessels entering with cargo in the interportal trade in 1930-31 aggregated 20,410,315 tons.

**GOVERNMENT.** Direction and control of the civil and military government were vested in the Governor-General in Council, or government of India. The Governor-General, or Viceroy, was appointed by the British government, usually

for five years. The Legislature consisted of the Viceroy and two chambers—the Council of State of 60 members (33 elected and 27 nominated) and the Legislative Assembly of 145 members (41 nominated and 104 elected). With the assent of the British government, the Viceroy might override the decisions of the Legislature; he had authority to dissolve the Legislature at any time, or to extend its term. Viceroy in 1932, the Earl of Willingdon (assumed office, April, 1931). Members of the Executive Council, appointed by the Crown, were: Home Affairs, Harry Graham Haig; Finance, Sir George Schuster; Education, Health, and Lands, Khan Bahadur Mian; Railways and Commerce, Sir George Rainy; Industries and Labor, Sir Frank Noyce; Law, Sir Brojendra Lal Mitter.

### HISTORY

Despite the continuance of civil disobedience on a large scale and a revival of savage Hindu-Moslem rioting, the delicate task of framing an acceptable constitution for a federated and largely autonomous India was pushed forward steadily during 1932. Both the British Raj and Mohandas Karamchand Gandhi contributed to the progress achieved, the government by its firm but purposeful leadership and the Mahatma ("holy one") by his sensational hunger strike.

**CIVIL DISOBEDIENCE RENEWED.** The Poona truce of Mar. 4, 1931, which terminated the civil disobedience campaign of 1930-31, had gradually broken down toward the end of 1931 (see 1931 YEAR BOOK). An outbreak of terrorism in Bengal, a revival of the "Red Shirt" agitation in the Northwest Frontier Province, and difficulties in other Provinces led the government to impose drastic anti-terrorist regulations. When Gandhi returned to Bombay Dec. 29, 1931, from the London Round-Table Conference, he requested an interview with the Viceroy to discuss the restrictive decrees. The interview was refused. The wizened Hindu leader thereupon sanctioned the resumption of civil disobedience by the non-payment of taxes, boycott of foreign cloth, picketing of liquor shops, and the unlicensed manufacture and collection of salt.

In accordance with Lord Willingdon's warning, the government met the issue more decisively than during Gandhi's previous non-violent campaign. All its resources were thrown into the suppression of the movement. Gandhi himself was arrested January 3 and remained for the balance of the year in his former quarters in the Yerovda jail at Poona. The scope of restrictive ordinances was extended to all India. The All-India National Congress and its activities were declared illegal, the Congress leaders were arrested one after another, and the pickets and demonstrations of the Congress party were broken up by the police. Arrests ranged from a peak of 17,800 in February to 3776 in May. On May 31, the jails held 31,194 prisoners arrested in connection with the civil disobedience campaign. The Congress party, in turn, resisted both actively and passively. There were more assassinations of British officials, bombings, shootings, and the derailment of trains. With its leaders in custody, however, the Congress campaign lost much of its momentum; by the middle of the year it was virtually at a standstill.

**COMMUNAL STRIFE.** Dissensions between Hindus and Moslems and between the high-caste Hindu Brahmans and the Hindu "untouchables" were

only less effective than the government's firmness in defeating the civil disobedience movement. These ever-present dissensions were stimulated by the inability of the religious communities to agree at the Round-Table Conference of 1931 on the question of minority representation in the projected Federal Legislature. Moslem-Hindu clashes commenced early in the year in the native state of Kashmir and continued sporadically in various provinces throughout the year. They reached a tragic climax in the Bombay religious riots of May 14-30, in which 174 were killed, 1950 injured, Hindu and Moslem temples desecrated, and homes and shops of both groups looted and burned. Meanwhile the All-India Moslem Conference at Lahore had voted to boycott the Round-Table Conference, on the ground that the suggested constitutional settlement was too favorable to the Hindus. Moslems in general refused to support the civil disobedience campaign.

As for the "untouchables," or lowest-caste Hindus, they had turned against Gandhi for his alleged neglect of their interest at the Round-Table Conference. Upon his return to India, they voiced their displeasure by attacking the Congress crowd gathered at the dock to welcome him. Many of them declined to cooperate with their Hindu compatriots in the anti-British boycott.

**PROGRESS TOWARD SELF-GOVERNMENT.** Confronted with the inability of the Indian communities to reach an agreement as to their respective representation in the projected Federal government, the British and Indian governments forced the pace of the march toward the promised goal of responsible government. Upon the breakdown of the Round-Table Conference the previous year, Prime Minister MacDonald had announced the appointment of three Anglo-Indian committees. These were to study, respectively, the question of the franchise, the relation of Federal and Provincial finance, and the financial problem involved in the administration of the Indian states. All three committees arrived in India in January, 1932, and several months later submitted comprehensive reports.

The report of the Marquis of Lothian's Franchise Committee, issued June 2, recommended the extension of the suffrage in Provincial elections to 36,000,000 voters, in place of the 7,108,000 then eligible to vote. It urged that between 2 and 5 per cent of the seats in the new Provincial legislatures should be filled by women and proposed to extend the franchise to 6,600,000 women, in place of the 315,000 then eligible to vote. The two main qualifications for voting suggested were a mild property test and an educational test based on an upper primary standard. Special exemptions were recommended for "untouchables" and factory laborers in order to grant the franchise to large numbers of these classes. On May 6 the Federal Finance Committee submitted a report on the Federal and Provincial budgets as estimated for 1935-36, showing the incidence of taxation and distribution of expenditure. The third report, that on the financial relationship of the Indian States and the future All-India Federation, was issued July 27. Its chief recommendation was that states then paying more than 5 per cent of their total revenues to the Central government should be granted a reduction under the new federal system and that inter-state tributes should be abolished.

With this information compiled, the govern-

ment was ready to attack the more controversial issues in connection with the new constitution. On these issues, the various antagonistic groups in India had moved farther apart since the Round-Table Conference. The struggle was fought out in the Consultative Committee, established by the Round-Table Conference to continue efforts to reach an agreement among the Indian communities. Representatives of the native rulers reflected the growing reluctance of their chiefs to cooperate when they declined to accept a bill of rights as part of the new Government of India Act. A growing faction of the princes favored seceding from the proposed federation, thus blocking the whole plan. However on April 1 the Chamber of Princes reaffirmed their decision to enter an Indian federation, provided the constitution reserved their internal sovereignty and guaranteed their full treaty relations with the Crown.

On the issue of communal representation in the Federal and Provincial legislatures, the Moslems, Hindus, "untouchables," and other groups proved unable to agree. In closing the 1931 Round-Table Conference Prime Minister MacDonald had warned the Indian delegates that if they could not reach a settlement on this issue, the government would itself draw up a provisional solution. When mid-summer of 1932 brought no agreement, the British government, through the Secretary of State for India, Sir Samuel Hoare, announced a new and speedier procedure for constitutional reform. The conference and committee methods were to be scrapped for the most part. The British government would shortly announce its plan for communal representation. After that, the Consultative Committee would settle other unfinished matters. The government would then prepare a bill embracing the constitutions of both the Provinces and the federation of native States and Provinces. This was to be considered by a joint select committee of both houses of Parliament, before which Indians and others might be called as witnesses. When approved by the select committee and the government, the bill would be submitted to Parliament.

The abandonment of the conference method met with strong opposition. The Indian moderates withdrew their cooperation and their resignations from the Consultative Committee virtually wrecked that body. Accordingly the government on September 5 announced a change in Sir Samuel Hoare's policy. The function of the Consultative Committee was to be taken over by a small Round-Table Conference, including representatives of native states and of British India, to be held in London in November.

The government also carried into effect the promise made at the Round-Table Conference to establish the North-West Frontier Province as a Governor's Province under the Government of India Act. On Apr. 18, 1932, Sir Ralph Griffith was installed by the Viceroy as the first Governor of the Province and the newly elected Legislature was sworn in April 19.

**THE COMMUNAL AWARD.** The British government on August 6 announced its plan for electoral representation of the Indian communities in the nine Provincial legislatures. The Federal legislature was reserved for later treatment. A feature of the scheme was the distribution of seats among 12 separate electorates, as follows: General (mostly Hindu), 705; "untouchables" (also Hindu), 61; Moslems, 489; Commerce and

Industry, 54; Labor, 38; Landholders, 35; Sikhs, 35; Europeans (Britishers), 25; Indian Christians, 21; Backward areas, 20; Anglo-Indians, 12; and Universities, 8. Over most of the country, the depressed classes were to continue to vote with the rest of the Hindus, but for 20 years they were to vote separately, i.e. for only their own candidates, in districts where they were in a majority. Under the plan, the "untouchables" would rank third among the legislative blocs in four Provinces. Although Indian women appearing before the Lothian Franchise Committee were almost unanimously in favor of general electorates the plan provided for 37 special women's seats. In addition, the distribution of seats was heavily weighted in favor of the Moslems, the Britishers, and the landholding and commercial classes. It was charged that the award was intended to establish a bloc of the Moslems, Britishers, and Indian conservatives as a counterpoise to the Hindu nationalists.

In issuing his proposals, Prime Minister MacDonald announced that if the Indian communities reached an agreement among themselves at any time before the measure became a law, the government would be "only too glad" to withdraw its plan in favor of theirs. His plan was immediately attacked by the Hindus and particularly by the Congress party, which had always urged joint electorates as indispensable to national unity. The "untouchables," Moslems, and others were divided, some favoring joint and others separate electorates.

Mahatma Gandhi intervened dramatically in this controversy September 12 with his announcement that he would "fast unto death" beginning September 20 unless the British government rescinded its provisions for separate electorates for the depressed classes. His position was that joint electorates should be established in the Hindu community in order to eliminate the distinction between caste and out-caste and bring the "untouchables" up to the level of the caste Hindus. His real purpose was to force an agreement between the high-caste Brahmans and the "untouchables," for the British government signified its readiness to accept joint electorates once the Hindus agreed among themselves. With Indian moderates serving as intermediaries, negotiations between the Brahmans and the "untouchables" led by B. M. Ambedkar were opened immediately. They continued in an atmosphere of increasing tension after Gandhi commenced his fast.

On September 24, leaders of both Hindu factions signed a historic agreement, in which the "untouchables" surrendered their right to separate electorates in return for 148 seats in the Provincial legislatures, or more than twice as many as under the British award. Also they were promised a definite percentage of seats in the Central Legislature, a fair share of public offices and positions, and financial assistance toward the education of the depressed classes and the amelioration of their general condition. Gandhi continued his fast until the British government on September 26 accepted "with great satisfaction" the principal terms of the agreement. He took food after 149 hours of fasting, having dealt the caste system its first major blow in more than 2000 years.

Factional dissensions within the Hindu community were by no means ended, however. The agreement was repudiated by some of the ex-

treme orthodox Hindus and their failure to admit "untouchables" to the famous Guruvayur Temple caused Gandhi to threaten a renewal of his hunger strike. Moreover, a special committee, established to formulate a plan for Hindu unity in advance of a plenary session of the unity conference at Allahabad, broke up in disagreement after endless debate. The situation had some hopeful aspects. There was much enthusiasm for reform of the caste system among the rank and file of the Hindus, reflected by the official abolition of untouchability in public places in the small state of Bhor on October 19.

**THIRD ROUND-TABLE CONFERENCE.** With Mahatma Gandhi still in jail and both the British Labor party and the All-India National Congress unrepresented, the third Round-Table Conference opened in London November 17 and terminated its work on December 24. There were only half as many delegates as at the two previous sessions. While the Conference made no noteworthy change in the fundamentals of India's Constitution as proposed three years earlier, it advanced the groundwork of that document to a stage where it was ready to draft for submission to the British Parliament in 1933. An All-India federation of the native States and the Provinces of British India was envisaged, with a cabinet on the British model and a bicameral legislature. Each Province and native State was to have its own government.

The noteworthy decisions reached by the conference were as follows: (1) The report of the Marquess of Lothian's franchise committee was adopted, thus providing for a great extension of the voting population. (2) It was decided that Indian finance was to be administered by elected Indian officials, subject to "safeguards" such as the reservation of certain controls by the Governor-General and the establishment of an Indian reserve bank prior to the establishment of the Federation. The conference also reached substantial agreement on most of the other items on the agenda. These included the method of election to and the size of the two federal legislative chambers, the relation between the Federal and provincial governments, the special powers and responsibilities of the Governor-General and the provincial governors, the constituent powers of the Indian legislatures in relation to the British Parliament, the apportioning of fundamental rights, and the matter of national defense.

There remained the task of winning over the All-India National Congress to the proposed Constitution, to be framed during 1933 in a Government White Paper. Before being submitted for India's approval, the draft Constitution would first require the approval of the British Parliament and it was expected that this would be forthcoming in the autumn of 1933. On December 22, Sir Samuel Hoare announced that the situation in India had so improved that the emergency ordinances might be removed early in 1933.

**OTTAWA TREATY RATIFIED.** On December 15, the Legislative Assembly at New Delhi passed a bill ratifying the commercial treaties with the United Kingdom and the Dominions which had been independently negotiated by the Indian delegation to the Ottawa Conference.

**BIBLIOGRAPHY.** Consult Sir John A. R. Marriott, *The English in India* (Oxford University Press, 1932); Sir John Cumming, ed., *Modern India* (London, 1931); Lord Meston, *Nation-*

*hood for India* (Yale University Press, 1931); Sir Frederick Whyte, "The East: A Survey of the Post-War Years," *Foreign Affairs*, October, 1932.

**INDIANA. POPULATION.** According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 3,238,503, as against 2,930,390 in 1920. Indianapolis, the capital, had (1930) 304,161 inhabitants.

**AGRICULTURE.** The following table shows the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod. Bu.	Value
Corn .....	1932	4,639,000	173,962,000	\$27,834,000
	1931	4,734,000	184,626,000	46,156,000
Hay .....	1932	1,782,000	2,220,000 <sup>a</sup>	11,090,000
	1931	1,783,000	2,048,000 <sup>a</sup>	13,913,000
Wheat ....	1932	1,450,000	23,214,000	9,053,000
	1931	1,725,000	44,544,000	17,818,000
Oats ...	1932	1,965,000	58,950,000	7,664,000
	1931	1,946,000	60,715,000	10,322,000
Potatoes ..	1932	61,000	5,490,000	2,525,000
	1931	58,000	4,930,000	2,909,000
Tobacco ..	1932	13,700	10,522,000 <sup>b</sup>	1,084,000
	1931	21,100	19,306,000 <sup>b</sup>	1,255,000

<sup>a</sup> Tons. <sup>b</sup> Pounds.

**MINERAL PRODUCTION.** The industries of the coal-and-iron group were much depressed in 1931. The quantity of coal mined declined to 13,310,000 short tons (1931), from 16,489,962 (1930); by value the total for 1931 fell still more sharply from the \$26,178,000 of 1930. The total of coke, entirely from by-product plants, was 2,757,135 short tons for 1931, as against 4,984,620 for 1930; in value, it rose, however, to \$16,431,416 for 1931, according to the figures of the Bureau of Mines from \$12,166,488 for 1930. Blast furnaces shipped 1,721,925 long tons of pig iron in 1931, as against 3,195,517 for 1930; in value, \$28,458,099 (1931), as against \$52,809,137 (1930). There was also a considerable production of sulphuric acid. The quantity of petroleum produced declined to 840,000 barrels (1931), from 994,000 (1930); the value of the product, to \$750,000 (1931), from \$1,610,000 (1930). The production of stone, largely of high grade, for which a later total was not available, attained 4,541,220 short tons for 1930, and of 5,129,220 for 1929; and the value of \$19,285,709 for 1930 and \$22,191,883 for 1929. There was also a large and fairly maintained production of sand and gravel. The clay products attained the value of \$12,032,852 for 1930 and \$18,503,240 for 1929. The total value of the mineral product of the State, duplications eliminated, was \$79,226,808 for 1930; for 1929, \$96,961,947.

**FINANCE.** State expenditures in the year ended Sept. 30, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments, \$29,606,408 (of which \$5,091,985 was for local education); for interest on debt, \$140,814; for permanent improvements, \$20,407,679; total, \$50,154,961 (of which \$22,116,313 was for highways, \$6,982,764 being for maintenance and \$15,133,549 for construction). Revenues were \$58,410,002. Of these, property and special taxes furnished 28.5 per cent; departmental earnings and compensation to the State for officers' services, 8.3; sale of licenses, 45.3 (in which was included a gasoline sale tax that produced \$17,825,960). Funded debt outstanding on Sept. 30, 1931, totaled \$3,277,500. Net of sinking-fund assets, the debt was \$3,101,454. On an assessed valua-

tion of \$5,073,241,146 the State levied in the year ad-valorem taxes of \$14,712,400.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 7107.64. During the year previous, somewhat over 15 miles of line had been brought into operation and somewhat less than 15 miles abandoned.

**EDUCATION.** According to the *Journal* of the National Education Association, the most desirable school legislation was preserved, in spite of a programme of school economy incident to adverse times. For the academic year 1931-1932 the number of persons of school age in the State was reported as 976,976. There were enrolled in the public schools 687,629 pupils. Of these, 527,044 were in common schools or elementary grades; in high schools, 160,585. The year's expenditure for public-school education was \$65,597,115, as against \$72,387,197 reported for the year before. Salaries of teachers, by the year, averaged \$1220.50.

**CHARITIES AND CORRECTIONS.** The Board of State Charities, a non-partisan body, performed the central functions of the State authority with regard to institutions of care and custody. It had power to examine into the condition and management of all such institutions of the State. It also supervised the placement of dependent and neglected children, regulated the admittance of such children from other States, inspected institutions for child care, licensed children's homes and maternity hospitals, had jurisdiction over proceedings for the adoption of dependent children, examined county jails and made rules for them.

The State maintained 20 charitable and correctional institutions. These were: for mental trouble, the Central State Hospital (Indianapolis), Logansport State Hospital (Logansport), Richmond State Hospital (Richmond), Evansville State Hospital (Evansville), Madison State Hospital (North Madison), Fort Wayne School (for the young feeble-minded, at Fort Wayne), and Muscatatuck Colony (feeble-minded, Butlerville); the Village for Epileptics, Newcastle; Soldiers' Home, Lafayette; Soldiers' and Sailors' Children's Home, Knightstown. State Sanatorium (tuberculosis), Rockville; Indiana University Hospitals, Indianapolis; State School for the Deaf, Indianapolis; State School for the Blind, Indianapolis; State Prison, Michigan City; Reformatory, Pendleton; State Farm for Misdemeanants, Greencastle; Women's Prison, Indianapolis; Indiana Girls' School, Indianapolis; Indiana Boys' School, Plainfield. The total number of inmates of the 20 institutions on Sept. 30, 1932, was 19,682.

**LEGISLATION.** A special session of the Legislature assembled early in July and adjourned on August 15. It ratified the "lame duck" amendment to the Federal Constitution, to alter the dates of inaugurations and of sessions of Congress. The rate of the general tax on property was limited for the ensuing year to \$1.50 on the \$100 of assessment. Efforts to create a State tax on personal incomes failed. Cuts to the estimated total of \$4,500,000 in the State's yearly expenditure were made, largely in salaries.

With regard to the tax-limiting act, the \$1.50 maximum applied to the entire tax bill annually assessed against property, ad valorem. The maximum share of the State was restricted to 15 cents of the \$1.50. That of the subdivisions was limited

to \$1.35. Some provision for adjustment was made by the institution of special county boards to be composed of three members from the county council of a county and three other members to be named by the judge of its Circuit Court, the subdivisions of counties, however, having no specific representation. The tax limitation was expected to reduce the tax revenue of the State to some \$6,000,000 a year, from a previous \$14,000,000.

**POLITICAL AND OTHER EVENTS.** The State faced financial difficulty in the latter part of the year on account of the working of the act of the special legislative session limiting the State's direct tax on property, which threatened to leave revenues much below the total of the sum required to meet existing appropriations. Troubles occurred in the coal fields in July and August. There was no general resumption of the wage agreement between the operators and the United Mine Workers of America, which expired on March 31. Mines attempting to operate without a union agreement were in some cases subjected to violence. Troops of the National Guard of the State were sent into Vigo County to protect mines. A gathering of some 800 "hunger marchers" made a demonstration at the State Capitol at Indianapolis on July 19, presenting demands of the Unemployed Workers' Council, by report an organization promoted by Communists; no clash with the authorities occurred. In the State primaries on May 3 a shift of popular sentiment toward the repeal of prohibition was evidenced, a number of advocates of repeal obtaining Democratic or Republican nominations for the House of Representatives in the Indianapolis area.

**ELECTIONS.** Reversing the State's normal Republican majority, the popular vote cast for National candidates on November 8 was prevalently Democratic. There were cast for Roosevelt (Dem.) 862,054 votes; for Hoover (Rep.), 677,184. The Democrats also elected Federal Representatives to the majority of the State's seats and elected to the United States Senate for the ensuing full term Fred Van Nuys, Democrat, of Indianapolis, who ran as a strong opponent of prohibition and defeated Senator James Eli Watson, Republican Senate floor leader. A proposed constitutional amendment to create an income tax was defeated by popular vote.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, Harry G. Leslie; Lieutenant-Governor, Ernest D. Bush; Secretary of State, Frank Mayr; Auditor, Floyd E. Williamson; Treasurer, William Storen; Superintendent of Public Instruction, George C. Cole. *Supreme Court:* Judges, Julius C. Travis, David A. Myers, Clarence R. Martin, Curtis W. Roll, Walter E. Treanor.

**INDIANA UNIVERSITY.** A coeducational State institution of higher learning in Bloomington, Ind., founded in 1820. For the first semester of the academic year 1932-33 the registration aggregated 4033 students (2554 men and 1479 women). The faculty had 322 members. The endowment funds amounted to \$1,784,939, and the total income for the year, from State and private sources, was \$3,470,340. The library contained 247,334 volumes. President, William Lowe Bryan, Ph.D.

**INDIANS.** The total estimated and enumerated number of Indians, according to the annual report of the U. S. Commissioner of Indian Affairs, Charles J. Rhoads, for the fiscal year end-

ing June 30, 1932, was 317,234. This number consisted of 228,381 Indians actually enumerated and 88,853 Indians taken from earlier or special censuses and estimates based on records. The Bureau of the Census reported 72,643 Indians of the Five Civilized Tribes in 1930, and this number was substituted for the previous estimated population of the Five Civilized Tribes. The aggregate estimated and enumerated number of Indians reported by Federal agencies on Apr. 1, 1932, represented an increase over the corresponding figure for the year 1931 of 2691 or 0.9 per cent. Of the 228,381 Indians enumerated, 116,265 were males, 112,106 females, and for 10 the sex was not reported.

When the Indians enumerated are considered it is significant that 194,391, or 85.1 per cent of them, resided at the Federal jurisdiction where enrolled, while only 4749, or 2.1 per cent, resided at another jurisdiction, and 29,241, or 12.8 per cent, resided elsewhere—that is, outside of any Federal jurisdiction. Of the 32,447 Indians residing elsewhere on Apr. 1, 1930, 41 were living in the New England States, 208 in the Middle Atlantic, 3633 in the East North Central, 9234 in the West North Central, 437 in the South Atlantic, 93 in the East South Central, 2166 in the West South Central, 5120 in the Mountain States, and 6024 in the Pacific States, and for 5491 Indians the residence was either not reported or unknown. Oklahoma has far more Indians than any other State. If the Federal census population of the Five Civilized Tribes is included, the Indian population is 94,552, or 29.8 per cent of the aggregate Indian population. Arizona ranks next with 48,162, or 15.2 per cent. According to the enumerated population only two other States have an Indian population numbering more than 20,000, New Mexico and South Dakota.

In his annual report, Dr. Ray Lyman Wilbur, Secretary of the Interior, stressed the responsibility of the U. S. Government to lead the Indian race into competent citizenship. He said:

It looks like a long process, but in the past four years there has been a sufficient change in direction in government policies to bring the goal within sight. We are not out to capture any more Indians, and our aim is to qualify those Indians now under our care, and their children, to take their place in the competitive system which surrounds them. That means the ultimate breaking up of the reservation system and its artificial islands in our civilization. Because of a racial tendency toward dominance of the tribe by the old people, it is difficult to make education "stick"; youngsters, having no kindred associations in white communities and having a characteristic homeward urge, have naturally drifted back to the home community and to its lack of independence. The progress of the Indian and of our assistance to him will always be hampered by a vociferous and emotional fringe of white people who encourage his grievance. The Indian suffers alike from enemies who exploit his property and friends who exploit his grievances. We see no valid reason why those who have more than one-half of white blood should not be promptly released from the wardship imposed by the Government and given control over their persons and property.

**EMERGENCY RELIEF.** Beginning in the summer of 1931, drought and grasshoppers devastated the States of Nebraska, North and South Dakota, and eastern Montana. Other States were also affected, and by early October the Indian Office was confronted with appeals for relief from most sections of the 26 States in which the Federal Government had jurisdiction over Indians. The Indian Service had little available money for relief work until after Congress met in December, but beginning in November the Red Cross contributed over a period of several months

\$192,260 for use in those sections of extreme drought.

With the coming of winter the general relief need became so great that the Army was called upon for surplus stocks. Fifty-five carloads of clothing, including overcoats, jackets, gloves, wool trousers, underwear, shirts, socks, shoes, and blanket material were obtained from that source; 6,190,000 lbs. of flour for human consumption, and 5,500,000 lbs. of crushed wheat for stock feeding, turned over by the Federal Farm Board to the Red Cross for relief purposes, was distributed to the distressed Indians.

A succession of unprecedented storms began in New Mexico and Arizona during the month of November. Storm upon storm had by January covered a large area of the Navajo jurisdictions with a blanket of snow. Roads were impassable and marooned groups in the mountain fastnesses faced death and starvation. Within a few hours after the plight of these unfortunate people had been made known by the Commissioner of Indian Affairs to the Assistant Secretary of War, six airplanes were on their way from California into the Navajo country. In four days over 30,000 lbs. of food were dropped to the distressed Indians.

**EDUCATION.** The most significant thing in education, according to the report of the Commissioner, was the continuation of the policy to change the boarding-school attendance to local day or public school attendance wherever possible. At the end of the year six more boarding schools were closed and two were placed on the list to be closed at the end of the year.

The report also stressed the reduction of numbers and particularly the elimination of small children from the large boarding schools. The programme was begun several years ago which involved the dropping of one elementary grade each year in the larger schools. At the close of the fiscal year, Haskell Institute at Lawrence, Kans., and Flandreau Indian School, Flandreau, S. D., had no pupils below the ninth grade. The Albuquerque Indian School had no pupils below the seventh grade; Sherman Institute, Calif., Salem Indian School, Ore., and Phoenix Indian School, Ariz., had no pupils below the sixth grade. With the above-mentioned changes there were at the beginning of the school year about 2000 fewer Indian children in the boarding schools than there were a year previous.

A substantial increase was shown in the number of contracts with school districts for tuition for Indian children in public schools and in the actual numbers enrolled, the number of contracts made for the year 1932-33 totaling 1160 as compared with 998 for the fiscal year 1931-32, and 841 for the year before. The number of Indian children attending public school was over 48,000 as compared with 43,000 in 1931.

In higher education the following opportunities were offered: (1) Educational loans from Federal or tribal reimbursable funds repayable in eight years, (2) room and board at Indian schools located close to universities and colleges in return for a certain amount of labor, (3) payment of tuition fees to State universities and colleges, and (4) scholarships at various institutions.

More gardens and field crops were planted during the spring than for any time in the past ten years. From 25 reservations the extension agents reported for the calendar year 1931, 12,690 gar-

dens planted, with an acreage of 10,846, and 138,381 acres planted in field crops. In the home extension work which was carried on in 10 reservations, 2975 gardens of 2164 acres were planted, 2665 garments renovated, 9000 articles of clothing were made, and other projects, such as poultry raising, cheese making, pest eradications, tribal arts and crafts, food conservation and storage, better bedding, home care, etc., were promoted.

**INDIANS, CULTURE OF.** See **ANTHROPOLOGY**; **PHILOLOGY, MODERN.**

**INDIAN TRIBAL ARTS.** See **ART EXHIBITIONS.**

**INDIUM.** See **PHYSICS.**

**INDO-CHINA,** known also as **FARTHER INDIA.** The southeastern peninsula of Asia including the following divisions: Burma, politically attached to British India; the Federated Malay States, a British protectorate; French Indo-China; Siam, a self-governing monarchy; the Straits Settlements, a British colony; and the Unfederated Malay States, under British protection. See the articles on **BURMA**, **FRENCH INDO-CHINA**, **FEDERATED** and **UNFEDERATED MALAY STATES**, **SIAM.**

**INDO-EUROPEAN PHILOLOGY.** See **PHILOLOGY, MODERN.**

**INDO-IRANIAN STUDIES.** See **PHILOLOGY, MODERN.**

**INDUCTION MOTOR.** See **DYNAMO ELECTRIC MACHINERY.**

**INDUSTRIAL ACCIDENTS.** See **CHILD LABOR**; **WORKMEN'S COMPENSATION.**

**INDUSTRIAL CHEMISTRY.** See **CHEMISTRY, INDUSTRIAL.**

**INFANT FEEDING.** See **FOOD AND NUTRITION.**

**INFANTILE PARALYSIS.** See **MEDICINE** and **SURGERY.**

**INFANT MORTALITY.** See **VITAL STATISTICS.**

**INFANTRY.** See **MILITARY PROGRESS.**

**INHERITANCE TAXES.** See **TAXATION.**

**INLAND WATERWAYS.** See **CANALS.**

**INNER MONGOLIA.** See **MONGOLIA.**

**INOUE, JUNNOSUKE.** A Japanese banker and statesman, died in Tokyo, Feb. 9, 1932. He was born in Oita-ken in March, 1869. On his graduation from the Tokyo Imperial University in 1895 he entered the service of the Bank of Japan, and after having occupied important posts was promoted to director of the business bureau in 1905. During 1908-11 he was the Bank's agent in London. On his return he was made vice-president of the Yokohama Specie Bank and in 1913 president of that institution. He was twice governor of the Bank of Japan, in 1924 and again in 1927-28, and thrice Minister of Finance, in the Yamamoto cabinet of 1924, in the Hamaguchi cabinet of 1929-30, and in the Wakatsuki cabinet of 1931. While holding the Finance portfolio he succeeded in stabilizing Japan's currency and in restoring the gold standard. His drastic budget reductions, however, had aroused the opposition of the military and naval clique, and he was shot by a hired assassin, a member of the reactionary Seisanto party, as he was about to enter a political meeting in a suburb of Tokyo.

**INSECTA.** See **ZOOLOGY.**

**INSECTICIDES AND INSECT CONTROL.** See **ENTOMOLOGY, ECONOMIC.**

**INSTITUTE OF PACIFIC RELATIONS.** See **PACIFIC RELATIONS, INSTITUTE OF.**



**INSTITUTE OF POLITICS.** See POLITICS, INSTITUTE OF.

**INSTITUTE OF PUBLIC AFFAIRS.** See PUBLIC AFFAIRS, INSTITUTE OF.

**INSURANCE.** Continued depression created additional problems for the insurance business. Those of the most immediate concern arose in the investment department. Fire and casualty companies lost so much surplus by depreciation of securities in the first half of the year that a number of them reduced capital in order to create surplus. Approximately \$120,000,000 was transferred from capital to surplus by these transactions, and in addition companies which on January 1 had more than \$12,000,000 capital retired, reinsured or were merged with others. Had not insurance commissioners permitted amortization of high-grade bonds and valuation of lower grade bonds and of stocks at the average of the market values of June 30, 1931, and June 30, 1932, many companies would have been technically insolvent on July 1. Life insurance companies were little troubled by market fluctuations but were confronted with defaults in payments on mortgages, foreclosures, handling of real estate taken over, declining interest rates, and the necessity of keeping much cash on hand to meet current demands.

In the operating departments defects which had been permitted in prosperous times were given close attention as they could not be tolerated under adverse conditions. Weak spots in well considered plans became apparent and had to be remedied. Evils resulting from a wrong mental attitude on the part of some company managements were in evidence. During the period of rising markets they had apparently forgotten that theirs are primarily underwriting institutions, with investment of funds as a necessary and very important incident, and had come to regard them as financial institutions whose insurance operations were carried on chiefly to bring in money for investment. A few scandalous failures of life insurance companies resulted from their control by men who did not recognize the fiduciary character of insurance companies but saw clearly the opportunities for exploiting their assets.

From an underwriting standpoint the year was disappointing. Fire and casualty companies suffered a marked decrease in premium income, and expense ratios necessarily went up. Fire insurance companies had about a normal loss experience, but casualty and surety companies continued to have very heavy losses on some of their major classes. Although the mortality among the industrial population was low, life insurance companies experienced an increased mortality cost, due largely to deaths of heavily insured men, by heart disease, by suicide and by complaints which they might have thrown off if they had not been worn down by worry and overwork.

Legislation was not as unfavorable as it might have been. Congress increased federal taxes and a few States increased premium taxes. The year closed with a prospect of heavier taxes being imposed in 1933 when many legislatures will be seeking new sources of revenue.

**LIFE INSURANCE.** With very few exceptions life insurance companies stood up splendidly under the heavy strain. The exceptions were a few, mostly smaller ones, which had been poorly managed or had fallen under control of interests

which substituted poor assets for good ones. Several of these went into the hands of receivers. In spite of their generally lenient policy toward mortgagors, the established, well managed companies were obliged to take over much real estate and this resulted in a considerable loss in investment earnings. Although the demand for policy loans decreased after the middle of the year the life insurance companies found it necessary to carry very large bank balances, thus putting these assets on a low interest earning basis. Some companies reported increased repayment of policy loans, but this often was accomplished by surrender of the policies. The unfortunate mortality experience among heavily insured risks over 40 years of age has created the probability of increased rates for new risks admitted at the higher ages. That experience also made companies more cautious about accepting applicants for very large amounts of insurance or those heavily insured in other companies. Additional companies increased their restrictions on provisions for waiver of premiums or payment of benefits for permanent total disability or advanced rates for such provisions as new policies are issued. The companies, however, have on their books millions of dollars of insurance under policies containing these provisions. The experience is such that a few prominent companies have reduced dividends to holders of such policies. The provision for double indemnity in the event that death is caused by accidental means resulted in many claims for double indemnity where it was doubtful whether death resulted from accident or from carefully arranged suicide.

Announcing the scale of dividends they would pay policyholders during 1933, a few companies continued the 1932 scale, at least temporarily, but the large majority announced reductions, often of 15 or 20 per cent, from the 1932 scale and explained that the reduction was necessary because of the reduced mortality savings and the smaller excess of interest earnings over that necessary to meet reserve requirements.

Statistics compiled by the Association of Life Insurance Presidents, based upon actual figures reported by member companies in November, with estimates for the remainder of the year, indicated new life insurance of \$14,700,000,000 or 13.2 per cent less than in 1931 and 23.7 per cent below the peak year 1929. The insurance in force at the end of the year was \$103,700,000,000, a decrease of \$4,300,000,000 during the year, the first decrease in a long period. During the year life insurance companies paid policyholders and beneficiaries in cash or credits \$3,100,000,000, or \$500,000,000 more than in 1931. They paid or credited to beneficiaries \$925,000,000 for death claims and to living policyholders \$2,175,000,000 in matured endowments, annuities, surrender values, dividends and disability benefits, of which \$1,400,000,000 was for surrender values; and in addition \$2,048,000,000 was paid to them in policy loans. At the end of the year the admitted assets of United States legal reserve life insurance companies amounted to \$20,750,000,000, an increase of \$590,000,000. Of \$19,000,000,000 of assets owned by 52 leading companies 36.3 per cent was invested in mortgages, as compared with 42 per cent at the end of 1931; 36.8 per cent in bonds and stocks, as compared with 37.2 per cent at the end of 1931, and 16.4

per cent in policy loans and premium notes, as compared with 13.3 per cent in 1931.

**FIRE INSURANCE.** Premium income of fire insurance companies continued to fall during the year, with the prospect that the total premiums of stock companies would be approximately \$700,000,000 for the year, as compared with over \$1,000,000,000 in 1929. The decrease was due largely to adjustment of insurance to lower values, to renewing for only one year policies which in the past had been written for three or five years and to dropping of insurance because of inability to pay premiums. This fall in the volume of premiums cut the incomes of brokers and agents, who are compensated by commissions, and threw many of them more deeply in debt to their companies. Increased efforts were made by companies to collect the balances due them and many agencies were placed in the hands of trustees to be administered and some were forced into bankruptcy.

The reduction in the companies' incomes was due largely to the smaller average premium per policy. The number of operations was not greatly reduced and, in spite of all economies, operating costs consumed a larger portion of the premium income. Fire losses of the country were slightly below those in 1931, and companies did not complain about their loss ratios, except that a large number of dwelling house fires showed signs of incendiarism. However, with a normal loss ratio and a high expense ratio there was little prospect of an underwriting profit.

The drop in security values early in the year was very serious for fire insurance companies, especially those which had invested largely in common stocks. In the past the bonds owned by fire insurance companies have been entered in financial statements at market value, but the New York Insurance Department directed companies to enter those meeting certain requirements on an amortized basis in their June 30 statements. This amortization, together with the acceptance of the average of market values of June 30, 1931, and June 30, 1932, for stocks and lower grade bonds enabled many companies to show a surplus which otherwise would have shown impaired capital.

More than twenty fire insurance companies, including many of the largest, increased surplus by reducing capital and several companies were merged. All told nearly \$90,000,000 was transferred from capital account to surplus account by fire insurance companies during the year. Many companies reduced their dividends to stockholders in order to conserve surplus. The number of fire insurance companies was reduced by fifteen or twenty by merger, voluntary retirement or reinsurance.

Individually and collectively companies endeavored to effect economies. Many unprofitable agencies were discontinued. Reductions were made in the cost of operating the numerous rating, inspecting, adjusting and supervisory organizations where this could be done without loss of efficiency. The Insurance Executives' Association, formed in 1931, completed its organization by the election of Mr. Paul L. Haid as president. He had previously been president of several very important companies and enjoys the confidence of fire underwriters generally. He immediately began putting into effect a programme of efficiency and economy, but sufficient time has not yet elapsed to show many of the results. A

long standing controversy between fire and burglary insurance companies on one side and inland marine insurance companies on the other, growing out of the encroachment of the inland marine companies on the field of the others, was partially settled by a ruling of the New York Insurance Department defining the proper field of each class.

Owing to the low price of grain, farmers bought much less hail insurance on growing crops than usual, but the loss ratio on the reduced volume was favorable. The year was not a bad one for companies writing windstorm insurance as destruction of property by wind was not excessive.

The experience of fire insurance companies in writing fire and theft insurance on automobiles was far from satisfactory. As compared with 1931, production of new cars and trucks fell off 40 per cent. By reason of the low average price of cars (around \$400) on account of age and the fact that most of the new cars purchased were low priced, many owners went without fire and theft insurance. Cancellations of policies for non-payment of premiums were the heaviest in 10 years. These and other factors resulted in reducing the premium income about 20 per cent. The low price of used cars made theft unattractive and the theft losses of the insurance companies did not increase, but total losses by fire did increase. The loss ratio went up and underwriters concluded that they had been unwise in reducing rates in previous years.

**CASUALTY INSURANCE AND SURETYSHIP.** The experience of casualty and surety companies generally speaking was bad. Premium income continued to drop and losses in several important branches were higher. Depreciation in security values in the earlier part of the year caused a number of companies to reduce capital by amounts aggregating more than \$35,000,000 in order to create more surplus. Several companies were merged, resulting in further capital reductions of about \$7,000,000. A few failures and reinsurances occurred.

Notwithstanding increases in rates for workmen's compensation insurance in 1931, the class proved so unprofitable that efforts to secure further increases were made in 1932 but met with only partial success. The stock companies sought to increase rates and then allow a discount on premiums of \$1000 or more, reducing the commissions to agents and brokers on these larger premiums. This was strongly opposed, and several States refused to sanction the discount on large premiums on the ground of discrimination. The mutual companies sought smaller increases in rates. With the companies divided, a number of States either refused to permit rate increases or granted smaller ones than were asked for. Premium income was reduced by reason of reduced payrolls, but awards of compensation were not reduced proportionally as they are based on full-time wages. Medical and hospital costs continue to increase. Underwriters are at a loss to know how to deal with this unprofitable class of business.

In the absence of official figures the automobile business of casualty companies is believed to have yielded an underwriting profit of 2 or 3 per cent in 1932 as compared with an underwriting loss of 4 per cent in 1931. The premium income of stock companies fell off about 13 per cent, but mutual companies are believed to have

fares better in this respect. Public liability rates were increased approximately 8.7 per cent, but rates for excess limits were materially reduced and property damage rates were reduced slightly. Elimination of merit rating of private passenger cars also increased average rates. Increase in rates, stricter underwriting, a slight decrease in automobile fatalities per 1000 registered cars and a slight improvement in the claim situation contributed to produce an underwriting profit. Companies were obliged to cancel thousands of policies for non-payment of premium and to charge off considerable in bad agency accounts. Notwithstanding the smaller premium volume, drastic economies enabled companies to reduce their expense ratios slightly.

Steam boiler insurance premiums were less in volume than in any year since 1922 and more than 30 per cent below those of the record year 1929. Machinery insurance premiums totaled less than half those of 1931 when much of the business was renewed for three years. A fair amount of new business was written in 1932 but companies had to pay back much in premiums because policies were suspended on account of boilers and machinery being out of operation. So serious did this become that companies were obliged to adopt a rule to pay return premiums only if suspensions were for three consecutive months or more. The cost of inspection is the largest element of expense in these classes of insurance and companies are obliged, for their own protection, to keep up inspections during suspension of operation so as to be assured that when operations are resumed the boilers or machinery will be in a safe condition. The reduced premium income without corresponding reduction in expenses therefore affected the expense ratio adversely, but with low losses some companies probably made an underwriting profit on these classes.

Burglary insurance decreased in volume as values went down and many who had carried insurance dropped it. Thievery and robbery losses were so alarming that rates were increased, but the premium income on this class decreased as bankers reduced their insurance. While some companies may have made a little profit on burglary insurance, the majority suffered a loss. One discouraging feature is that it required years of effort to induce people to buy burglary insurance and now many of them have ceased to do it because of low values and poverty and the work of educating them will have to be repeated.

Premium income on surety bonds fell off seriously. Companies were obliged to write depository bonds with extreme caution because of the numerous bank failures and they also were cautious about writing the bonds of public officials because under many of these they assume a depository hazard. There was comparatively little work for contractors and premium income from their bonds was smaller. The income from bonds required in court actions and those of receivers was probably larger than in 1931. While there was a reduction in premiums on fidelity bonds guaranteeing the honesty of employees, due to unemployment, the decrease in this branch was not so great as in the surety branch. Losses under depository bonds continued to be heavy. Eventually there will be considerable salvage as banks are liquidated or reorganized, but for two years it has been very disappointing. There are heavy losses under bank-

ers' and brokers' blanket bonds, but the premium income on these classes is so large that the loss ratio is reasonable. The necessity to be very rigid in their underwriting to avoid being overwhelmed by losses has caused the surety companies to lose favor with the public to some extent and they may be some time in regaining it.

**INTERNAL COMBUSTION ENGINES.** The completion of a number of long pipe lines for the transmission of natural gas, together with their pumping stations, and the postponement of construction on other lines previously projected, was responsible for very little activity in the gas-engine field during the past year.

As for Diesel engines, a few were installed in industrial plants and office buildings, but central stations made practically no additions to their units of this type. The largest stationary installation was in the municipal electric light plant serving the city of Vernon, Calif., where two 7000-horsepower Diesels were put in operation. Three more are on order.

In the marine field, according to the U. S. Department of Commerce, the number of Diesel-driven vessels has increased in the past ten years from 95 to nearly 3500. A considerable number of large passenger ships are propelled by Diesels, recent among which are the "Georgic," driven by two 10,000-horsepower ten-cylinder, double-acting engines of this type, and the "Neptunia" with 18,000 horsepower. The German Government is building two more naval vessels, similar to the much-discussed pocket battleship, "Deutschland," which is reported to be propelled by eight double-acting Diesels of 7100 horsepower each.

A number of light-weight Diesels were put in service on rail cars to handle short-haul traffic and others are being employed on trucks for long-haul traffic on the West Coast. Development of a very light Diesel for aviation is being carried on and successful flights have been attained. In the automotive field it is possible to convert gasoline engines into Diesels by substituting a new cylinder head and the proper fuel-injection devices. Such engines, however, have not as yet proved practicable for passenger cars.

Much research work is being carried on with a view to determining the most suitable fuel characteristics for high-speed Diesels, as it has now been established that such engines require a different grade of fuel from that of the slow-speed engines.

Supercharging to obtain overload capacity is now being extensively employed in Europe.

**INTERNAL REVENUE TAXES.** See PUBLIC FINANCE; TAXATION; TOBACCO.

**INTERNATIONAL ARBITRATION.** See ARBITRATION, INTERNATIONAL.

**INTERNATIONAL ART CONGRESS,** FIRST. See ART EXHIBITIONS.

**INTERNATIONAL ASSOCIATION FOR SOCIAL PROGRESS.** See SOCIAL PROGRESS, INTERNATIONAL INSTITUTE OF.

**INTERNATIONAL BANKING.** See FINANCIAL REVIEW; REPARATIONS AND WAR DEBTS; FRANCE, GREAT BRITAIN, GERMANY, AUSTRIA, etc., under *History*.

**INTERNATIONAL BANKING RELATIONS.** See BANKS AND BANKING.

**INTERNATIONAL CONGRESS OF PSYCHOLOGY,** TENTH. See PSYCHOLOGY.

**INTERNATIONAL INSTITUTE OF AGRICULTURE.** See AGRICULTURE.

**INTERNATIONALISM. CHRISTIAN UNITY.** Although the depression did not prevent the holding of the Olympic Games in the summer of 1932 at a reported profit of over \$1,000,000, it caused church leaders to advocate the cancellation of all international Christian gatherings. Fortunately the most important ones were not cancelled, although all were reduced in size and representative character.

During the first week of August, there met at the Hotel Beau Séjour in Geneva the Universal Christian Council for Life and Work—the "Stockholm movement" for Christian unity through practical application of Christ's teachings without waiting for theological agreement. The meeting convened under the chairmanship of Dr. Bell, Lord Bishop of Chichester, in the same room where, in 1920, the first group met to plan the Stockholm Conference. There were fifty-seven present, representing a score of nations. Not a few had been in the original group, though many of the outstanding leaders of a dozen years ago have passed on, notably Archbishop Söderblom and the Bishop of Winchester. Frau Söderblom was the leader of a group of women leaders present, and she spoke in four languages of the genius of the movement, of its future, and its past.

The accomplishments of the Council were notable. A special steering committee, under the leadership of Bishop Bell, brought in a programme based on four basic needs: (1) economy, (2) deeper spiritual influence, (3) continuity and guidance in policy, and (4) closer coöperation with other ecumenical bodies.

Dr. Henry A. Atkinson and Dr. Adolf Keller, Secretaries of the Council from the beginning, both resigned on account of the pressure of other duties, and Dr. Henry L. Henriod, formerly Secretary of the World Christian Student Federation, was made General Secretary. He has become likewise General Secretary of the World Alliance for International Friendship through the Churches; and this joint relationship brings the Stockholm movement and the Alliance into intimate touch. A Swiss by birth, Dr. Henriod has command of the continental languages as well as English and is admirably fitted for the difficult tasks committed to him.

The possibility of holding the next world conference in 1935—ten years after the first one at Stockholm—was carefully reviewed and final decision reached that the 1934 meeting of the Council should be an enlarged meeting and that the world conference should be held not later than 1937.

Strong action on the matter of disarmament was taken and plans for coöperation with other Christian bodies in encouraging more vigorous action on the part of the churches in the nations. The Council was encouraged to learn in detail of the effect of its Basle Conference on Unemployment, whose action was presented to the Prime Ministers at Lausanne and was credited with having helped in that important conference.

**INTERNATIONAL POLICE.** A proposal has been made by Barron Collier, Special Deputy Police Commissioner of New York City in charge of foreign police relations, for the organization of an International World Police, its members made up of responsible police executives of every major municipality in all the countries of the world. Already the plan has been approved in

general by the three leading police organizations of the world—the International Police Conference, the International Criminal Police Commission and the International Association of Chiefs of Police, which through resolutions adopted by the first two at their September conference in Paris, and by the last at its October conference in St. Petersburg, Fla., have laid the groundwork for the necessary organization. The next step will be that of working up the details of operation of the International World Police, and the selection of a headquarters which will be, in effect, a clearing-house of international criminal information.

The objective of the International World Police will be the handling of international police problems exclusively. These problems in particular apply to immediate identification of criminals; their detention and prompt return to proper jurisdiction for trial, the eradication of the white-slave traffic, drug traffic, etc., further perfection of modern-day methods of police communication, and, above all, the efficient and friendly coöperation of the police officials of the various nations, among themselves and among their governments.

In presenting his proposal for an International World Police to the three police organizations named, Commissioner Collier nominated Dr. Johann Schober (q.v.), former Chancellor of Austria, as President. Others prominent in the movement are: Commissioner Edward P. Mulrooney of the New York Police Department; Hon. M. Louis Ducloux, Contrôleur General de Recherches Judiciaires, Ministry of Interior, Paris, France; the Hon. Florent Louwage, Commissioner and Chief of the Police Judiciary Delegations, of Belgium; Dr. Antonio Pizzuto, Sûreté Publique, Rome, Italy; Dr. Hans Menzel, Director of Police and General Administration, Ministry of the Interior, Berlin, Germany; Hon. Cesar E. Etcheverry, Police Delegate to the Argentine Embassy, Paris, France; Dr. Van Houten, Major de la Maréchaussée Royale, the Netherlands. Organization of the International World Police was to be completed in Chicago in July, 1933.

This new organization is not intended to supplant any of the established police organizations existing to-day. It will operate solely as a clearing-house of all police organizations and will be entirely international in its scope. It will speed up international police relations to the extent that it will effectively block the door through which international criminals, with the aid of modern transportation, at present operate.

**WALTER HINES PAGE SCHOOL OF INTERNATIONAL RELATIONS.** Professor Gilbert Chinard, member of the School, has continued, with the help of Miss Mary Francis, as research assistant, his study of the changes and fluctuations in American popular sentiment toward France, as revealed in contemporary periodical literature. Dr. Frederick Sherwood Dunn, Associate Member, has brought near to completion his study of the legal control of international relations, based primarily upon a consideration of the theory and practice of diplomatic protection abroad, with particular reference to Mexico; and it is hoped that it will be ready for publication this autumn. His work in this field has led him into the closely related problems of intervention, which he proposes to make the subject of his study next year. For that purpose, arrangements have been made

with Miss Mary E. Allen, under temporary appointment as a research assistant, to carry on under his supervision certain preliminary researches in England.

One aspect of the great loss suffered by the School through the death of Prof. John H. Latane (q.v.), last January, is that his study of American isolation was left at such a stage as affords no basis for a continuation of his work. Dr. Maurice T. Price, designated as a Fellow, is making a psycho-sociological case study of the so-called "Shanghai Incident" of May 30, 1925, and of the economic, political, and emotional elements of the cultural conflict involved therein.

Of a somewhat different type, concerned rather with the process of fact-finding than with that of the analysis of motivation, is the investigation which has been undertaken by Dr. Lazare Teper, research assistant, into the history of the Soviet Government's attitude and policy, in the course of various negotiations, with regard to the debts of the Czarist and Provisional Governments of Russia and other financial claims against the Russian Socialist Federated Soviet Republic.

Along the same line of fact-finding, rather elaborate plans were worked out, during the summer and autumn of 1931, for the organization, under the auspices of the School, of a group of about a dozen American scholars who have specialized upon various aspects of the present Russian situation, for the purpose of making a coördinated set of factual studies of the economic, social, and political problems presented by the Soviet experiment. The arrangements for that purpose had reached a point at which the scholars chosen for the purpose were prepared to proceed with the work: but to our great disappointment the project had to be abandoned, as it proved impossible to obtain the necessary funds.

Since the establishment of the School, one of the objectives constantly kept in view has been the organization of research on the present international economic situation. It has been felt, however, that such a project should be undertaken only by, or under the guidance and supervision of, someone qualified by detachment and breadth of view, and if possible by experience, to impress upon the work an authoritative character. The failure thus far to enlist the cooperation of an economist of the requisite qualifications is particularly regretted. Efforts to that end are being continued.

**UNIVERSAL CHRISTIAN COUNCIL.** The American section of this council for life and work, which constitutes the Commission on Relations with Churches Abroad of the Federal Council of the Churches of Christ in America, held a meeting in New York on May 27. The purpose of this was for the consideration of the proposed world conference, after the order of Stockholm 1925, to be held in 1935. International relations, the social application of Christianity, and the problem of church unity were discussed.

**WORLD ALLIANCE THROUGH THE CHURCHES.** The seventeenth annual meeting and International Goodwill Congress of the World Alliance for International Friendship Through the Churches was held in New York City, November 10-11-12. The theme of the meeting was "World Understanding and Economic Justice." The Congress emphasized the importance of securing world understanding as the most essential factor in the

reestablishment of normal economic, industrial, and social conditions.

**WORLD CONFERENCE FOR INTERNATIONAL PEACE THROUGH RELIGION.** The Executive Committee met in Geneva, August 16-18, with an attendance of fifty members and a number of invited friends interested in the movement. The Committee, as it discussed ways and means of furthering peace, was not unmindful of the exceeding gravity of the world situation. In fact, with representatives from so many nations and religions, it would have been impossible not to have felt the weight of depression that has settled upon the shoulders of the world. It is conservatively estimated that in the great industrial countries there are at least 25 million people out of employment, and the economic life, practically, of the whole civilized world has almost completely broken down. Since the war, we have passed through a series of crises and a large number of intricate and difficult problems have demanded individual attention at various times, and if they have not been solved satisfactorily, at least open war has been averted. All these old problems are to the front now, and some new ones present themselves which demand immediate attention. Can the peace machinery as now constituted bear the strain of the added burdens? Some progress has been made, but everyone asks: have we gone as far as we thought we had in getting rid of war and the threat of war?

Never according to the Secretary were the religions of the world and religious leaders challenged in the same way and to the same degree as at this time. When the Church Peace Union first proposed a World Conference of religious leaders representing the various faiths of mankind, not one of those responsible for the suggestion realized how far-reaching and significant would be the issue of that proposal.

After considerable discussion it was agreed that in view of recent developments, the purpose of the organization would be to work for the development of a world-wide cooperative interest on the part of various religions in behalf of world peace, rather than to consider itself *simply the machinery for the holding of a single world conference*. In view of the general turmoil and uncertainty throughout all nations, and the imminent danger of war, the problem is not whether a world conference can be held. It goes much further. The threat of war is a threat to every type of civilization and the responsibility for preventing war is a joint responsibility of all the religions; therefore it was agreed that the organization of groups within the various countries should be strengthened, and that other areas of the spiritual life of mankind should be brought into the general movement. For instance, little or no contact has been established with the great Moslem world. Dr. S. M. Abdullah, representing the Moslem Faith, spoke on this point and felt that the effort not only would be of value but that an adequate organization could be established.

In view of this decision, the following set of proposals were adopted, and now become, in a sense, the Charter of the Movement:

- I. The ideals of religion are to be recognized as motive and inspiration in international affairs.
- II. Chief among these are:
  - (a) The recognition of human brotherhood.
  - (b) Cooperation in behalf of human betterment.

- (c) The recognition of love as expressing itself in the mutual giving of justice
- (d) The emphasis of hope rather than fear.
- III. Each regional and cooperating group should adopt practical methods and programme best fitted to express these principles in its own circle of influence.
- IV. Membership in the World Conference, as well as in all groups, shall be based on individual devotion to the purposes of the World Conference.
- V. In all activities and programmes, the emphasis shall be upon spiritual and educational methods.

After a lively discussion this Resolution was adopted:

The Executive Committee of the World Conference for International Peace through Religion, assembled at Geneva, August 16-18, while deeply disappointed in the achievements of the first session of the Disarmament Conference, nevertheless rejoices in the fact that the Disarmament Conference met and remained in session until there had been secured an agreement to continue its efforts for the mutual limitation and the reduction of the weapons of war. This Committee trusts that these efforts will now be made with a reinforced determination to effect this object.

Realizing the special responsibility of the religious communities of the world for strengthening the spiritual forces that make for peace, we urge the governments and all responsible agencies to agree upon and to further plans to increase mutual understanding and good will by means of education and the appropriate use of present-day methods of disseminating information.

The Executive Committee reaffirms its conviction that the hope of all social progress, economic stability, and the development of religious life throughout the world depends, in large measure, upon the elimination of war in this generation. The burden of arms under which the world is staggering today and the lack of effective juridical guarantees against war, constitute the greatest menace to peace and good will. We, therefore, call upon all religious-minded people everywhere to support the efforts made for the limitation and reduction of arms as a first step toward total disarmament in the near future.

The Conference took account of its loss in the death of Monsignore Seipel (q.v.) and unanimously passed the following resolution:

WHEREAS the death, on August 3, 1932, of Monsignore Ignaz Seipel, former Chancellor of Austria, has deprived the Continent of Europe of an outstanding political statesman and the entire world of a tireless worker for international peace and good will, and

WHEREAS, in addition to his numerous duties at home and abroad, Monsignore Seipel found time to act as one of the presidents of the World Conference for International Peace through Religion, and thereby gave practical proof of his desire to promote world peace.

THEREFORE BE IT RESOLVED that the World Conference for International Peace through Religion records its sentiments of profound loss in the death of Monsignore Seipel, and

BE IT FURTHER RESOLVED that a copy of these resolutions be incorporated as a part of the minutes of the executive meeting of the World Conference for International Peace through Religion held at Geneva, August 16-18, 1932

Upon the nomination of the Roman Catholic members of the Committee, His Excellency Giuseppe Motta, President of the Swiss Confederation, was elected as one of the Presidents, to take the place of Monsignore Seipel.

**INTERNATIONAL JUSTICE.** PERMANENT COURT OF. See LAW IN 1932; LEAGUE OF NATIONS; WORLD COURT.

**INTERNATIONAL LABOR OFFICE.** See LEAGUE OF NATIONS.

**INTERNATIONAL LANGUAGES.** See PHILOLOGY, MODERN.

**INTERNATIONAL LAW.** The Foreign Policy Association during 1932 issued a pamphlet presenting the pros and cons of international sanctions. Dr. Raymond Leslie Buell, research director of the association, presented the arguments in favor of sanctions, Prof. John Dewey those for the opposition. Dr. Buell believes that force in some form is necessary in

international relations and that it should be under international control. Dr. Dewey, on the other hand, believes that the use of sanctions is so impracticable "that any attempt in that direction is sure to make international relations worse instead of better."

One important development during the year in the matter of the codification of international law was the work of the Harvard Research Bureau under Prof. Manley O. Hudson which continued the study of restatements of several new topics, including jurisdiction and punishment for crime, extradition, and neutrality. This has been published in its entirety as a Supplement to *The American Journal of International Law* for July, 1932.

The Inter-Parliamentary Union published an elaborate outline under the title of "Synthetic Plan for the Development of World Law." At the 28th Inter-Parliamentary Conference the Committee on Juridical Questions was asked to make a methodical study of the different chapters of this outline with a view to submitting to successive conferences of the Union proposals likely to forward the development of the unification of world law.

The Report of the Special Committee of the International Institute of Comparative Law is of as much interest. A meeting of the Congress of the Institute was held at The Hague in August, 1932. See LAW IN 1932.

**INTERNATIONAL WORLD POLICE.** See INTERNATIONALISM.

**INTERPARLIAMENTARY UNION.** The Twenty-eighth Conference of the Interparliamentary Union convened Wednesday, July 20, in Geneva in the League of Nations Building built for and occupied by the Arms Conference. It met in the same building Thursday, July 21, and during the forenoon of Friday, July 22. On the 23d the Conference moved from the League building to what is known as the Salle Centrale, Place de la Madeleine, on the other side of the river, where it ended its sessions Tuesday, the 26th. This moving of the Conference was due to one of the most turbulent experiences in the history of the Union. The circumstances of this unpleasant occurrence which happened on Friday morning, the 22d, grew out of an address by the Italian delegate, Prof. Carl Costamagna, a member of the Italian House of Deputies. During his remarks, the Professor, a member of the faculty of the University of Rome, read a carefully prepared paper in which he condemned Socialism, defended Fascism, and ended with a plea for international justice.

As he was leaving the platform, M. Pierre Renaudel, Socialist member of the French Chamber of Deputies, without recognition from the chair, arose and objected to the Italian's frequent use of the word "justice" and to his "lecture to us on the parliamentary rules of Italy, a country without a free parliament," and added: "There is no justice where liberty does not exist." The Fascist delegates sprang to their feet and cried for an immediate apology. "Apologize?" exclaimed M. Renaudel. "Never to the representative of the government which ordered the murder of Matteotti!" In the confusion that followed, the Italian delegates to the Disarmament Conference, who had been sitting in the next hall, rushed into the arena. General Italo Balbo, Fascist Air Minister, signaled to the Italian delegates to the Union to leave the room and

led them down the hallway past the Disarmament Conference auditorium to the pressroom. After a whispered consultation he commanded: "We must have an immediate apology or we shall refrain from the Conference." Eric Hellin, of Sweden, who was acting as Chairman of the meeting, had in the meantime adjourned the Conference and called a meeting of the Council, which is the governing board of the Union. The French Deputy maintained that, as he had spoken of Matteotti's murder after the meeting had been adjourned, the Fascists had no basis for withdrawing from the Conference, and he had no desire to apologize. Premier Benito Mussolini, it was understood, approved General Balbo's position and suggested that M. Renaudel's ejection from the Conference be demanded. General Balbo then visited Sir Eric Drummond, Secretary of the League of Nations and demanded that the League facilities should be denied to the Conference until an apology had been made. The Secretary General acquiesced in this demand and barred the use of the League building to the Conference thereafter.

M. Renaudel agreed to prepare and did prepare in writing a statement to the effect that since he spoke in the Conference without being recognized by the chair it was proper that he should be called to order. He was willing to go further and say that nothing should appear in the record relative to the occurrence, and that so far as he was concerned the matter might be considered as if nothing had happened. This being unsatisfactory to the Italians, the Italian Group withdrew not only from the Conference, but from the Interparliamentary Union. Referring to this incident, officials of the Union considered the departure of the Italian delegation to be most regrettable. They expressed the hope that the day will not be far distant when the representatives of the Italian nation will return to the Union, the doors of which will always remain wide open to greet them.

The attendance at the Conference far exceeded the number expected, the number of delegates rising to 150. Twenty-seven parliaments were represented as follows: Belgium, Bulgaria, Canada, Colombia, Czechoslovakia, Denmark, Egypt, Estonia, Finland, France, Germany, Great Britain, Hungary, Ireland, Italy, Japan, Latvia, Netherlands, Norway, Poland, Rumania, Spain, Sweden, Switzerland, Turkey, United States, and Yugoslavia. All the European groups were represented with the exception of Greece, which was prevented from attending on account of legislative elections. There was a large delegation from Japan. In the absence of M. Fernand Bouisson, President of the French Chamber of Deputies and of the Interparliamentary Union Council, Count Carton de Wiart, of Belgium, was elected President of the Conference. The opening meeting was addressed by Sir Eric Drummond who welcomed the Conference to the League of Nations Secretariat and to the Disarmament Building, in which the Conference was convened. He stressed the goodwill and mutual confidence which reigns between the League and the Interparliamentary Union. M. Max Huber welcomed the assembly in the name of the Swiss Government. Arthur Henderson, President of the Disarmament Conference, expressed his pleasure at finding himself once again among his Parliamentary friends.

The first item on the Agenda of the Conference

was a general debate on the report of the Secretary General which dealt largely with the economic and financial situation. Among those who discussed the report were Baron Sztrenyi, of Hungary, M. Bramsnaes, of Denmark, and Signor Re David, of Italy. The second question on the Agenda was the codification of world law. The general outline of a plan containing the rules of future world law includes organs of the world community, individuals, and groups. It was to this subject that Signor Costamagna addressed himself in the paper that ended in the unfortunate interruption, resulting in the withdrawal of the Italian Groups. The plan was recommended to the attention of the groups for further study and recommendations.

The last two days of the Conference were devoted to the problems of security and the reduction of armaments. During the discussions upon these topics, Frau Teusch, of Germany, raised before the Assembly the problem of the revision of the peace treaties and that of the equality of states with regard to armaments.

M. Fernand Bouisson, President of the French Chamber of Deputies, was reelected as its President. Bouisson also remains President of the Executive Committee. Dr. Christian L. Lange, who has been Secretary General of the Union for 22 years, is to retire at the end of the present fiscal year. His successor is to be Dr. Leopold Boissier who, for a number of years, has served as Deputy Secretary General. Andrew J. Montague, President of the United States of America Group of the Interparliamentary Union, was elected a member of the Executive Committee for a period of five years, in the place of Senator La Fontaine of Belgium, retiring member not eligible for reelection. The Executive Committee is composed of five members, one of whom retires every year. The 29th Conference of the Union is slated to meet next year in Madrid.

This Union of Parliamentarians, which has headquarters in Geneva and sections in 34 countries, has long exercised a powerful influence in favor of international cooperation. The indebtedness to the Union of those who are working for the cause of peace has been greatly increased by its recent and separate investigations into, first, the problem of Disarmament, and secondly, "the character of a new war," if such an eventuality should arise. In regard to disarmament the Union has published a booklet written by M. William Martin, political editor of the *Journal de Genève*, which begins with his commentary on the work of the Union and of the League of Nations, including the Draft Convention drawn up by the Preparatory Disarmament Commission, and has an annex containing the resolution adopted by the Union since the war, the text of the Draft Convention itself, and some extracts from the report and proposals of the Committee of Budgetary Experts.

The Report of the Inquiry "What would be the Character of a New War?" published by P. S. King & Son, is an exhaustive study, by experts from many countries, of the different aspects, military, economic, and juridical, of a future war, and is to be submitted to the Security Committee of the Union. M. Munch, Foreign Minister of Denmark, in his preface, says that the inquiry was based on the conviction that it was worth considering whether the belief that armaments are a first guarantee of security can possibly be justified under present



conditions. The Report goes far to show that the security which it is hoped to obtain by military methods has become at least "precarious in face of the infinite possibilities of mutual destruction created by the developments of new methods of warfare." Major Lefebure, M. Francis Delaisi, M. Nicolas Politis, Sir Norman Angell, Major K. A. Bratt, and General Requin are among the contributors to a volume which has a special bearing on the problems which will arise in the Disarmament Conference of next year. See *INTERNATIONAL LAW*.

**INTERSTATE COMMERCE COMMISSION.** See *RAILWAYS*; *UNITED STATES*.

**INTERSTATE LITIGATION.** See *LAW* IN 1932.

**INTERVENTION.** For developments in intervention policies of the United States in Latin America, see *NICARAGUA*, *SALVADOR*, *HONDURAS*, *HAITI*, and *CUBA* under *History*.

**INUKAI, KI (TSUYOSHI).** A Japanese statesman, died in Tokyo, May 16, 1932. He was born in Okayama-ken in April, 1855. Upon his graduation from Keio University he became associated with the *Hochi-Shimbun*, serving as war correspondent of that paper during the Satsuma Rebellion of 1877 and as editor until 1890. He founded also in 1880 the *Tokyo Economic Magazine*, which advocated the principle of protectionism as against that of free trade. In 1890 he was elected a member, for Okayama-ken, of the first House of Representatives in the Imperial Diet, which seat he held until his death. He served as Minister of Education in the Okuma-Itagaki cabinet of 1898 and as Minister of Communications in the Kato cabinet of 1924-25. In 1929 he was made president of the Seiyukai party, and in December, 1931, became premier. His assassination was the culmination of the attempt by patriotic fanatics to terrorize the government into a policy of military absolutism. See *JAPAN* under *History* for political background.

**INVESTMENTS.** See *FINANCIAL REVIEW*.

**IOWA. POPULATION.** According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 2,470,939, as against 2,404,021 in 1920. Des Moines, the capital, had (1930), 142,559 inhabitants.

**AGRICULTURE.** The following table shows the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod. Bu.	Value
Corn ....	1932	11,732,000	539,672,000	\$ 70,157,000
	1931	11,732,000	385,983,000	108,075,000
Oats ....	1932	6,212,000	223,632,000	24,600,000
	1931	6,120,000	189,720,000	36,047,000
Hay ....	1932	2,951,000	4,668,000*	26,814,000
	1931	3,037,000	3,988,000*	28,288,000
Potatoes .	1932	73,000	8,030,000	2,971,000
	1931	70,000	3,850,000	2,888,000
Barley ..	1932	600,000	15,000,000	3,000,000
	1931	521,000	13,546,000	4,835,000
Wheat ...	1932	298,000	4,898,000	1,714,000
	1931	357,000	7,321,000	2,928,000

\* Tons.

**MINERAL PRODUCTION.** The production of coal, normally the State's most important mineral product, declined, as to quantity, in about the same proportion as for the Union as a whole, to 3,305,000 short tons for 1931, from 3,892,571 for 1930. It declined substantially also as to value, from the \$10,385,000 of 1930. The producers of Portland cement operated on a much reduced scale, shipping only 5,790,087 barrels

in 1931, as against 7,035,252 in 1930; shrinkage in the prices obtained brought the total of cement by value down to \$5,453,320 for 1931, from \$10,017,584 for 1930. Clay products, structural chiefly and excluding a minor production of pottery, attained for 1930 the value of \$4,671,487, as against \$5,770,125 for 1929. The quantity of gypsum was 481,047 short tons for 1930 (718,503 for 1929); the value, \$3,741,319 for 1930 (\$4,688-856 for 1929). Stone to the total (1930) of 1,813,860 short tons, valued at \$1,850,832, and sand and gravel to the value (1930) of \$2,599,107, were the other substantial elements of the yearly mineral total. The total value of the State's mineral product, duplications eliminated, was \$33,357,958 for 1930; for 1929, \$35,954,895.

**FINANCE.** State expenditures in the year ended June 30, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments \$24,642,636 (of which \$861,035 was for local education); for interest on debt, \$714,759; for permanent improvements, \$19,704,066; total, \$45,062,061 (of which \$22,391,787 was for highways, \$4,034,645 being for maintenance and \$18,357,142 for construction). Revenues were \$46,338,897. Of these, property and special taxes furnished 27.3 per cent; departmental earnings and compensation to the State for officers' services, 11.6; sale of licenses, 47.0 (in which was included a gasoline sale tax that produced \$6,329,803). Funded debt outstanding on June 30, 1931, totaled \$16,182,000. Net of sinking-fund assets, the debt was \$14,817,323. On an assessed valuation of \$1,559,177,948 the State levied in the year ad-valorem taxes of \$11,482,938.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 9684.58. During the year previous, some 13 miles had been abandoned.

**EDUCATION.** In the face of difficulty quite widely experienced in the collection of the revenues for the public schools, it was reported in the *Journal* of the National Education Association at the end of the year that all the public elementary and secondary schools had been maintained. For the academic year 1931-1932 the number of persons of school age in the State was stated as 718,627. There were enrolled in the public schools 557,220 pupils. Of these, 430,352 were in common schools, elementary grades or special classes; in high schools, 124,989; and in public junior colleges, 1879. The year's expenditures for public-school education totaled approximately \$50,000,000, as compared with about \$57,000,000, which had been stated as the total for the year before.

**CHARITIES AND CORRECTIONS.** The statutory Board of Control of State Institutions was in 1932 the body holding the centralized authority to control and govern the institutions of the State for the care and custody of persons. It was composed of three members, serving six-year terms expiring in rotation. It appointed the governing officers of the institutions and fixed the number and compensation of their subordinates. It also functioned as the institutional purchasing agent and conducted institutional industries. These produced the State's automobile-license plates and road markers, and institutions' requirements of clothing, bedding, soap, shoes, brooms and utensils. Institutional farms furnished vegetables, and much milk and butter for the institutions' use.



These State institutions, with their populations of Dec. 1, 1932, were: State Hospitals for the Insane, at Cherokee (1560), Clarinda (1601), Independence (1544), and Mount Pleasant (1538); Men's Reformatory, Anamosa (1460); State Penitentiary, Fort Madison (1485); Women's Reformatory, Rockwell City (101); Training School for Boys, Eldora (537); Training School for Girls, Mitchellville (188); State Sanatorium for Tuberculosis, Oakdale (346); Soldiers' Home, Marshalltown (523); Soldiers' Orphans' Home, Davenport (643); Juvenile Home, Toledo (331); Institution for Feeble-Minded, Glenwood (1676); Hospital for Epileptics and School for Feeble-Minded, Woodward (1139). The total institutional population was 14,672.

**POLITICAL AND OTHER EVENTS.** During the summer there developed among farmers in Iowa, and in adjacent parts of Minnesota, South Dakota, and Nebraska a movement known as the Farmers' Holiday. It was virtually a strike of producers of agricultural commodities, accompanied with picketing and more or less of violent restraint on producers who insisted on taking farm produce to market, particularly to Sioux City. The movement, reported to have been sponsored by Milo Reno, president of the Iowa Farmers' Union, was later organized in a Farmers' Holiday Association. It met with success to the extent of effecting on August 19 a rise of 55 cents to the 100 pounds of milk delivered in Sioux City. Its further extension was largely checked by the action of sheriffs in some of the affected counties, who cleared the roads of those obstructing farm trucks. An attempt to cut off Council Bluffs from farm supplies was defeated. No grave armed clashes occurred, but 55 pickets, who had been arrested on the roads leading to Council Bluffs, were released on bonds on August 25, after a gathering of hundreds of their sympathizers had threatened to attack the jail. The failure of banks in Iowa tied up a considerable sum in funds of the State government and obliged the State Treasurer to raise money in February by the sale of \$1,000,000 of interest-bearing warrants. State Auditor J. W. Long was suspended from office on April 20 upon report of an investigating commission, that he had unduly charged the State on expense accounts. Senator Smith W. Brookhart was defeated for renomination in the Republican primary on June 6, and Henry Field, a seed merchant of Shenandoah, gained the nomination. Brookhart was later, on September 26, nominated for Senator on a third ticket, by a Progressive organization which declared against "economic slavery for the masses" and against the tariff, the failure of the Federal Reserve system to prevent deflation, and the alleged course of National banks in unloading foreign bonds on the banking institutions in the State.

The State Supreme Court by a decision of October 1 declared it lawful for the State Superintendent of Banking to arrange loans from the Reconstruction Finance Corporation upon the assets of closed State banks wherewith to provide distributions to 80,000 or more persons who had deposits in such banks.

**ELECTIONS.** The popular vote cast on November 8 overturned the partisan traditions of the State by giving a decisive majority for the Democratic National ticket. The vote was: Roosevelt (Dem.), 598,019; Hoover, (Rep.), 414,433. For Governor,

Clyde L. Herring, Democrat, defeated Dan W. Turner, Republican, the incumbent, who ran for reelection. L. Murphy, Democrat, was elected United States Senator, defeating Henry Field, Republican.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, Dan W. Turner; Lieutenant-Governor, Arch W. McFarlane; Secretary of State, G. C. Greenwalt; Treasurer, Ray E. Johnson; Auditor, J. W. Long; Attorney-General, John Fletcher; Superintendent of Public Instruction, Agnes Samuelson; Secretary of Agriculture, Mark G. Thornburg.

**Supreme Court:** Justices, Maurice F. Donegan, John W. Kintzinger, John W. Anderson, Richard F. Mitchell, Hubert Utterback, William D. Evans, Truman S. Stevens, James W. Kindig, E. G. Albert.

**IOWA, THE STATE UNIVERSITY OF.** A coeducational State institution of higher learning in Iowa City, founded in 1847. The enrollment for 1931-32 was 9902. For the autumn of 1932 the enrollment was 6197, including 1182 correspondence students not also registered in residence. The summer session registration totaled 4361. There were approximately 570 members on the faculty in the autumn of 1932. The income for 1931-32 was \$4,097,802. The libraries contained 409,692 volumes. President, Walter Albert Jessup, Ph.D., LL.D.

**IOWA STATE COLLEGE OF AGRICULTURE AND MECHANIC ARTS.** A State institution for the higher education of men and women in Ames, Iowa, founded in 1868. The enrollment for the autumn term of 1932 was 3430. The registration for the first half of the 1932 summer session was 1238 and for the second half, 629. The faculty numbered 486 members. The endowment funds amounted to \$695,000 and the income for the year was \$3,340,000. The library contained approximately 210,000 volumes. President, Raymond Mollyneux Hughes, LL.D.

**IRAQ (IRAK) or MESOPOTAMIA.** A state occupying the basin of the Tigris and Euphrates rivers between Persia and northern Arabia. It comprises the former Turkish vilayets of Bagdad, Basra, and Mosul, which were conquered by British and Indian troops during the World War and later recognized as an independent state under a mandate assigned to Great Britain. Capital, Bagdad; ruler in 1932, King Feisal.

**AREA AND POPULATION.** The area is about 177,148 square miles and the population, at the census of 1920, was 2,849,282; estimated in 1928 at 3,300,000. Besides 87,488 Jews and 78,792 Christians, the inhabitants in 1920 were mainly Mohammedans of the Sunnite and Shiite sects. The chief cities are Bagdad, with about 300,000 inhabitants; Mosul, 60,000; and Basra, the chief seaport, 50,000.

**PRODUCTION.** Primarily dependent upon agriculture, Iraq is capable of great development by irrigation. Dates constitute the chief export crop. Wheat, barley, cotton, oats, linseed, flax, and fruits are other leading farm products; wool and sheep casings are produced. Petroleum production in 1931 totaled 900,000 barrels (of 42 U. S. gallons), as against 913,000 in 1930. There is manufacturing on a small scale.

**COMMERCE.** Imports for consumption were valued at 63,400,000 rupees in 1931 (76,500,000 in 1930) and exports at 43,200,000 rupees (42,200,000 in 1930). The rupee, worth \$0.365 at par, exchanged at \$0.3369 during 1931. Goods enter-

ing the country in transit (mostly to Persia) were valued at 29,800,000 rupees in 1931, 36,800,000 in 1930). The chief exports in 1931 were dates, 11,800,000 rupees (11,300,000 in 1930); grain, 11,000,000 rupees (10,300,000); and wool, 2,700,000 rupees (4,300,000). The leading imports were textiles, 24,100,000 rupees in 1931 (8,200,000 in 1930); sugar, 4,700,000 (6,200,000). The United Kingdom and British India are the principal sources of imports.

**FINANCE.** Closed budget accounts for the fiscal year ended Mar. 31, 1931, showed revenues of 46,456,000 rupees and expenditures of 51,157,000 rupees, leaving an actual deficit of 4,701,000 rupees. In the budget for 1931-32, revenues were estimated at 47,894,200 rupees and expenditures at 47,571,980 rupees. The Indian rupee was accepted as legal tender.

The 1932-33 budget, expressed in the new national currency, estimated receipts at 3,579,000 dinars (about \$13,421,000) and expenditures at 3,571,000 dinars (\$13,391,000). In 1927, the Iraq Government agreed to accept a share of the Ottoman Debt; it purchased bonds to the amount of £1,228,000 (\$5,976,000 converted at par) and agreed to pay the balance of the debt, amounting to £383,000 (\$1,864,000), with interest in seven annual installments.

**COMMUNICATIONS.** The Iraqi railways, with 753 miles of main line on Mar. 31, 1931, reported earnings of 7,878,515 rupees and expenses of 7,870,958 rupees for the year 1930-31 (rupee = \$0.3649 at par). The railways were owned by the British government and administered by the government of Iraq. There are nearly 5000 miles of improved highways, mostly earthen. Bagdad and Basra are links in the London-Karachi air line. A new desert air service between Palestine and Iraq was opened by the Imperial Airways Sept. 5, 1932. Construction of a telephone trunk line from Iraq to Palestine was commenced in November, 1932, in connection with the new petroleum pipe-line's telephone system via Rutbah to Amman. Tonnage handled by the port of Basra during the year 1930-31 totaled 850,180 (416,797 tons of imports and 433,383 tons of exports).

**GOVERNMENT.** The organic law passed by the constituent assembly in June, 1924, provided for a limited monarchy and a responsible government. The legislative body consists of the Senate of 20 nominated "Elder Statesmen" and the Lower House of 88 elected deputies. Premier and Foreign Minister in 1932, Gen. Nuri Pasha as Said (appointed Mar. 23, 1930).

**HISTORY.** On Oct. 3, 1932, Iraq was unanimously elected by the League Assembly to full membership in the League of Nations, thus bringing to an end the mandatory control exercised by Great Britain since the World War. Great Britain had promised to sponsor Iraq's application for League membership in connection with the Anglo-Iraqi treaty of 1930 (see 1930 YEAR BOOK), which was to go into effect upon Iraq's admission to the League and to last for 25 years. In January, 1932, the Permanent Mandates Commission submitted to the League Council a report conditionally approving the termination of the mandatory régime in Iraq. The Council approved the termination of the mandatory régime, subject to Iraq's acceptance of guarantees safeguarding the rights of minorities, the judicial rights of foreigners, and most-favored-nation treatment for countries not form-



ing part of the former Ottoman Empire. These guarantees were formally ratified by the Iraqi government, which on July 12 also pledged itself to accede "as soon as possible" to the Convention of June 17, 1925, concerning the international traffic in arms.

The admission of Iraq was criticized in some quarters because of the treaty of alliance and financial agreement of 1930 with Great Britain. The treaty provided that the British should retain specific air bases in Iraq, that the Iraqi army should be trained by British instructors and equipped with arms identical with those of the British troops, and that Iraq would grant "all possible facilities" for the movement of British troops across its territory. The financial agreement turned over the railways and the British-developed port of Basra to Iraq on generous terms, but both were to be administered under statutes approved by the British and British officials were to staff the railway pending the training of an Iraqi personnel.

On Nov. 3, 1932, the State Department at Washington made public correspondence with the British government in which the American government declared that "in addition to the most-favored-nation treatment which, by virtue of the provisions of the tripartite convention of Jan. 9, 1930, it will enjoy in Iraq upon termination of the special (mandatory) relations, it is also entitled to a voice in the determination of the conditions upon which that most-favored-nation treatment is to be based." This claim was based, the State Department contended, on "the principle established in 1921 that the approval of the United States is essential to the validity" of any determination which might be reached regarding mandated territories. The claim was firmly denied by the British government.

Further fighting with the Kurds occurred during 1932. The rebellious Sheikh Ahmed Barzan was forced to capitulate on June 24, after some four months of campaigning in the rugged mountains of Northern Iraq by Iraqi forces supported by British air units (see KURDISTAN).

The economic condition of the country improved markedly during 1932, largely as a result of the depreciation of the rupee, which was linked with the pound sterling. The date and grain crops brought much higher prices than in the previous year and the government managed

to balance the budget without further taxation. A new currency based directly on the pound sterling was introduced in Iraq, Apr. 1, 1932. The unit was the dinar, equal in value to the pound, and divided into 1000 fils. By the official conversion rate one rupee was exchangeable for 75 fils. In April, the government granted a 75-year concession covering 200 square miles west of the Tigris to the British Oil Development Company, in which the British held 51 per cent of the capital, Italians 25 per cent, French 12 per cent, and Germans 12 per cent. On November 29, the Council of the League of Nations approved the boundary line between Syria and Iraq recommended by its commission of inquiry. On December 15, the Council rejected the appeal of the Assyrians for administrative autonomy within Iraq. See LEAGUE OF NATIONS; SYRIA.

Consult Wilbur L. Williams, "The State of Iraq: A Mandate Attains Independence," *Foreign Policy Report*, Oct. 12, 1932, vol. viii, no. 16.

**IRAQ PETROLEUM COMPANY.** See IRAQ under *History*.

**IRELAND.** The smaller of the two main British Isles, with an area of 32,586 square miles; politically divided into Northern Ireland and the Irish Free State; the former consisting of the parliamentary counties of Antrim, Armagh, Down, Fermanagh, Londonderry, and Tyrone, and the parliamentary boroughs of Londonderry, and Belfast; and the Irish Free State of the remaining 26 counties. The total population of the island (1926 census), was 4,228,553. See IRELAND, NORTHERN; IRISH FREE STATE.

**IRELAND, NORTHERN.** A constituent part of the United Kingdom, comprising the parliamentary counties of Antrim, Armagh, Down, Fermanagh, Londonderry, and Tyrone, and the two parliamentary boroughs of Belfast and Londonderry. Capital, Belfast.

**AREA, POPULATION, ETC.** The area of Northern Ireland, exclusive of water, is 3,351,444 statute acres (also given as 5238 square miles). At the census of 1926, the population was 1,256,561, as compared with 1,250,531 in 1911. The estimated population, as of June 30, 1931, was 1,246,000. In 1930, births numbered 25,879; deaths, 17,148; and marriages, 7547. Roman Catholics constituted one-third of the population. The population of Belfast was 415,007 in 1926. For the academic year 1930-31, there were 1893 public elementary schools, with 201,683 pupils; 73 secondary schools, with 12,094 pupils; and 123 technical schools, with 23,941 students. The Queen's University in Belfast had 1430 students in 1931-32.

**PRODUCTION.** Agriculture is the main occupation, although important linen and shipbuilding industries are located in Belfast. Cereals, potatoes, flax, fruit, and hay are the leading crops. In 1931, about 85,000 persons were employed in linen manufacturing. Shipyards employed about 11,000 persons and the output capacity exceeded 250,000 tons annually. Rope, twine, tobacco products, and soap are other products. Commerce statistics are included in those given for Great Britain.

**FINANCE.** About 30 per cent of the annual expenditure represents the cost of Imperial defense and of Northern Irish services reserved to the Imperial Parliament. Excluding these items, budget estimates for the fiscal year ending Mar. 31, 1933, balanced at £8,936,900, as compared with estimated revenues and expenditures of £8,828,375 in 1931-32. The Finance Minister, introducing

the 1932-33 budget in May, 1932, imposed no new taxation, but foreshadowed special measures of economy calculated to produce £50,000 in order to increase to £120,000 the balance of £70,000 available for surplus and the Imperial contribution.

**COMMUNICATIONS.** Besides 754 miles of main railway lines, Northern Ireland is served by inland waterways, 180 miles of canals, and 12,996 miles of highways. Belfast and Londonderry are the chief seaports.

**GOVERNMENT.** The country forms an integral part of the United Kingdom and is represented in the House of Commons by 13 members. The local parliament has general legislative and executive powers, with certain exceptions. It consists of a senate of 26 members (2 *ex-officio* and 24 elected by the lower house) and the Commons of 52 members elected by general suffrage. The lower house elected in May, 1929, included 37 Unionists, 11 Nationalists, 3 Independent Unionists, and 1 Laborite. The Governor in 1932 was the Duke of Abercorn. The ministry was as follows: Prime Minister, Viscount Craigavon; Finance, H. M. Pollock; Home Affairs, Sir R. Dawson Bates; Labor, J. M. Andrews; Education, Viscount Charlemont; Agriculture, Sir E. M. Archdale; Commerce, J. M. Barbour.

**HISTORY.** The continuance of the economic depression in Northern Ireland resulted in rioting by more than 10,000 unemployed in Belfast Oct. 11 and 12, 1932, in which two were killed and about 18 wounded. The outbreak was attributed to dissatisfaction with the pay received on unemployment relief projects. Efforts to precipitate a general strike in connection with the riots ended when relief payments were increased. Tom Mann, British Left Wing Labor leader, was deported from Belfast on October 14.

Political and religious difficulties between Northern Ireland and the Irish Free State continued. The declaration of President de Valera of the Irish Free State that he intended to secure political unification of Ireland aroused considerable alarm in Ulster and led Viscount Craigavon to visit London. He received assurances that no proposal to unite Northern Ireland and the Irish Free State would be considered against the will of the people of Northern Ireland. The visit of the Prince of Wales to Belfast on November 16 to dedicate the new Northern Ireland Parliament buildings was accompanied by anti-English Nationalist demonstrations. The Prince was welcomed with great enthusiasm in Belfast and departed without harm, despite threats to his safety. See IRISH FREE STATE.

**IRIDIUM.** See PLATINUM.

**IRISH FREE STATE.** A self-governing unit of the British Commonwealth of Nations, constituted under the Irish Free State Government Act of Dec. 5, 1922, which embodies the terms of the Anglo-Irish Treaty of Dec. 6, 1921. Capital, Dublin.

**AREA AND POPULATION.** Comprising about five-sixths of Ireland, the Irish Free State has an area of 26,601 square miles. The population in 1931 was estimated at 2,957,000, as compared with 2,971,922 at the census of 1926. The steady decrease of population since 1871 was due primarily to emigration. In 1931, however, emigration was offset by immigration. Less than 2000 emigrants left Ireland during the year, as against 15,966 in 1930 and 20,802 in 1920. For the period 1926 to 1930, births averaged 58,192 annually and

deaths 42,374, the rates per 1000 of population being 19.7 and 14.3, respectively. The population of the chief cities in 1926 was: Dublin proper, 316,693 (410,900 in 1930); Cork, 78,490; Limerick, 39,448; and Waterford, 26,647. Of the total population in 1926, 2,751,269 were Roman Catholics and 220,653 were Protestants.

**EDUCATION.** Primary education is free and compulsory for children under 14 years. Study of the Irish language was a required part of the curriculum in all national schools. In 1929-30, there were 504,427 pupils in national elementary schools, 27,645 in secondary schools, which are mostly conducted by religious orders, and 3953 students in the University of Dublin and the National University (4339 in 1931-32).

**PRODUCTION.** Primarily an agricultural country, the Free State in 1930 had 3,746,000 acres under crops, or about 22 per cent of the total land area; 7900 acres under orchards, and 8,081,000 acres of grass and grazing land. Cattle exports to Great Britain were the chief source of agricultural income. Livestock in 1931 included 4,029,000 cattle, 3,575,000 sheep, 1,227,000 swine, 450,000 horses, 177,000 asses, and 16,000 mules. Hogs slaughtered in 1931 numbered 700,584 (657,140 in 1930) and cured pork totaled 106,154,000 pounds (100,773,000 in 1930). Cattle exported in 1931 numbered 765,952 (857,878 in 1930), valued at \$57,456,000 (\$71,413,000 in 1930). Production of the chief crops in 1931, in bushels except as indicated, was: Wheat, 781,000; rye, 110,000; barley, 4,921,000; oats, 36,457,000; potatoes, 72,132,000; turnips, 3,303,000 long tons; sugar beets, 34,000 long tons; beet sugar (in 1931-32), 6000 long tons; hay, 5,116,000 long tons; flax, 267,000 pounds; mangels, 1,540,000 long tons.

The sea fish catch in 1931, exclusive of salmon and shellfish, amounted to 23,854,000 pounds valued at £151,230 (\$686,000), as against 22,688,000 pounds valued at £162,247 (\$790,000) in 1930. Butter, cheese, milled grain, margarine, and liquors are the chief manufactured products. The number of registered unemployed increased from 30,865 in December, 1931, to 71,000 on June 30, 1932.

**COMMERCE.** Exports of the Irish Free State in 1931 declined to £36,276,000 from £44,567,000 in 1930, while imports fell to £50,458,000 from £56,709,000 in 1930. The principal imports in 1931 were: Wheat and flour, £3,235,102; maize, £2,153,652; coal, £3,072,924; tea, £2,119,995; iron and steel and their manufactures (excluding cutlery and machinery), £1,900,939. The leading exports were: Live cattle, £12,669,504; porter, beer, and ale, £4,687,370; butter, £2,086,035; fresh eggs, £2,227,452; bacon, £1,216,430; horses, £1,960,595. Imports came chiefly from Great Britain, £35,738,042; Northern Ireland, £5,040,085; and the United States, £2,044,409. Exports went principally to Great Britain, £31,217,981; Northern Ireland, £3,725,978; United States, £393,437.

**FINANCE.** Revised budget estimates for the fiscal year ended Mar. 31, 1932, balanced at £27,916,000. However, closed accounts for the year showed a deficit of £639,000. In the preceding fiscal year total revenues were £32,582,897 and expenditures £31,104,648. On the basis of the 1931-32 budget, a deficit of £1,400,000 was forecast for 1932-33. Accordingly, Minister of Finance McEntee introduced in May, 1932, a 1932-33 budget carrying income-tax increases calculated to yield an additional £1,000,000, surtax

increases estimated to yield £77,000, higher import duties, and higher imposts on many forms of sports, amusements, and luxury articles. At the same time provision was made for a reduction in official salaries. The public debt on Mar. 31, 1932, amounted to £30,695,000.

**COMMUNICATIONS.** Railways in operation in the Free State in 1931 extended 2668 miles, the principal system being the Great Southern. Highways aggregated 40,462 miles (45,722 miles of macadam); inland waterways and canals, 650 miles. The telegraph and telephone systems are government owned. In 1930, 13,963 vessels, of 9,248,415 tons, entered Free State ports in the foreign trade and 13,967, of 9,246,460 tons, cleared.

**GOVERNMENT.** The Constitution of Dec. 6, 1922, declares the Irish Free State a co-equal member of the British Commonwealth of Nations and that "all powers of government . . . are derived from the people of Ireland. It designates the Irish language as the national language, with English equally recognized as an official language; prohibits the state endowment of any religion; guarantees freedom of conscience and religion, speech, and peaceful assembly. The Legislature (Oireachtas) consists of the King, represented by the Governor-General, the Chamber of Deputies (Dáil Eireann) of 153 members elected by popular suffrage under a system of proportional representation, and the Senate (Seanad Eireann) of 60 members elected for nine years by the members of both houses of parliament "voting together on principles of proportional representation." The President of the Council is nominated by the Dáil and in turn nominates the other members of the Council, or ministry, who must be approved by the Dáil. At the beginning of 1932, the Governor-General was James McNeill (assumed office Feb. 1, 1928) and the President of the Council was William T. Cosgrave (Cumann na nGaedheal). The composition of the Dáil elected Feb. 21, 1932, with the previous standing of the parties in parentheses, was: Fianna Fáil (de Valera's party), 72 (57); Cumann na nGaedheal (Cosgrave), 56 (62); Labor, 7 (11); Farmers, 4 (6); Independents, 13 (15); vacancies, 1 (2).

The Executive Council appointed Mar. 9, 1932, was as follows: President and Minister for External Affairs, Eamon de Valera; Vice President and Minister for Local Government and Public Health, Sean T. O'Kelly; Lands and Fisheries, Patrick Rutledge; Industry and Commerce, Sean F. Lemass; Finance, Sean MacEntee; Agriculture, Dr. James Ryan; Defense, Frank Aiken; Education, Thomas Derrig; Justice, James Geoghegan; Posts and Telegraphs, Joseph Connolly; Attorney-General, C. A. Maguire. For other governmental changes in 1932, see *History*.

#### HISTORY

**DE VALERA WINS ELECTION.** The campaign for election of a new Dáil was well under way at the beginning of 1932 (see 1931 YEAR BOOK). Eamon de Valera's party (Fianna Fáil) campaigned on a platform demanding work for every one, abolition of the oath of allegiance to the King, retention of the land annuities, and repeal of the public safety act passed by the Cosgrave government in 1931. The general election of February 9 gave Fianna Fáil a victory over the 10-year-old Cosgrave régime (for the composition of the new Dáil see *Government*). While Fianna Fáil

displaced Cosgrave's Cumann na nGaedheal party as the largest group in the Dáil, the Labor party held the balance of power. In return for its support in enabling de Valera to form a new government, Labor demanded and received extensive concessions in the form of unemployment relief and other social services.

**OATH AND ANNUITIES DISPUTES.** It was difficult to determine which issues decided the outcome of the election. Some writers ascribed de Valera's victory chiefly to the economic depression, the consequent burden of taxation, and a desire for a change after ten years of Cosgrave rule. Mr. de Valera described the election as a mandate for the abolition of the oath of allegiance and the retention of the land annuities. He announced that his third major objective would be the union of Northern Ireland with the Irish Free State (see *IRELAND, NORTHERN*). Mr. de Valera was elected President of the Council on March 9. Immediately upon the reassembling of the Dáil Éireann April 20 he introduced a bill to abolish the oath and to strike from the Constitution the provision that amendments, and even laws, must be in accord with the terms of the Anglo-Irish treaty of 1921.

The Fianna Fáil leader denounced the oath as "the cause of all the strife and dissension in the country since the signing of the Treaty." He did not, however, propose withdrawal of the Free State from the British Commonwealth of Nations. The Constitution, as amended by the oath bill, recognized the position of the King and the Governor-General; it defined the Free State as a "co-equal" member of the Commonwealth. The bill was passed by the Dáil on May 19. On June 8, however, the Senate, which was still controlled by the Cosgrave party, rejected that section of the bill which would have eliminated reference to the 1921 treaty from the Constitution. Instead the Senate adopted an amendment providing that the oath bill should not become effective until the Free State and British governments had reached an agreement concerning the abolition of the oath. A bill rejected by the Senate could not under the Constitution become a law until the Dáil had passed it a second time and a period of 18 months had elapsed since its introduction. Accordingly, although the Dáil repassed the bill on July 12, the oath issue was postponed by the Senate's action until 1933.

It was the annuities issue that brought the British and Free State governments to the verge of an open break and to a bitter and mutually damaging tariff war. This issue involved payments owed by Irish tenant-purchasers on account of loans advanced to them by authority of the British Parliament to enable them to buy their holdings. The interest and, in some cases, the principal of the funds advanced by British and Irish investors was guaranteed by the British government. President de Valera's case for retention of the land annuities rested partly on the fact that the Government of Ireland Act of 1920 authorized both Northern Ireland and the Free State to dispense with these payments and that they were no longer made by Northern Ireland. He informed the British government that he was not aware of "a formal and explicit undertaking to pay the land annuities to the National Debt Commissioners."

The British government replied that the status of the Free State, unlike that of Northern Ireland, was not based upon the Government of

Ireland Act but on a subsequent Act and several agreements, among which was the land annuities convention. It made public the hitherto unrevealed text of an agreement signed by President Cosgrave on Feb. 23, 1923, under which the Free State government was to collect the annuities and pay the full amount due into the "appropriate fund." The Central Fund of the Free State government was pledged as secondary security. According to the British, the Free State Land Act of 1923 implemented the annuities agreement, which was further reinforced by a document signed by both governments in 1926. The latter agreement pledged the Free State government "to pay to the British government . . . the full amount of the annuities . . . without any deduction whatsoever on account of Income Tax or otherwise." The British contentions were supported, in general, by Mr. Cosgrave and his party.

President de Valera rejected these contentions on the ground that the 1923 agreement did not specify payment to the British government and that the 1926 agreement was invalid because it was never ratified by the Dáil. Accordingly, his government made no payment of a £1,500,000 installment of the land annuities due June 15. He declined to submit the annuities issue to arbitration by a Commonwealth tribunal such as was envisaged at the 1930 Imperial Conference and the British in turn rejected his proposal to submit it to international arbitration. On June 16, in a note to the British government, President de Valera reiterated that his aim was the ultimate establishment of a "united Irish republic," associated with Great Britain "in some circumstances and for some reasons," and recognizing the British King as head of the associated states. J. H. Thomas, Secretary of State for Dominions, replied that "no British government would ever agree to such a suggestion." His reasons, expressed or implied, were the hostility of Northern Ireland to union with the Free State and the possibility that Ireland, if completely separated from the British Commonwealth of Nations, might provide some hostile power with a base of operations against the United Kingdom. Finally, it was felt that an independent Ireland might speed the dissolution of the British Commonwealth.

Meanwhile the Dominions of Australia, New Zealand, and South Africa, in notes sent to President de Valera in April, had expressed the hope that no differences of opinion would arise which might weaken the unity of the British Commonwealth or disturb the friendly relations between "two of the oldest sister states."

**THE TARIFF WAR.** When default on the land annuities became effective June 30, the British government announced that it would impose special duties up to 100 per cent ad valorem on imports from the Irish Free State, the duties to remain in force until the amount of the annuities withheld had been collected. A special tariff bill embodying this threat was passed by Parliament on July 12 and on July 15 the government placed a 20 per cent duty on the chief imports from the Free State. The Free State on July 26 retaliated with a tariff measure imposing new or increased duties on selected commodities imported from Great Britain and Northern Ireland. These moves, which deepened the emotional conflict between the two peoples, were followed by successive retaliatory blows at each other's exports and by a series of futile efforts to negotiate a settlement.

In this economic warfare, the Free State suffered relatively more than the United Kingdom, due to its almost complete dependence upon the English market, which took 92 per cent of its exports (see trade statistics for 1931 under *Commerce*). Nevertheless, British trade was affected. In 1931 the Free State ranked second to India as the chief British export market, taking 8 per cent of the value of all exports. In August, 1932, Free State shipments of live animals and farm products to Great Britain decreased by £1,600,000, as compared with August, 1931. The number of unemployed in the Irish Free State increased from 30,398 on Mar. 14, 1932, to 76,715 on August 21 and 88,376 on October 12, an increase attributed largely to the tariff war. In the three months ended October 13, Britain collected revenues of £503,000 (\$1,654,000) on Free State products. This compared with land annuities totaling £564,000 (\$1,855,000) withheld during the same period.

The farmers and cattle raisers of the Free State, who suffered severely under the British tariff, showed increasing restiveness. They sent numerous petitions requesting settlement of the dispute and adopted resolutions to withhold payments of land annuities due the Free State government, which was holding the funds in a suspended account. President de Valera sought to allay their discontent by paying a bounty on Free State exports designed to offset the British duties. The bounty was paid out of higher income and other taxation falling chiefly on the Irish middle classes, who were vocal in their protests.

On October 5 President de Valera reopened negotiations for a settlement, stopping in London on his way home from Geneva, where he had presided with distinction over a session of the Council of the League of Nations (see *LEAGUE OF NATIONS*). His conversations with Mr. Thomas and other British officials were resumed on October 14 and 15, when he returned to London accompanied by three members of his Cabinet. The parleys ended in failure, the British insisting upon observance of the agreements of 1923 and 1926 and the Irish refusing to admit their validity. The tariff war was now intensified. On October 20 the Free State tariff on a number of British products was raised. The British government on November 9 raised the special duty on Free State cattle from 20 to 40 per cent and that on Free State butter, eggs, cream, bacon, pork, and poultry from 20 to 30 per cent. President de Valera sought to appease the farmers by announcing (November 16) that the government would introduce legislation for perpetual remission of a substantial part of the land annuities. While admitting the hardship imposed by the tariff, he declared that his aim was the reorganization of the Free State's economy to free it of its "dangerous dependence upon Britain."

**THE PRIVATE ARMIES.** One of the first acts of the de Valera government was to repeal the public safety act of 1931, designed to check the activities of the private Irish Republican Army. Upon its repeal, the I. R. A. resumed drilling in public. During the summer members of the Opposition repeatedly charged in the Dáil that arms were being landed for use of the republican organization. The government, however, made no effort to restrain the I. R. A., which exerted steady pressure upon it to break openly with Great Britain and establish an independent republic. The government's complacency in the

face of the defiance and terroristic methods of the republicans caused the Army Comrade's Association in August to commence the enrollment of volunteers "with the object of neutralizing the influences of those hidden forces of disorder which are in operation in our country and may grow into a ruthless tyranny if not checked in time." The association, composed of men who formerly served in the Free State Army, was headed by Dr. T. F. O'Higgins, a brother of Kevin O'Higgins, victim of a political murder in 1927.

On August 24, Minister of Defense Aiken announced the formation of the National Guard, a sort of training reserve for the Free State Army, the official army controlled by the government and generally regarded as outside of politics. This made four military organizations, two of them private, within the Free State. A number of clashes between Army Comrades Association members and Republicans occurred during the remainder of the year. Armistice Day celebrations in Dublin were countered by a parade of the I. R. A. through the principal streets, which ended in serious clashes with the police.

**THE GOVERNOR-GENERAL IS OUSTED.** Conflict between Governor-General James McNeill and Mr. de Valera's government broke out soon after the inauguration of the new government and continued until the forced resignation of Mr. McNeill on October 3. The members of the government slighted the Governor-General and his office on every possible occasion. On one occasion, the Governor-General demanded an apology, which was refused. In July, defying Mr. de Valera's warning, the Governor-General made public correspondence that had passed between himself and the President. Mr. McNeill's term of office was due to expire Feb. 1, 1933, but in September the Free State government, in accordance with constitutional procedure adopted at the Imperial Conference of 1930, advised King George that the Governor-General's resignation was desired. The resignation was offered and accepted by the King on October 3, becoming effective October 31. On November 26, the King on nomination of President de Valera appointed Donal Buckley, a relatively unknown shopkeeper of Maynooth, County Kildare, as successor to Mr. McNeill. Mr. Buckley was a fervent republican and a close friend of Mr. de Valera. It was reported that his title was changed from Governor-General to Seneschal.

**OTHER EVENTS.** A 10,000-acre estate, including the lakes of Killarney, known as a famous beauty spot, was presented to the Free State in November by William Bowers Bourn of San Mateo, Calif. The Eucharistic Congress of the Roman Catholic Church was held in Dublin June 22-26.

See *GREAT BRITAIN* under *History*.

Consult W. L. Williams, "Great Britain and the Irish Free State," *Foreign Policy Reports*, July 6, 1932, vol. viii, no. 9; Stephen Gwynn, "The Shift in Irish Leadership," *Current History*, April, 1932; Sean T. O'Kelly, "The Irish Land Annuities," *New Outlook*, December, 1932.

**IRISH LANGUAGE AND LITERATURE.**

See *PHILOLOGY*, *MODERN*.

**IRON AND STEEL.** The production of iron and steel in America, according to *The Iron Age*, New York, in its annual review of the industry, was at a much lower ebb than that reached by other steel-producing countries. The world's total production of steel ingots in 1932 declined 28.5 per cent from that of 1931, while that of

the United States declined 48 per cent in the same period. The production of pig iron throughout the world declined 30 per cent below the production in 1931, while in the United States the production dropped about 53 per cent. The combined steel production of Germany, France, and England dropped in 1932 to about 50 per cent of the combined output of the peak year of 1929, but in the United States the output dropped to less than 25 per cent of the 1929 peak.

International trade in iron and steel, according to the same authority, has naturally slumped along with domestic business, but the decline in imports was relatively less than that of American exports. Outgoing shipments of iron and steel, at 585,600 gross tons, with December estimated, were the lowest on record, comparing with 984,815 tons in 1931 and 3,063,075 tons in 1929. Even with this small trade, more than a third of it consisted of iron and steel scrap, going principally to Japan and Canada. Imports in 1932, in striking contrast to exports, compared favorably with those of the previous year, being estimated at 380,610 tons against 421,089 tons in 1931 and with the peak movement in recent years of 774,212 tons in 1929.

Pig iron and ferromanganese imports, aggregating 116,383 tons and 22,111 tons respectively, were the heavy tonnages of raw materials brought into the United States. Pig iron came in greatest quantities from the Netherlands. Finished steel came chiefly from central European countries, Belgium leading with a total of 87,742 tons in the first 11 months of 1932.

The United States market was particularly affected by the importation of bars and shapes. In New York especially there was a keen competition between foreign and domestic steel; particularly reinforcing bars. Welsh tin plate was brought in on the Pacific Coast at prices much below those quoted by American producers. Even German-made steel pipe, which in previous years had scarcely been a factor in our import trade, found its way into jobbers' warehouses on the Pacific coast. To aggravate the situation, the Canadian market, which for many years has been the best outlet for steel in the export trade of the United States, was virtually closed to American mills by the agreement with Great Britain to establish preferential tariffs intended to build up inter-empire transactions. A conspicuous example of the loss of Canadian trade was the purchase by an American can manufacturer of about 1,000,000 base boxes of Welsh tin plate for its Canadian plants, most of this business having heretofore come to American mills.

With such problems as these, in addition to others that were the natural outgrowth of the depression, the steel companies came closer together in coöperative effort along remedial lines. They found common ground in seeking to curb imports of European steel. Official complaint was lodged at Washington by the American Iron and Steel Institute, alleging that foreign steel was being sold in the United States in violation of the anti-dumping act, and the contention is still the subject of a broad inquiry by the Bureau of Customs.

**IRON ORE.** The iron ore mined in the United States in 1932, exclusive of ore that contained 5 per cent or more of manganese in the natural state, was estimated by the U. S. Bureau of Mines, at 9,588,000 gross tons, a decrease of 69 per cent as compared with that mined in 1931.

The output in 1932 was the lowest since 1885. The ore shipped from the mines in 1932 was estimated at 5,364,000 gross tons, valued at \$13,042,000, a decrease of 81 per cent in quantity and of 82 per cent in total value as compared with the figures for 1931. The average value of the ore per gross ton at the mines in 1932 was estimated at \$2.43; in 1931 it was \$2.60. The stocks of iron ore at the mines, mainly in Michigan and Minnesota, apparently increased 33 per cent from 13,063,708 gross tons in 1931 to 17,316,000 tons in 1932. The stocks at the end of 1932 were the largest ever accumulated at the mines. The Bureau of Mines estimates are based on preliminary figures furnished by producers who mine about 99 per cent of the total iron ore. They show the totals for the principal iron-ore producing States, and, by grouping together certain States, the totals for the Lake Superior district and for groups of Southeastern, Northeastern, and Western States.

Only 67 per cent of the iron ore shipped in 1932 came from the Lake Superior district, in which approximately 7,882,000 gross tons were mined and 3,614,000 tons were shipped, decreases of 70 and 84 per cent, respectively, as compared with the quantities mined and shipped in 1931. The ore shipped in 1932 was valued at the mines at \$10,081,000, a decrease of 84 per cent. These totals include the ore shipped by rail as well as by water from all mines, but exclude manganese ores amounting to approximately 11,000 gross tons in 1932 and 246,136 tons in 1931 that contained 5 per cent or more of manganese in the natural state. The stocks of iron ore in this district apparently increased from 11,821,646 gross tons in 1931 to 16,120,000 tons in 1932, or 36 per cent. The shipments of iron ore by water from the Lake Superior district in 1932 (including manganese iron ores), according to the Lake Superior Iron Ore Association, amounted to 3,567,985 gross tons, a decrease of 85 per cent as compared with these shipments in 1931. The average value of the ore at the mines in the Lake Superior district in 1932 was \$2.79 a ton; in 1931 it was \$2.74.

The Southeastern States, in which the Birmingham district is the largest iron-ore producing area, mined approximately 1,400,000 gross tons of iron ore in 1932, a decrease of 63 per cent as compared with 1931. The shipments of iron ore from mines in these States in 1932 amounted to 1,492,000 gross tons, valued at \$2,470,000, decreases of 60 and 62 per cent, respectively, in quantity and value as compared with 1931. The average value of the ore produced in these States in 1932 per gross ton was \$1.66; in 1931 it was \$1.74. The stocks of iron ore at the mines in this group of States, mainly in the Birmingham district, decreased from 898,635 gross tons in the year 1931 to 806,000 gross tons for 1932.

The imports of iron ore reported for the eleven months ended Nov. 30, 1932, as compiled from the records of the Bureau of Foreign and Domestic Commerce, Department of Commerce, amounted to 574,362 gross tons, valued at \$1,521,295 or \$2.65 a ton. The imports for the year 1931 were 1,465,613 gross tons, valued at \$3,901,775 or \$2.66 a ton. The reported exports of iron ore for the 11 months ended Nov. 30, 1932, amounted to 83,406 gross tons, valued at \$219,604, or \$2.63 a ton, as compared with ex-



ports for the entire year 1931 of 435,665 tons, last year was considerably less than half the valued at \$1,657,832, or \$3.71 a ton. preceding year's total, the percentage increase

# ESTIMATES OF IRON ORE MINED AND SHIPPED IN THE UNITED STATES IN 1932 AND ACTUAL OUTPUT IN 1931

[U. S. Bureau of Mines]

District	Ore mined		Ore shipped			
	1931 Gross tons	1932 Gross tons	1931 Gross tons	1932 Value	1932 Gross tons	1932 Value
Lake Superior:						
Michigan .....	7,552,581	2,587,000	5,555,876	\$15,986,278	967,000	\$ 2,667,000
Minnesota .....	17,445,003	5,865,000	17,063,591	46,020,289	2,287,000	6,508,000
Wisconsin .....	879,832	430,000	629,977	1,658,670	860,000	906,000
Total .....	25,877,416	7,882,000	23,248,944	68,665,212	3,614,000	10,081,000
Southeastern States:						
Alabama .....	3,615,144	1,369,000	3,629,997	6,155,995	1,465,000	2,396,000
Georgia .....	20,745	1,000	20,745	51,513	1,000	
Missouri .....	112,372	30,000	112,055	337,144	26,000	74,000
Tennessee .....	8,717	.. ..	8,717	36,156	.....	.....
Total .....	3,756,978	1,400,000	3,771,514	6,580,808	1,492,000	2,470,000
Northeastern States:						
New Jersey .....	293,768	31,000	239,722	984,021	15,000	173,000
New York .....	275,075	33,000	259,184	1,067,489	29,000	
Pennsylvania .....	368,117	101,000	436,920	913,163	73,000	145,000
Total .....	936,960	165,000	935,826	2,964,673	117,000	318,000
Western States .....	560,148	141,000	559,748	913,217	141,000	173,000
Grand total .....	31,131,502	9,588,000	28,516,032	\$74,123,910	5,364,000	\$13,042,000

**PIG IRON.** Pig iron production in 1932 dropped to the lowest total for any year since 1896, according to *The Iron Age*. Last year's output of coke, pig iron, and ferroalloys was about 8,750,000 tons compared with 18,380,141 tons in 1931 and 42,475,780 tons in 1929, the peak year. The 1932 total surpassed that of 1896 (8,313,000 tons) by only a small margin. It is worthy of comment, however, that in 1895 an output of 9,221,000 tons established a new high record, while last year's production was only about 20 per cent of the all-time peak in 1929.

Output of pig iron rose slightly during the first two months of 1932, but a decline began in March which continued through August, when a low of 17,115 tons daily was reached. This was the lowest daily rate since October, 1896, when 16,079 tons a day was produced. A seasonal increase made itself felt in September, and the number of active furnaces increased from 42, making iron at the rate of 16,225 tons a day on September 1 to 51 furnaces producing at the rate of 20,860 tons on December 1.

Pig iron markets during the year were characterized by a continuance of the price decline which began in the summer of 1929, and which has finally carried quotations on merchant iron in most of the principal producing districts below the cost of production. *The Iron Age* composite price dropped gradually from \$14.81 a ton at the beginning of January to \$13.56 a ton at the year-end, the lowest since August, 1915. Thus the net decline of \$1.45 a ton exceeded the \$1.11 drop in 1931.

Pig iron imports in the 10 months ended with October amounted to 107,610 tons, compared with 74,610 tons in the corresponding 1931 period. Of the 1932 total, the Netherlands shipped more than half, while British India and the United Kingdom followed in the order named. A new competitive factor late in the year was the receipt of a small lot of Japanese pig iron, with more to follow. In view of the fact that consumption in seaboard and nearby foundries

in foreign iron consumed was larger than the figures on imports indicate.

## DAILY RATE OF PIG IRON PRODUCTION IN 1932

Month	Furnaces in blast first day of month	Operating rate tons per day on first day of month	Daily average production during the month
January .....	56	29,365	31,380
February .....	61	30,630	33,251
March .....	64	32,880	31,201
April .....	60	29,135	28,430
May .....	60	27,730	25,276
June .....	53	22,965	20,935
July .....	46	18,955	18,461
August .....	46	17,525	17,115
September .....	42	16,225	19,753
October .....	47	19,205	20,800
November .....	49	20,170	21,042
December .....	51	20,860	17,615

**IRRIGATION.** See RECLAMATION.

**ISLE OF MAN.** See GREAT BRITAIN.

**ISOTOPES.** See CHEMISTRY.

**ISTANBUL.** See TURKEY.

**ISTHMIAN LINKS.** See GEOLOGY.

**ITALIAN ARCHÆOLOGY.** See ARCHÆOLOGY.

**ITALIAN ARCHITECTURE.** See ARCHITECTURE.

**ITALIAN LITERATURE.** The season, viewed in retrospect, witnessed two major events, of which the organization of a National Institute of Drama was indeed welcome, and the passing of Enrico Corradini was a serious loss to Italian letters.

Silvio D'Amico, genial dramatic critic, first conceived a plan for a National Italian Theatre in his essay, *La crisi del Teatro*, which appeared in *Pègaso* some years ago. This essay, now available in booklet form, appearing as it did when the Italian dramatic production was in an apathetic state, stirred theatrical circles to the point of feverishness and instilled a ray of hope. In it, D'Amico analyzed the ills of the Italian stage and forecast its temporary demise unless



help, in the form of subvention, was forthcoming. He called on the Government to act. In fact, he submitted plans for a National Institute of Drama to the Fascist State in 1931. This plan remained a symbol until the past season, when it emerged from the process of crystallization. D'Amico himself issued definite information relative to this "child" since he entrusted it into the hands of the Government Syndicate of Drama. This information revealed that the plan was adopted a year and a half ago by the Syndicate, and under the personal supervision and study of Gino Pierantoni subsidy, in bulk at least, was provided to insure the Institute's reason for being. The next step was to find suitable theatres to evolve or produce drama *ex novo*.

What attitude did the Syndicate show toward the functioning of a practical plan for a National Institute? Various factors continue to impede Italian production. By reason of poverty it has lacked in enterprise, and so languished. It has been powerless to encourage dramatic talent among both young and veteran writers. The promise of a decade and a half ago, indicated by such names as Chiarelli, San Seconodo, Cavacchioli, among others, is now but a memory. When we consider the constituents that composed it, we may call it a theatrical heyday—on the one hand, the "Grotesque Theatre" as exemplified by Chiarelli's *Mask and the Face*, and, on the other, Pirandello with his paradox of self-identity in the philosophical vein. With production next to impossible, the playwright withdraws, interest lags, and if there be experimentation, this is in favor of successful foreign productions which offer better returns. Though the theatrical situation is acute, Italy is not alone in this plight; much may be attributed to the world crisis.

Granting the Institute a certainty, does the future promise to encourage the production of Italian creations by Italians? How will it revive interest in the stage and retrieve, if not increase, its audience? Will it stress the classics or contemporary drama? Conservative or experimental? D'Amico has drawn up a programme according to which Italy will have three theatrical centres nationally subsidized. The main centres will be located in Milan and Rome. A third theatre is to be established as an experimental theatre for Italy's younger and lesser-known writers. The centres will exchange their stock companies periodically, and periodically, too, they will make tours of the country.

On Dec. 11, 1931, Italy lost Enrico Corradini, a vigorous nationalist and polemicist. Corradini's activity in the cause of Italian nationalism found momentum on the eve of Italy's entry into the World War. And, if, in the past decade or so, his activity was less militant, it reached, none the less, a more mellow, a more philosophical turn. His later contributions to periodicals touched varied and vital points: problems in nationalism and the arts. In the past decade, he revised and republished his masterpiece, *Giulio Cesare*, a historico-national drama in which the national Italian character, with all its strength and all its weaknesses, finds identification with a Cæsar, a Brutus, a Cassius, or, if you will, any Roman. In the light of national unity, the Italian has paid dearly for his ultra-individualism. Corradini, cognizant of this divergent trait in the Italian character, persistently urged the necessity of a fusion of the constituents to develop a strong national character to serve modern Italy:

a Roman heritage. To this end Corradini identified himself with the Fascist State which he served in the capacity of Senator and Minister. He was a Florentine, born in Samminiato di Montelupo, 1865. He started his career in literature proper. His early contributions in the form of novels fell somewhat under the D'Annunzian formulae and contained faint echoes of the Nordic philosophers. This early activity (one of imitation and study rather than one of creation) served as an indispensable groundwork for his vast knowledge of history, philosophy, political economy. It is within the foregoing fields that Corradini met with most distinction. For a list of his contributions see *Chi è?* (The Italian "Who's Who?") and the NEW INTERNATIONAL YEAR BOOK, 1931, and Camillo Pellizi's *Le lettere italiane del nostro secolo*. Enrico Corradini collaborated on and directed several political journals, such as *L'idea nazionale*, *Marzocco*, *Il Regno*, the latter of which he founded in 1904. For two studies on the author consult: P. L. Occhini, *Enrico Corradini, Scrittore e nazionalista* (Rome, 1914), and G. Benedetti, *Enrico Corradini* (Piacenza, 1922).

The Goethe celebration throughout Europe caused much stir in Italy where new publications on the German genius appeared and old ones were revived to recall their existence to the Italian public. Goethe's Latinity, and his proclivity for Italian culture, draws him close to the Italian intellectual. *Italia Letteraria* devoted an entire issue to the study of the man and his influence on the Italian peninsula. The April 12th issue of this weekly was replete with material of a biographical nature, and contained, among other contributions, Papini's "Accenni su Goethe," Sibilla Aleramo's "Goethe, e la donna," Enrico Rocca's "Il teatro italiano e Goethe," and G. Titta Roas's "Viaggio in Italia." There are to be noted also the posthumous publication of Prof. Emilio Tezza's version of *Faust*, and a *Life of Goethe* by Lavinia Mazzucchetti, written in the popular vein.

NOVEL. Enrico Cavacchioli who with Luigi Chiarelli, Rosso di San Secondo, and others, concentrated his efforts on the "Grotesque Theatre," a few years ago, issued his second novel, *Serenata celeste* (Ceschina, Milan). With a theme developed out of atmosphere and realism, the novel falls short of being a serious piece of work. It recalls Alberto Moravia's *Gli indifferenti*, though without the forcefulness and poignancy that makes Moravia's novel one of the best contributed in the past decade. The principal objection that the reviewer voices relative to *Serenata celeste* is that the author failed to exploit to advantage the atmosphere and realism couching the first episodes of the novel. Instead he has, knowingly or not, injected an overdose of melodrama. It seems that every situation possible has been thought up and pressed into the story, which, if composed along simpler lines, would have merited a better fate. A mother, a daughter, a libertine lover, a romantic musician are the principals around which the story revolves in a series of extravagant episodes. And, as if in burlesque, an outline of the novel, as well as its autocondemnation, may be found on page 88. In Mario Ferrigni's *Il legionario di sette imperatori* (*The Legionary of Seven Emperors*; Ceschina, Milan) we had a Milanese historical novel with a setting in the 3d and the 4th centuries, after Diocletian had divided the Roman Empire into four

parts and the rule of Italy fell to the Emperor Maximian. The Milan of this epoch is depicted as the cross-roads of the great Empire, the capital of Italy. Here was indeed a city of economic bustle, of intense life, and activity. This was the throbbing Milan, the *Mayland* of the Gauls six centuries B.C., and the *Mediolanum* of the Romans! Specifically the novel deals with Christianity already firmly rooted notwithstanding all the imperialistic persecutions, not excluding Diocletian's. In one part of the story the splendor of all Milan is revealed assembled in the Gabinio Theatre, Maximian, and Diocletian, also spectators. Here the novel attains the heights of emotion and pathos when the comic actor, Genesio, Roman born, repeatedly cries out in defiance, "Tis true I am a Christian!" For this bold manifestation he was decapitated; but not in vain, for the fervor was caught by others of the troupe. And so, like the drama evolved in this little theatre, the Christian drama of the whole Romanic Empire shows that the persecution of one man will account for the conversion of hundreds of other fellow-creatures. As a whole, the novel sustains the historic mood, though the narrative vein is well-timed to offset the tediousness usually present in novels of this type. While it is true that finely worked out detail is essential to the historic novel, it may be pointed out that the author might have condensed his work with advantage without jeopardizing its historic setting. The author has created a praiseworthy nostalgic atmosphere of a distant epoch which he not only presented splendidly but with pathos and dignity.

Bruno Cicognani's *Villa Beatrice* (Treves-Treccani-Tumminelli, Milan) which bears the imprint of a novel written along broad lines and on a solid basis, failed to gain that support which would have won for it the merit and distinction. The story lacked sustained interest and forceful characters. The characters lacked the necessary psychological focus that would render them lifelike and convincing. Cicognani's *Beatrice*, for all her antipathy to conjugal life, to parturition, etc., never fully wins sympathy, yet the novel was fairly well received. Cicognani's short stories of recent date, *Strada facendo* are to be preferred. Where Cicognani fell short in character delineation, Sibilla Aleramo sketched more sympathetically "a life," *Caris di Rosia*, in her latest novel, *Frustino* (*The Whip*; Mondadori, Milan). If in his novel, Cicognani had architectonic structure, Aleramo has none at all. Her work could be called a series of sketches of the love affairs of a woman musician. The author imparted a poetic touch to the idiom which does much to cover the otherwise objectionable melodramatic note that permeates the work. Achille Campanile, who yearly furnished a screamingly funny novel, produced on schedule his *Battista al giro d'Italia* (Treves, Milan). In this Battista (or, our servant, "James") makes a tour of Italy on a bicycle. Jest and cynicism mark the dominant notes of his observations. Better still, may we be permitted to reduce Campanile's symbolic language to the subtle excoiation of the writers who make much ado about thin themes and their arid imaginations? Here attention may be called to the English version of Alberto Moravia's sensational novel, *Gli indifferenti*, (*The Indifferent Ones*; E. P. Dutton & Co., New York) translated by Aida Mastrangelo.

SHORT STORY. Bianca Gerin, little known

among the Italian women writers, made a valuable contribution to short stories in *Aprire la porta* (*Open the Door*; Ceschina, Milan). At most the stories are based on provincial themes, through which, however, gentility and humanity pervade like a delicate perfume. A finely worked-in idiom adds a touch of poetry. A finer contribution than this will hardly be furnished in several seasons. Two other women furnished collections of short stories. In *La propria sorte* (*One's Own Fate*; Marsano, Genoa), Piera Delfina Sessa portrayed a galaxy of characters from an analytical point of view. The "internal struggle" and psychological strokes throw them into high relief. They have pulse and command attention. The author's language is terse and distinctive. A few of her themes have Germanic settings and characters. Lina Pietravalle, better known than either of the afore, discussed authors, gave us sketches of a regional type in *Marcia nuziale* (*Nuptial March*; Bompiani, Milan). Sketched before us are rugged landscapes, strong men, and sturdy women. The work developed in cursory style, makes pleasant reading punctuated with comic episodes. Nino Savaresi based his stories and fantasies, *Storie e fantasie* (Ceschina, Milan), on rustic themes. They are composed with a light touch of philosophy that imparts an undertone of seriousness to the work. *Pane e vino* (*Bread and Wine*) is little short of being a masterpiece. It is perhaps the best story in the collection. Sea stories and legends were collected by E. Bavetta in *Inferni e paradisi del mare* (Agneselli, Milan), and attractively told and pleasingly arranged. The legends are annotated. A group of twelve short stories, *Horse in the Moon* (E. P. Dutton, New York), drawn from Luigi Pirandello's *Novelle per un anno*, and translated masterfully from the Italian by Samuel Putnam, appeared within the year.

THEATRE. The season, which seemed to lack enterprise to hold its own fell below par, notwithstanding the new hope of the project of establishing a National Institute of Drama on the plans submitted by Signor D'Amico. Of the scanty plays, the first worthy of mention was Giovacchino Forzano's *Villafranca* (Barbèra, Florence). Making use of the historic motive, specifically, that of Italy's struggle for independence in the feverish days of 1859, the author has brought into focus a trio that figures portentously in that not remote year—Cavour, Victor Emanuel II, and Napoleon III. In this type of drama the author has had most success. Here it suffices to say that *Villafranca* is good drama and contains red-blooded characters. It is free from pomposity and slow movement. Like plays often have these pitfalls. This play met with public favor in its run at the Teatro Argentina in Rome.

Giorgio Umani composed a dramatic poem in five scenes in *Prometeo* (*Prometheus*; Eroica, Milan). The composition has more value as poetry than as drama. The author must have sensed the futility of stage production of his topic, and yet, could he be excused for minimizing the dramatic moment of his composition? Had the author taken greater care in developing the dialogue interest and the dramatic effect, the work would have reached a far wider public. Considering Giulio Mariani's *La veggente di Betania* (*Mary Magdalen*; Eroica, Milan), the dramatic motives are over-developed, and the poetic values negligible. The stage production of this play

would be far more interesting than the reading, even though the work recalls the D'Annunzian and the Benelli techniques. For these obvious borrowings the author has been flayed by critics. Marco Praga's *Theatrical Chronicles* (Treves, Milan) have been continued after his death, first by Sabatino Lopez and, last season, by Mario Ferrigni, who continued the chronicles in the critical tradition of the founder. Alfonso Sandros produced a compilation of theatrical stories and anecdotes in *Nuovi aneddoti teatrali* (Formiggini, Rome). Pirandello's *Questa sera si recita a soggetto*, a play in which the characters step off stage and assume counterparts in reality (the famous problem of self-identity), has been translated into English, *Tonight We Improvise* (Dutton, New York), by Samuel Putnam. For a review of this play see *The Romanic Review*, vol. xxi, no. 3. At this moment, too, record should be made of Joseph Spencer Kennard's history of the Italian theatre, *The Italian Theatre* (Rudge, New York) in two volumes tastefully printed and bound, and well illustrated. The work, whatever be its shortcomings, is destined to serve the English speaking public in somewhat similar fashion as Luigi Tonelli's *Il Teatro Italiano* serves the Italians.

**POETRY.** The Mondadori Academy Prize for poetry was divided equally by Ugo Betti for his *Cansonette-La morte*, and Fernando Losavio for his *Canti di liberazione*. Both volumes were handsomely produced by Mondadori of Milan. Betti's poems (some assembled from periodical contributions) offer a wide variety of values and feelings. Not infrequently do we find the philosophic vein followed by the conversational, the tragic by the humorous, the ultra-poetic by the narrative. Withal, the poetry is not of the complex variety, which, of course, is always a relief. Losavio, on the other hand, is more lugubrious, almost exclusively in the minor mood. It is the song of liberation (as the title suggests) from the heaviness of life and its suffering. The following four lines will serve conveniently to disclose the thematic material as well as the mood:

Io mi son desto stamane e subito in cuore m'è nato  
un agomento vasto per la giornata intatta,  
che avevo da vivere innanzi.  
ore su ore fino al tramonto, fino alla notte. (*Risveglio*)

Two other volumes decorously edited by Vallecchi of Florence were by Domenico Giuliotti (*Poesie*) and Carlo Delcroix (*I miei canti*). Of the two volumes Giuliotti's deserves greater distinction. The author's poems ranging from 1905 upward (collected from magazine and periodical contributions), are marked by a genuineness of feeling and honesty of introspection. These lines exemplify the poet's singing qualities:

Svanito il volto della giovinezza,  
come dentro uno specchio che s'appanni,  
gelidi, grigi, senza canto, gli anni,  
si rammatassan sulla mia tristezza. (*Fallimento*)

Of Carlo Delcroix, it may be said in passing, that the poems in his latest contribution lack the note of fervid inspiration. They are dry, and too frequently lose the melodic line. In short, one might condemn them of lacking poetry. Still the volume ran through a second edition (up to 1500 copies). This should not be surprising for Mr. Delcroix, a militant Fascist, has a following in Italy.

**CRITICISM AND VARIA.** First in importance we signal out Benedetto Croce's History of Europe in the XIXth century (Laterza, Bari), an interpretation on broad canvas, liberally treated. It is an appeal beyond prejudices and political issues. The survey covered up to 1915. There were two volumes of interest dealing with contemporary authors. The first, Antonio Baldini's *Amici allo spiedo* (*Friends for the Roast*; Vallecchi, Florence), is a study of some of the leading literati of contemporary Italy. With all the apparent good nature of the appraisals, Baldini manages to inject here and there a mordant invective.

The studies are accompanied with critical evaluations of the recent contributions of the authors. In the second volume Carlo Linati discussed with surprising illumination England and American authors, among others, A. Huxley, Virginia Woolf, Lytton Strachey, Hemingway, Wilder. In general Signor Linati has coincided in his opinions with English criticism, though we do not see the importance of including such names as Ezra Pound in the studies. At this moment we should like to call to mind the series, *Tutte le opere* (*Complete Works*) of Antonio Fogazzaro, launched early in the season by Mondadori of Milan. The collection will be assembled in handsome editions with photographs and facsimiles. Piero Nardi's critical and biographical study, *Antonio Fogazzaro*, will serve as introduction to the collection; and Tommaso Gallarati-Scotti's selected letters, *Lettere scelte di Antonio Fogazzaro*, are destined to serve as postlude. The first volume published was the widely read novel, *Piccolo mondo antico*. Two biographies worthy of mention were F. V. Nardelli's *Vita e croci di Luigi Pirandello* (Mondadori, Milan). Aided by Pirandello himself, Nardelli has thrown to light hitherto unknown facts of the distinguished Sicilian. Camillo Antona Traversi continued to swell the list of biographies on D'Annunzio in his study of the poet, *Curriculum vitae di Gabriele D'Annunzio* (Casa del Libro, Rome), compiled from documents and diaries. In English we had Leonard Bacon's study of the poet, *The Furioso* (Harpers, New York), in which the versatile genius is observed in satirical vein (For biographies by Nardelli-Livingston and Sodini see NEW INTERNATIONAL YEAR BOOK, 1931.)

Lastly let us record three studies published by the scholarly house of Laterza (Bari). They are Nicola Festa's translations, *Fragments of the Stoics*, accompanied by copious notes and references; *Problems of Ancient History* by Gaetano de Sanctis; and Nina Ruffini's translation into the Italian of Gilbert Murray's *Euripides and his Times*.

**ITALIAN SOMALILAND**, sō-mā'li-länd. An Italian colony extending along the east coast of Africa from British Somaliland on the northwest to Kenya on the southwest, and bounded on the west by Ethiopia and on the north by the Gulf of Aden. Area, approximately 190,000 square miles; population, 1930 census, 1,030,177 including 1282 white. Mogadiscio, with a population of about 28,000 is the capital. The revenue for 1930-31 was 80,000,000 lire and the expenditure 79,993,000 lire (lira = \$0.526 at par). In 1930 imports were valued at 136,122,000 lire and exports at 47,956,000 lire. The colony is administered by a governor. Governor in 1932, M. Rava, appointed in 1931.

**ITALY.** A constitutional monarchy, comprising besides Italy proper the islands of Sardinia, Sicily, Elba, and some 70 other small islands, together with the territory on the eastern shore of the Adriatic acquired as a result of the Treaty of St. Germain and arrangement with Yugoslavia in 1920. Capital, Rome. Reigning sovereign in 1932, King Victor Emmanuel III, who was born on Nov. 11, 1869, and succeeded to the throne on the death of his father, July 29, 1900.

**AREA AND POPULATION.** At the census of Apr. 21, 1931, Italy had an area of 119,710 square miles and a population of 41,220,434, compared with an area of 110,632 square miles and a population of 36,120,118 in 1915. It was estimated (1931) that about 9,168,367 Italians were living in other countries. The four Italian colonies of Tripolitania, Cyrenaica, Eritrea, and Italian Somaliland (q.v.) had 55,574 white and 2,310,566 native inhabitants in 1931. Births in Italy in 1931 totaled 1,018,174 (1,093,450 in 1930); deaths, 601,685 (573,863); surplus of births, 416,489 (519,587); marriages, 271,045 (301,480). The birth rate fell from 26.7 per thousand in 1930 to 24.9 in 1931 and showed a further decrease in 1932. Emigrants in 1931 numbered 169,864, of whom 40,785 went to North and South America, while Italians returning to Italy during the year numbered 107,744.

The population of the principal cities in 1931 was: Rome, 999,964; Milan, 990,099; Naples, 841,104; Genoa, 607,650; Turin, 596,566; Palermo, 389,933; Florence, 316,193; Venice, 256,144; Trieste, 249,495; Bologna, 245,647; Catania, 226,800. Of the total 1931 population, about 17.37 per cent were concentrated in 22 cities of more than 100,000 population. The 92 cities of every description contained approximately 25.6 per cent of the population. According to the 1931 census, 95 per cent of all Italians were Roman Catholics, 82,659 were Protestants, and 47,485 were Jews.

**EDUCATION.** Illiteracy, which totaled about 27 per cent of the population in 1921, has been sharply reduced under the Fascist régime. Primary education is free and compulsory up to the age of 14. In 1929-30, there were 749,876 pupils in 9546 infant schools; 4,153,784 pupils in 90,633 public elementary schools; 160,494 pupils in 1145 private elementary schools; 153,324 pupils in 1023 public secondary schools; and 52,590 pupils in 703 private secondary schools. The 27 universities (four free) had a total enrollment of 29,680.

**PRODUCTION.** Of the total area of 76,637,676 acres, 70,263,349 acres were in agricultural use in 1931. The area under cereals was 17,095,696 acres; forage and pasture, 12,172,451; woods and forests, 12,102,726; vines, 1,938,517; olive trees, 1,414,345. The 1932 wheat crop of 276,000,000 bushels (provisional figure) was the largest in Italy's history; it was more than twice the size of the average crop for the years 1908-14. The average yield per acre was 22.6 bushels, compared with 15.5 bushels before the war, the increase being due to improved farming methods. Production of the chief crops in 1931 and 1930 (in 1000 quintals of 220.46 pounds each) was: Wheat, 67,478 in 1931 (57,376 in 1930); barley, 2399 (2431); oats, 6047 (5348); rye, 1574 (1555); corn 18,833 (29,978); rice, 6313 (6501); beans, 4235 (3295); potatoes, 15,030 (19,452); sugar beets, 33,706 (30,030). Production of the vineyards was 55,780,000 metric quin-

tals (57,592,000 in 1930); olives, 13,491,000 metric quintals (7,639,000). Livestock in March, 1931, included 6,892,732 cattle, 9,896,038 sheep, 3,157,434 swine, 967,406 horses, 450,001 mules, and 15,773 buffaloes.

Italy lacks most of the natural resources necessary to large scale industry and must import the raw materials. The rapid expansion of hydroelectric power units has reduced coal imports by some 9,000,000 metric tons annually. Production of pig iron in 1931 was 509,174 metric tons (534,293 in 1930); raw steel, 1,452,647 metric tons (1,774,294); rolled steel, 1,253,607 (1,531,365).

The value of minerals produced during 1930 was 588,748,000 lire (\$30,968,000), against 688,116,000 lire (\$36,195,000) in 1929. The chief minerals and metals, with the output in metric tons in 1931 and 1930, were: Iron ore, 560,500 (718,124 in 1930); lead ore, 41,400 (49,928); zinc ore, 100,200 (200,694); iron pyrites, 730,500 (717,270); lignite, 428,760 (576,860); sulphur (crude and ground), 363,800 (370,281); asphalt (rock) and crude bitumen, 417,000 (224,325); marine salt, 546,618 (517,755); metallic mercury, 1189 (1933); aluminum, 11,109 (8763); lead, 24,520 (24,340); pig iron, 507,270 (537,418); steel ingots and castings, 1,452,694 (1,743,351); ferro-alloys, 32,092 (50,829); metallurgical coke, 740,265 (813,325).

The industrial census of 1927 showed 732,109 industrial establishments in the country, with 4,005,812 employees (1,009,883 women). The cotton manufacturing industry, the largest and most important, had 10,406 factories, with 642,654 employees. Production of silk, sugar, and cheese were other leading industries. The estimated textile production in 1931 was: Raw silk, 9,480,000 pounds (11,660,000 in 1930); rayon, 26,247,000 pounds (66,445,000); cotton yarn, 350,000,000 pounds (391,000,000); cotton cloth, 760,000,000 square yards (875,000,000); wool textiles, 65,000,000 square yards (in 1930).

**COMMERCE.** Italy's total foreign trade declined to 21,000,000,000 lire in 1931 from 29,000,000,000 in 1930 and 36,000,000,000 in 1929. As compared with 1930, the 1931 imports decreased 33 per cent in value and 17 per cent in volume, while exports decreased only 17 per cent in value and 1.6 per cent in volume. The adverse 1931 trade balance of only 1,600,000,000 lire compared with adverse balances of 5,227,000,000 lire in 1930 and 6,600,000,000 lire in 1929. Imports in 1931 totaled 11,636,000,000 lire (17,325,000,000 in 1930) and exports were 10,036,000,000 lire (12,115,000,000 in 1930). The Italian lira (\$0.0526 at par) exchanged at \$0.0521 in 1931. Manufactured articles comprised 4,210,000,000 lire of the total exports; foodstuffs and live animals, 2,963,000,000 lire; semi-finished articles, 1,966,000,000 lire; and raw materials for industry, 897,000,000 lire. Imports were divided in commodity groups as follows: Foodstuffs and live animals, 3,005,000,000 lire; raw materials for industry, 3,761,000,000 lire; semi-finished articles, 2,460,000,000 lire; and manufactured articles, 2,410,000,000 lire.

Preliminary figures for 1932 showed imports of 8,247,077,000 lire and exports of 6,796,346,000 lire, the unfavorable trade balance being 1,443,555,000 lire.

Italy's 1931 exports to Great Britain increased 1 per cent over 1931 and to the Soviet Union 170 per cent, while decreases in exports to the other

chief markets ranged from 10 per cent for France to 40 per cent for Egypt. Decreases in imports ranged from 22 per cent for Argentina to 48 per cent for the United States, which was replaced as the leading source of imports by Germany. The principal export markets, in the order named, were Great Britain, France, Germany, and the United States.

**FINANCE.** The budget for the year ended June 30, 1932, placed ordinary and extraordinary revenue and expenditure at 19,888,437,000 lire and 20,464,197,000 lire, respectively. The budget closed, however, with a deficit of 1,300,000,000 lire. Budget estimates for 1932-33 contained revenues of 18,647,000,000 lire and expenditures of 20,060,000,000 lire. Another considerable deficit was forecast. Ordinary receipts and expenditures for the period 1929-30 to 1931-32 are shown in the accompanying table from the 1932 U. S. *Commerce Yearbook*.

ITALIAN RECEIPTS AND EXPENDITURES  
[Millions of lire]

	1929-30 (actual)	1930-31 (actual)	1931-32 (budget)
Receipts .....	19,838	20,084	18,900
Expenditures .....	19,668	20,980	19,324
Equivalent (\$1,000,000)			
Receipts .....	1,043	1,056	994
Expenditures .....	1,034	1,104	1,016

On Jan. 31, 1932, the public debt stood at 91,906,000,000 lire, of which 5,989,000,000 lire represented the floating debt. The foreign debt aggregated 1,696,131,900 lire.

**COMMUNICATIONS.** Railways at the beginning of 1931 extended 13,777 miles, of which 10,463 miles were state owned and operated. Electrified lines handled about 20 per cent of the entire traffic on Italian railways. There were (1930) about 125,026 miles of national roads and 9252 miles of air lines. The Italian mercantile marine on June 30, 1931 consisted of 1101 steam and motor vessels of 100 gross tons or more, with a gross tonnage of 3,273,525 (4.97 per cent of the world's tonnage). The net tonnage of vessels entering Italian ports with cargo and in ballast in 1931 was 20,676,000 (21,840,000 in 1930); that of vessels clearing was 20,352,000 (21,298,000 in 1930). By a law promulgated Dec. 31, 1931, public subsidies were extended to Italian cargo ships, not operating in regular contract services, for a period of one year beginning January 1, 1932.

**ARMY AND NAVY.** See **MILITARY PROGRESS; NAVAL PROGRESS.**

**GOVERNMENT.** The Constitution vests executive power in the King, acting through a responsible ministry, and legislative power rests conjointly in the King and a parliament of two chambers. The Senate, of about 417 members, is composed of princes of the royal house and members nominated by the King for life. The Chamber consists of 400 members elected for five years. The Grand Council of Fascism is the supreme body which "controls all the activities of the régime," under a law promulgated in December, 1928. It "designates" the deputies for the lower chamber and "must give its opinion on all bills dealing with constitutional issues."

The Cabinet at the beginning of 1932 was composed as follows: Prime Minister, Chief of the Government, and Minister of Interior, Benito Mussolini; Foreign Affairs, Dino Grandi; War, Pietro Gazzera; Navy, Giuseppe Sirianni; Air,

Italo Balbo; Public Works, Araldo Di Crollanza; Corporations, Giuseppe Bottai; Education, Balbino Giuliano; Agriculture and Forests, Giacomo Acerbo; Colonies, Emilio de Bono; Finance, Antonio Mosconi; Justice, Alfredo Rocco; Communications, Constanzio Ciano. On Aug. 18, 1931, Premier Mussolini announced that the Council of State, which examines bills preliminary to their submission to Parliament, would thereafter be directed by him.

#### HISTORY

More united and disciplined than ever, Italy in 1932 celebrated the tenth anniversary of the establishment of the Fascist régime with impressive ceremonials and the nation-wide dedication of new public works. The country by no means escaped the paralyzing grasp of the world depression. But Fascism's purposeful vigor, together with the less industrialized state of Italian economy, enabled the nation to escape the worst effects of the economic storm. Premier Mussolini played a leading rôle in the effort to remove the chief obstacles to European economic recovery, particularly excessive armaments, reparations and war debts. His effectiveness was impaired, however, by the contradiction between his advocacy of disarmament and his demands for additional colonial outlets for Italy's rapidly increasing population, an increase which was encouraged in every possible way by the state.

**THE ECONOMIC SITUATION.** The effect of the depression upon Italian finances, industry, and commerce in 1931 was outlined in the report of the Budget Committee of the House of Deputies, published June 1, 1932. The report estimated the national income at between 60 and 70 billion lire, a reduction of approximately 33 per cent since the beginning of the depression. At the same time the pressure of taxation had been steadily rising until it absorbed about 30 per cent of the national income, as compared with 20 per cent in the fiscal year 1925-26. The decline in national income in 1931 was attributed partly to poor crops but chiefly to the price decline. The total value of the four leading crops—wheat, wine, olive oil, and hemp—fell from 14,650,000,000 lire in 1929-30 to 9,860,000,000 lire in 1930-31, or approximately one-third. All agricultural products showed approximately the same decline, and the average industrial decline was about the same, although fluctuating between a minimum of 10 and a maximum of 60 per cent in certain industries. The income from investments fell off by approximately one-third; from real estate, between 10 and 15 per cent; from commercial enterprises, as high as 40 per cent. Wages and salaries were cut, in general, by 10 to 15 per cent. In view of these conditions, the budget committee considered increased taxation inadvisable and that recourse to economy was imperative.

Prices continued their decline during 1932. The wholesale price index stood at 79 on November 4, as against 86 in January and an average of 92 in 1931 and 134 in 1928. The value of both imports and exports decreased steadily, also. However, imports declined more than exports, reducing still further the adverse balance of trade. Unemployment remained serious throughout the year, fluctuating between a maximum of 1,147,000 in February and a minimum of 905,000 at the end of June. Only a small fraction of the unemployed received direct government re-

lief, the burden of supporting the remainder falling upon private charity and the local communities. Most of these were kept busy on public works. As the year advanced, confidence that Italy had seen the worst of the depression increased. The reduction of the adverse trade balance and the relatively small foreign indebtedness relieved Italy of the pressure on its gold reserves, which presented serious difficulties in Great Britain and other countries. The national bank increased its reserves both of gold and of foreign currencies, and with the restriction of currency in circulation the gold reserve on Nov. 4 reached 42 per cent of the circulating medium. These developments strengthened the lira, which exchanged at \$0.0512 in November, as compared with \$0.0504 in January, 1932. A 1,000,000,000-lire government refunding loan issued early in the year was oversubscribed fourfold. To stimulate domestic production and relieve agricultural unemployment, duties were raised during August on a long list of farm products imported from abroad.

**POLITICAL DEVELOPMENTS.** In general the year was one of relative internal peace. The violent struggle with the Vatican which marked the year 1931 was followed by a period of increasing cordiality. This better feeling was evidenced by the Pope's bestowal of the Vatican's highest decoration—the Supreme Order of Christ—upon King Victor Emmanuel and Crown Prince Humbert and of the Order of the Golden Spur upon Mussolini. On February 11, Mussolini made his first visit to the Pope.

Internal opposition to Fascism seemed to have reached a low ebb. Angelo Sbardelotto was arrested in May on a charge of planning to assassinate Mussolini. Convicted early in June, he was executed along with Domenico Bovone, a terrorist arrested in 1931 in connection with a series of sensational bombings. Six of Bovone's accomplices received varying terms in prison. In connection with the celebration of the tenth anniversary of the Fascist régime, Premier Mussolini issued on November 6 his long-promised amnesty decree. In an introduction to the decree, Signor Mussolini wrote that it was proof of the strength of Fascism, "which no longer has reason to fear opposition." The decree revoked prison sentences up to five years for all civil crimes, including political offenses. According to statistics published November 7, 595 out of the 1086 political prisoners banished to the Lipari Islands were freed. Besides the Lipari prisoners, there were 1056 persons serving sentences for "anti-Fascist crimes," of whom 639 were released. The number of persons liberated for minor civil offenses was estimated at between 15,000 and 20,000. On November 16 pardons were extended to 17 prominent anti-Fascists, including Gaetano Salvemini, Vincenzo Vacirca, Massimo Rocca, Cesare Rossi, Benedetto Facislo, Francesco Cicotti Scozzese, Alceste de Ambris, and Giuseppe Donati. With the exception of Rossi, who was serving a 30-year prison term, all 17 were political expatriates. The decrees depriving them of their Italian citizenship and confiscating all their goods were revoked. Pardons were not extended to former Premier Francesco Nitti, Count Carlo Sforza, and other prominent exiles.

An unexpected and only partly explained development was the sudden dismissal by Mussolini on July 20 of five of his leading Cabinet Ministers and 11 Under-Secretaries. Heading the

list of those dismissed were Foreign Minister Dino Grandi; Finance Minister Mosconi; Minister of Education Giuliano; Minister of Justice Rocco, and Minister of Corporations Bottai. Mussolini himself assumed the portfolios of Foreign Affairs and Corporations. His appointees to the other vacancies included six university professors, a seeming effort to court the intellectuals. Grandi's dismissal followed close on the Lausanne Reparation Conference and was believed partly due to Mussolini's resentment at Italy's seeming isolation in the face of the Anglo-French accord (see **REPARATIONS AND WAR DEBTS; GREAT BRITAIN AND FRANCE under History**). On August 11 the Premier announced a sweeping shift in the personnel of the consular and diplomatic service. Over 30 changes were announced, including the appointment of Augusto Rosso as ambassador to Washington, replacing Nobile Giacomo de Martino.

The celebration of the tenth anniversary of the Fascist régime commenced on October 16 and reached a climax on October 28, the anniversary of the march on Rome. The celebrations emphasized the material progress of the nation in the preceding decade, notably the extensive reclamation of waste land, modernization of agricultural methods and financing; construction of highways, railways, and hydro-electric projects; modernization of cities, ports and harbors; and excavation and restoration of ancient Rome's historic remains. Mussolini made a four-day tour through Northern Italy, where he was received with acclaim in the former strongholds of anti-Fascism. He dedicated the huge new Monteferrat Aqueduct on October 23; at Milan he opened the new motor highway for trucks linking Turin and Milan with the seaport of Genoa.

Early in December, the government launched a new programme of public works, to cost \$130,000,000, which was to provide employment for about 300,000 persons during the winter. On December 30, it was announced that Mussolini, through a special commission of the Ministry of Corporations, was drafting laws for the regulation of industrial enterprise to achieve a more balanced production. A statute was adopted forbidding the construction or expansion of any manufacturing plant without the governor's consent. The Premier declared that "those irregular industrial expansions that were dictated rather by bankers' than manufacturers' standards cannot be permitted."

The official list of the Fascist party, made public June 24, showed 1,329,693 members on the rolls, an increase of 181,933 over 1931. An auxiliary branch of the party for women was organized during the year. The government continued its vigorous effort to crush the Sicilian Mafia. Another wholesale trial of offenders was ended May 2 with the sentencing of 244 men and women to long terms of imprisonment. With more than 1000 already convicted, the end of the Mafia's reign of terror was believed in sight.

**FOREIGN RELATIONS.** Franco-Italian rivalry again provided the pivotal point for Italian foreign policies during 1932. Events of the year appeared to confirm reports that Italy's main objective in demanding naval parity with France and in opposing French policies was to induce France to part with some of the colonies taken from Germany during the World War. In speeches before the Italian Chamber of Deputies (May 17) and the Senate (June 3), Foreign

Minister Grandi vigorously advanced Italy's claim to colonial outlets in Africa for Italy's rapidly expanding population. The Foreign Minister made obvious efforts to place the demand for colonies in the foreground of the international stage on a par with the French demand for security, the German drive for revision of the Versailles treaty, and the war debts problem. His failure to make a greater impression abroad, together with the developments at Lausanne, were considered the chief reasons for his dismissal.

Reading between the lines of Grandi's speeches, foreign correspondents concluded that France was being asked to cede to Italy the League mandate over Cameroon or Togoland. At the same time Italy was pressing France to rectify the southern frontier of Tripolitania to include Lake Tchad. Since French Cameroon extended northward to Lake Tchad, the Italian demands envisaged an Italian strip of territory extending from the Mediterranean to the Gulf of Guinea. References were continually made in the Italian press to the possibility of the purchase of Portuguese territories in South Africa, the discussion in Spain as to the advisability of withdrawing from Morocco, and to the future status of Ethiopia, in which Italy appeared particularly interested.

The trump card which Italy had to offer France in exchange for territory in Africa was a military alliance safeguarding France from a possible German attack. Whether such a proffer was made was not revealed. But Mussolini's diplomacy since 1929 had been admirably calculated to weaken France's position in Europe and force her to come to terms with Italy. The strong position which France occupied during the financial crisis of 1931 enabled her to frustrate Mussolini's diplomacy. But in 1932, the increasingly menacing tone of Germany toward France and the refusal of Great Britain and the United States to guarantee French security apparently turned the tide in Italy's favor. Conciliatory gestures were made by Premier Mussolini (October 23) and Premier Herriot soon afterward, which inaugurated more amicable relations between the two powers. The Franco-Italian naval negotiations, suspended in 1931, were resumed but no apparent progress was made during the remainder of the year.

A number of diplomatic moves and counter-moves preceded these steps toward rapprochement. Italy joined Germany in defeating Premier Tardieu's plan for a Danubian Federation (see UNITED STATES OF EUROPE). In the second week of April, the Fascist Grand Council issued a general outline of Italian foreign policies, in which it definitely favored a readjustment of war debts and reparation, reduction of tariff walls, an economic agreement among the Balkan and Danubian states, and the revision through the League of Nations of territorial and armament clauses of the Versailles Treaty objectionable to Germany. The French scored heavily with the Anglo-French accord at Lausanne. A few days later (July 21) Mussolini threw a bombshell into the Geneva Disarmament Conference. He sent General Italo Balbo to Geneva to read a statement denouncing the resolution embodying the agreement reached during the first phase of the conference. The message called the resolution a "vain effort," "entirely inadequate when compared to the wishes and hopes of the world" (see DISARMAMENT). Earlier Italy had been the

only one of the more important European powers to approve President Hoover's proposal for a reduction in armaments. Similarly Mussolini was the only chief of an important government to endorse the German note of August 31 asking for arms equality.

Mussolini's motives for these pacific moves were questioned when there appeared in *Il Popolo d'Italia* an article on Fascism which the Premier had written for the *Encyclopædia Italiana* (published in English in the New York Times of Sept. 18, 1932). Therein, the Premier said that Fascism "laying aside all considerations of present-day politics, does not believe either in the possibility or the utility of perpetual peace. It therefore repudiates pacifism, which betrays a tendency to give up the struggle and implies cowardice in the face of the necessity of sacrifice. . . . Only war raises all human energies to the maximum and sets a seal of nobility on the peoples which have the virtues to undertake it."

On April 23, the Minister of Marine had announced in the Chamber of Deputies that Italy would not present or undertake her new naval building programme until after the Disarmament Conference, as to do so would imply lack of faith in the success of the Conference. On July 24, Hector C. Bywater, British naval expert, charged in *The Daily Telegraph* that Italy was carrying on a naval construction programme secretly presented and authorized by the Chamber in 1931 and started before the Minister of Marine made his statement in the Chamber. Similar charges were published in the French press, arousing much resentment in Italy, where the allegations were declared deliberate falsification of the facts. The French and British press likewise criticized as unnecessarily extensive and flamboyant the Italian naval maneuvers in the Mediterranean in August. To this the Fascist press retorted that the two nations primarily responsible for the failure of the Geneva Disarmament Conference had no reason to complain. Soon after the maneuvers, the government announced (August 17) that about one-third of the Italian Navy (or 130,000 tons) would be retired August 25 as an economy move (see NAVAL PROGRESS). On December 3, Italy aroused much foreign criticism by laying down two new light cruisers and two torpedo boats. Mussolini declared that these vessels constituted replacements and accordingly did not fall within the terms of the arms truce declared by the League of Nations, which was to expire on Mar. 1, 1933.

Friction with France was accompanied by threats to withdraw from the League of Nations, in which, the Fascists believed, France exerted undue influence. In a speech on foreign affairs at Turin October 23, however, Mussolini declared that Italy did not wish to "leave the bedside now that the League is extremely sick" (see LEAGUE OF NATIONS). At the same time he advocated closer collaboration among Italy, France, Great Britain and Germany in the economic and political rehabilitation of Europe. He appealed to the United States not to revive the reparation issue, conditionally disposed of at Lausanne, by insisting upon the full payment of war debts. Germany's demand for equal armaments was justified, he reiterated, but Germany should be permitted to rearm only if the Disarmament Conference ended in failure.

The temporary and opportunist character of



Italo-German coöperation against France was revealed when the German Government shifted from tariffs to quotas on imports of agricultural products. Mussolini countered this blow at Italian exports by forbidding Italian banks to allot foreign exchange to importers of German products.

Meanwhile Italy was consolidating her position in the Eastern Mediterranean. In June, Premier Ismet Pasha of Turkey visited Rome and renewed the Italo-Turkish neutrality agreement signed in 1928. He also concluded a commercial agreement, under which Premier Mussolini undertook to lend about \$15,000,000 to Turkey for a three-year industrial programme. Italy continued her efforts to capture the developing markets in the Balkans and the Near East as well as in Persia and Iraq. With the fall of the Karolyi government in Hungary and the elevation of Julius Gömbös, admiral and disciple of Mussolini, Hungary returned to the Italian orbit (see HUNGARY under *History*). Yugoslavia remained the only Balkan state with which Italy's relations were not friendly.

In December, Italian relations with Yugoslavia again became tense, following anti-Italian demonstration at Trau, Yugoslavia, where the ancient lion of St. Mark symbolizing Venetian rule on the Dalmatian coast was dynamited on December 1. Speaking in the Senate on December 14, Mussolini threatened Yugoslavia with commercial reprisals for the Trau outrage and charged France with major responsibility for the incident. This development, the fall of the Herriot cabinet in France, and the subsequent heavy shipment of rifles and machine guns from Italy to Hungary via Austria on December 30 and 31, served to estrange Italy and France. Yugoslav alarm was increased by reports that Italy was attempting to force a customs union agreement upon Albania (see YUGOSLAVIA).

In accordance with a decision reached by the Fascist Grand Council on December 6, Italy paid the \$1,245,437 war-debt installment due to the United States government on Dec. 15, 1932.

Consult Count Carlo Sforza, "The Fascist Decade," *Foreign Affairs*, October, 1932; William Martin, "Mussolini's Ten Years of Power," *Current History*, October, 1932; "Italy's Financial Stake in Albania," *Foreign Policy Reports*, June 8, 1932.

**IVORY COAST.** See FRENCH WEST AFRICA.

**JACCIA,** AGDE. An American musical director, died in Siena, Italy, Nov. 29, 1932. He was born in Lugo, Italy, Jan. 5, 1875, and studied at conservatories in Parma, Milan, and Pesaro, making his debut as a conductor at the Teatro Grande, Brescia, in 1898. He held similar posts at theatres in Ferrara, Milan, Leghorn, and Siena. His first visit to the United States was in 1902 as assistant conductor of the Mascagni Opera Co. He returned in 1907 with the Milano Opera Co. In 1910 he was appointed general musical director of the Montreal Opera Co. and in 1914 of the Century Opera Co., in New York City. He was also for a short time director of the Boston Opera Co. He conducted the Boston Symphony summer ("pop") concerts during 1917-26, the Cecilia Society of Boston during 1920-24, and the Fitchburg (Mass.) Choral Society during 1923-25. In 1920 he became director of the Boston Conservatory of Music which position he held at the time of his death. He composed several cantatas and songs.

**JACOBS, HENRY EYSTER.** An American theologian, died in Mt. Airy, Pa., July 7, 1932. He was born in Gettysburg, Pa., Nov. 10, 1844, and was graduated from Pennsylvania College in 1862 and from the Lutheran Theological Seminary three years later. Between 1870 and 1883 he taught Latin, Greek, and history at Pennsylvania College. He was then appointed professor of systematic theology at the Lutheran Theological Seminary, where he also assumed the office of dean in 1894 and in 1920 was elected president. He held the latter office until 1927. Among the many societies of which he was president were the board of foreign missions of the General Council of the Lutheran Church (1902-07), the General Conference of Lutherans (1899, 1902, 1904), the American Society of Church History (1907-08) the Pennsylvania German Society (1910-11), and the Pennsylvania Bible Society (1926-32). In 1919 he was appointed chairman of the commission on adjudication of the United Lutheran Church in America, and after 1927 was a member of the Senior Lutheran Ministerium of Pennsylvania. Besides translating various German theological works and editing the *Lutheran Church Review* (1882-96), a *Lutheran Commentary* (1895-98), and the *Lutheran Encyclopædia* (1899), he wrote *The Lutheran Movement in England* (1891); *History of the Lutheran Church in America* (1893); *Elements of Religion* (1894); commentaries on Romans (1896) and I Corinthians (1897); *Life of Martin Luther* (1898); *The German Emigration to America, 1709-40* (1899); *Summary of the Christian Doctrine* (1905); and *Lincoln's Gettysburg World Message* (1920).

**JACOBY, HAROLD.** An American astronomer, died in Westport, Conn., July 20, 1932. He was born in New York City, Mar. 4, 1865, and in 1885 was graduated from Columbia University where he served as assistant and instructor in geodesy and practical astronomy. After obtaining his Ph.D. degree in 1895 he served as adjunct professor until 1904 when he was made full professor. He also acted as director of the Columbia Observatory from 1906 until his retirement in 1930. In 1889-90 he was assistant astronomer on the United States eclipse expedition to West Africa, and during the War World was civilian instructor in navigation at the Submarine Officers' Material School, Pelham Bay (N. Y.) Naval Training School. He was also a councilor of the New York Academy of Sciences, treasurer of the American Mathematical Society, editor of the *Transactions* of that society, and fellow of the Royal Astronomical Society of London. He published *Practical Talks by an Astronomer* (1891); *Astronomy, a Popular Handbook* (1913); and *Navigation* (1917), and contributed papers on astronomical subjects to the journals of various American and European scientific societies. He also edited the department of astronomy in the first edition of the NEW INTERNATIONAL ENCYCLOPÆDIA.

**JAIL OUTBREAKS.** See CRIME.

**JAMAICA.** A colony of Great Britain, consisting of the island of Jamaica, which is the largest in the British West Indies, and the following dependencies: Turks and Caicos Islands; Cayman Islands; Morant Cays; and Pedro Cays. Area of Jamaica, 4450 square miles; of the dependencies, 224 square miles. Population of Jamaica, according to the census of 1921, 858,118, including 660,420 blacks, 157,223 of mixed



race, 14,476 whites, 18,610 East Indians, and 3696 Chinese; estimated population on Jan. 1, 1931, was 1,022,152, including 17,424 East Indians. The capital is Kingston, population 88,000 in 1927.

Jamaica is primarily agricultural, the leading crops being sugar, coffee, bananas, coconuts, cacao, and vegetables. In 1930-31, the area under cultivation was 832,300 acres. Approximately half the banana trees on the island were destroyed by a storm on Nov. 8, 1932, the damage being estimated at \$3,000,000. Imports for 1930-31 totaled £6,101,513 and exports £4,091,573, the excess of imports being characteristic of trade since 1910. The United States is the chief customer and principal source of supply. Revenue for the fiscal year ended Mar. 31, 1931, amounted to £2,197,572 and expenditure to £2,322,613; public debt was £5,117,444 and sinking fund £1,708,700.

The Governor is assisted by a privy council and a legislative council of 5 *ex-officio*, 10 nominated, and 14 elected members. Governor-in-Chief and Captain-General, Sir A. R. Slater, who assumed office on Nov. 21, 1932.

**JAPAN.** A Far Eastern empire, consisting of the five main islands of Honshu (mainland), Hokkaido, Kyushu, Shikoku, and Taiwan (Formosa), together with some 600 smaller islands and island groups, the peninsula of Korea, or Chosen, and Karafuto (the southern half of the island of Sakhalin). Capital, Tokyo; reigning sovereign in 1932, Emperor Hirohito.

**AREA AND POPULATION.** The area of the Japanese Empire and the census populations in 1925 and 1930 are shown in the accompanying table.

#### JAPANESE EMPIRE: AREA AND POPULATION

Island	Area, square miles	Population, 1925 census	Population, 1930 census
Japan proper . . .	147,462	59,736,822	64,447,724
Chosen (Korea) . .	85,228	19,522,945	21,057,969
Taiwan (Formosa) .	13,840	3,993,408	4,594,161
Karafuto . . . . .	13,934	203,754	295,187
Total . . . . .	260,514 <sup>a</sup>	83,456,929	90,395,041

<sup>a</sup> Including Pescadores.

The legal population of Japan proper was placed at 65,866,500 in 1931. The Japanese government also held a 99-year lease of Kwantung (including Port Arthur and Dairen in South Manchuria) with a population of 1,327,971 (about 250,000 Japanese) in 1930, and mandated territory in the South Seas, with a population of 69,627 (about 19,000 Japanese) in 1930. The density of population per square mile for the Empire in 1930 was 347.2, while that for Japan proper was 437.4. The number of Japanese residing abroad was 518,865 in 1930; there were about 39,200 foreigners resident in Japan. For the period 1928 to 1930, births averaged 2,092,624 annually in Japan proper and deaths 1,208,722, the excess of births being 883,852 annually. The average birth rate for the five-year period was 33.6 per 1000 inhabitants and the death rate 19.4. In 1931 births numbered 2,102,600; deaths, 1,240,800; natural increase, 861,400; marriages, 496,574.

The population of the chief cities at the 1930 census, with 1925 census figures in parentheses, was: Osaka, 2,453,569 (2,114,804); Tokyo, 2,070,529 (1,995,587); Nagoya, 907,402 (768,558); Kyoto, 765,142 (679,963); Kobe, 787,596 (644,212); Yokohama, 620,296 (405,888). On

Oct. 1, 1932, the city of Greater Tokyo was created through the amalgamation of five neighboring counties embracing 82 towns and villages, with an aggregate population of 5,040,201 and an area of 213.15 square miles.

**EDUCATION.** Elementary education is compulsory for children between the ages of 6 and 14 years and less than 1 per cent of the adult population were illiterate in 1927. In 1930-31, there were 9,832,000 pupils attending elementary schools, 687,149 in secondary schools, and 57,328 in the five Imperial universities and the 32 other institutions of university rank.

**PRODUCTION.** About 50 per cent of the population was directly dependent upon agriculture in 1931. Out of a total area of 94,376,000 acres, or less than that of California, there were in Japan proper in 1931, 7,952,000 acres of rice fields, 6,932,000 acres of upland farms, 4,623,000 acres of moors and pastures, and 21,437,000 acres of taxable forests. About 54 per cent of the cultivated land was owned by wealthy landowners and leased, in plots averaging about 2½ acres, to tenants who wrung a bare subsistence from the soil. Rice is the chief crop and the main diet of the people. The 1931-32 rice crop was 17,346,000 pounds (20,516,000 pounds in 1930-31). Livestock in Japan proper in 1930 numbered 1,498,000 cattle, 742,000 swine, 24,000 sheep, 217,000 goats, and 1,490,000 horses. The area and production of the chief crops in 1931 and 1930 are shown in the accompanying table from the 1932 *Commerce Yearbook*.

#### CROP AREAS AND PRODUCTION: JAPAN PROPER

Crop	Area <sup>a</sup>		Production <sup>b</sup>	
	1930	1931	1930	1931
Wheat . . . . .	1,198	1,231	29,538	30,892
Barley . . . . .	2,110	2,105	72,472	76,522
Oats . . . . .	296	290	12,558	11,081
Rice (rough) . . .	7,938	7,952	592,091	487,514
Tea . . . . .	93	..	85,201 <sup>c</sup>	..
Tobacco . . . . .	89	91	145,175 <sup>c</sup>	155,757 <sup>c</sup>
Cocoons . . . . .	..	..	880,181 <sup>c</sup>	767,981 <sup>c</sup>

<sup>a</sup> Thousands of acres. <sup>b</sup> Thousands of units—bushels except as indicated. <sup>c</sup> Unit, pound.

The 1932 rice crop totaled 309,197,000 bushels, an increase of 26,496,000 bushels over 1931. The value of the fisheries output in 1930 was 162,928,000 yen (raw products). Production from forest lands is valued at about \$120,000,000 annually. Next to rice, fish is the most important article of diet.

Mineral products are varied but limited in quantity, copper being the only metal available in quantities more than sufficient for local needs. The value of the chief mineral products in 1930 was: Coal, \$95,321,000; copper, \$24,809,000; gold, \$7,962,000; petroleum, \$7,049,000; silver, \$2,228,000. Mineral and metallurgical production in 1931 and 1930 are shown in the accompanying table.

#### MINERAL AND METAL PRODUCTION: JAPAN PROPER

Product	1930	1931
Coal . . . . .	1,000 met. tons	29,374
Iron pyrites . . . . .	met. tons	618,743 <sup>a</sup>
Crude petroleum . . . . .	1,000 bbls.	1,905
Sulphur . . . . .	met. tons	56,000
Gold . . . . .	met. tons	364,292
Silver . . . . .	1,000 troy oz.	5,127
Copper . . . . .	met. tons	77,911
Pig iron . . . . .	1,000 met. tons	1,656
Steel ingots . . . . .	1,000 met. tons	1,794

<sup>a</sup> 1929.

**MANUFACTURING.** The value of manufactured products in Japan proper in 1930 declined to 5,954,000,000 yen (\$2,968,069,000 at par) from 7,759,000,000 yen (\$3,877,861,000) in 1929. The number of operatives was 1,683,600 in 1930 (1,825,000 in 1929) and prime movers (steam) had a capacity of 3,897,900 horsepower and electric motors 3,413,000 horsepower. The production of cotton yarn in 1931 was 1,026,800,000 pounds (1,008,000,000 pounds in 1930); of spun silk, 12,804,000 pounds (13,464,000); of rayon, 46,764,000 pounds (35,000,000). The value of cotton fabrics produced in 1931 was \$225,811,000 and of silk fabrics, \$157,904,000. Iron and steel, ships, paper, flour, camphor, tobacco products, sake (rice wine), and porcelain earthenware are other leading products. Unemployment reached serious proportions during 1931 and 1932; the number of labor disputes increased to 2146 in 1931 from 1823 in 1930.

**COMMERCE.** Imports into Japan proper in 1931 amounted to \$609,929,000, as against \$763,595,000 in 1930, or a decline of 20.1 per cent. General exports were \$566,150,000, as compared with \$725,960,000 in 1930, a 22 per cent decrease. The unfavorable trade balance for Japan proper was \$43,779,000 in 1931, a sum \$6,144,000 larger than in the previous year. The chief 1931 import items, with 1930 figures in parentheses, were: Raw cotton, \$146,163,000 (\$178,651,000); sheep's wool, \$42,522,000 (\$36,356,000); mineral oils, \$42,345,000 (\$44,237,000); machinery and parts, \$25,129,000 (\$42,334,000); fertilizers, \$23,797,000 (\$37,457,000); bean-oil cake, \$18,925,000 (\$28,513,000); cedar wood, \$18,865,000 (\$23,127,000).

Due largely to the depreciation of the yen, the value of Japan's imports and exports in 1932 rose by 15 and 23 per cent, respectively. The unfavorable balance of trade was about 67,000,000 yen, or about half that of the previous year. United States statistics for 1932 showed exports to Japan of \$134,537,384 and imports from Japan of \$134,011,311.

The leading export items in 1931, with 1930 figures in parentheses, were: coin and bullion, \$208,003,000 (\$153,007,000); raw silk, \$175,422,000 (\$205,782,000); cotton tissues, \$98,094,000 (\$134,398,000); clothing and accessories, \$36,444,000 (\$41,532,000); silk tissues, \$21,251,000 (\$32,486,000). The United States took 37 per cent of Japan's total exports in 1931, as against 34.4 per cent in 1930, and supplied 27.7 per cent of Japan's total imports (28.6 per cent in 1930). Raw silk shipments to the United States in 1931 increased 19.5 per cent in volume, but declined 14.1 per cent in value, from the 1930 figures. Exports to the United States in 1931 were valued at \$209,943,000 (\$249,969,000 in 1930) and imports from the United States were \$168,954,000 (\$218,739,000). China in 1931 took 13.6 per cent of Japan's exports (17.7 in 1930) and furnished 11.8 per cent of the total imports (10.5 in 1930). British India took 9.6 per cent of the exports and furnished 10.8 per cent of the imports; Great Britain, 4.5 per cent and 5.1 per cent, respectively.

**FINANCE.** The budget estimates for the fiscal year ended Mar. 31, 1932, fixed ordinary and extraordinary revenues at 1,489,275,000 yen and expenditures at 1,488,903,000 yen. However, actual returns showed revenues of 1,008,000,000 yen and expenditures of 1,205,000,000 yen. The deficit of 197,000,000 yen was attributed to the

world depression, heavy military expenditures at Shanghai and in Manchuria, the Chinese boycott of Japanese goods, and keener commercial competition from European countries with depreciated currencies. The budget for 1932-33 provided for revenues of 1,380,000,000 yen; expenditures of 1,490,000,000 yen, and a deficit of 110,000,000 yen. In December, 1932, the actual deficit for 1932-33 was placed at 322,000,000 yen. The budget for 1933-34, as officially approved by the cabinet Nov. 25, 1932, called for expenditures of 2,239,000,000 yen against an estimated income of 1,342,000,000 yen, leaving an anticipated deficit of 897,000,000 yen. To meet this deficit and additional normal requirements for pensions, etc., the bond issues called for under the 1933-34 budget aggregated about 1,100,000,000 yen.

At the end of October, 1932, the national debt amounted to 6,311,000,000 yen, exclusive of 250,000,000 yen in treasury bills and 100,000 in rice certificates. Of this amount 4,912,000,000 yen represented domestic bond issues and 1,398,000,000 yen were held abroad. On Mar. 31, 1931, the debt totaled 6,154,000,000 yen (1,478,000,000 external). The burden of the foreign debt was more than doubled by the depreciation of the yen (par, \$0.4985) from an average of \$0.4885 in 1931 to an average of \$0.2073 for December, 1932. For other financial developments in 1932, see *History*.

**COMMUNICATIONS.** Railways in Japan proper in 1930 extended 12,814 miles, of which 8769 miles were government owned. In the year ended Mar. 31, 1930, the railways carried 1,278,402,000 passengers and 102,046,000 tons of freight, the gross operating receipts totaling \$302,095,000. Several new lines in the vicinity of Tokyo were completed in 1932. The highway mileage in 1931 was about 559,215 miles, of which 35,466 miles were used for motor traffic. Four commercial air lines, with an aggregate mileage of 1888, were in operation during 1931. The Japanese merchant marine on July 1, 1932, was composed of 1614 steamships of 3,684,637 gross tons, and 350 motor ships of 570,377 gross tons. Vessels entering the port in the foreign trade during 1931 numbered 17,887, of 56,807,994 net registered tons, of which 13,172 vessels, of 37,019,321 net tons were Japanese. Idle Japanese steam shipping aggregated 315,000 gross tons on Jan. 1, 1932, and 212,000 gross tons on June 15.

**ARMY AND NAVY.** Military or naval service is universal and compulsory. Liability commences at the age of 17 and extends to 40, but actual service begins at 20. The peace establishment of the active army in 1931 was 12,343 officers and 185,540 of other ranks. The strength of the active army and the first and second reserves was 17,343 officers and 259,304 of other ranks. See **MILITARY PROGRESS**.

The accompanying table from the *Statesman's Year Book* for 1932 shows the classification of the Japanese Fleet for the three years ending with 1931. Also see **NAVAL PROGRESS**.

JAPANESE FLEET

	Completed at end of		
	1929	1930	1931
Battleships and battle cruisers ..	10	10	10
Armored cruisers .....	7	7	7
Aircraft carriers .....	3	3	3
Cruisers .....	29	32	30
First-class gunboats .....	2	2	2
Destroyers .....	112	106	110*
Submarines .....	65	66	67*

\* Including 62 first-class and 48 second-class.

\* Including 23 first-class and 44 second-class.

**GOVERNMENT.** Executive power is vested in the Emperor who acts with the advice and aid of a ministry appointed by, and responsible to, himself; legislative power is in the Emperor and the Imperial Diet of two chambers, namely, the Upper House or House of Peers, composed of membership based on rank, wealth, and other qualifications, and numbering 401 members; and the Lower House or House of Representatives, elected for four years, unless sooner dissolved, and numbering 466 members. Emperor Hirohito, born Apr. 29, 1901, succeeded his father, Yoshihito, Dec. 25, 1926. The cabinet as constituted Dec. 13, 1931, was composed as follows: Prime Minister and Minister for Foreign Affairs, K1 (Takemshi) Inukai; Home Affairs, Kizaburu Suzuki; Finance, Korekiyo Takahashi; War, Lt.-Gen. Sadao Araki; Marine, Admiral Mineo Osumi; Justice, Toyosuke Hata; Education, Ichiro Hatoyama; Agriculture and Forestry, Teijiro Yamamoto; Commerce and Industry, Yonezo Maeda; Communications, Chuzo Mizuchi; Railways, Takejiro Totonami; and Overseas Affairs, Takeji Kawamura. For changes in 1932, see *History*.

### HISTORY

Undeterred by growing opposition from China, the League of Nations, and the Great Powers, Japan in 1932 tightened her grip on Manchuria, established there the puppet state of Manchoukuo, and announced plans for the forcible annexation to Manchoukuo of the Chinese Province of Jehol in Inner Mongolia. In her headstrong course, the island empire occupied Shanghai, after weeks of heavy fighting which devastated large sections of China's leading city, and then evacuated it under pressure of the Powers. She crushed a great insurrection in Manchuria in a brilliant campaign carried on under the cruel hardships imposed by a North Manchurian winter.

Without awaiting the publication of the report of the Lytton Commission, appointed by the League of Nations at Japan's suggestion, to inquire into the Manchurian situation, she recognized the Manchoukuo government on September 15 and guaranteed its military protection in a formal alliance. When on October 2 the Lytton Report, denying the basic claims advanced in justification of Japanese action in Manchuria, was published, Japan defied the League and the Powers. Dominated by her military leaders, she made it plain that she would fight rather than withdraw from Manchuria. It was only toward the end of the year that internal opposition to the policy of the government appeared. Then some of Japan's business leaders voiced public protests at the growing burden of military expenditures and a few legislators and politicians rebelled at the military domination of the government. Meanwhile the world diplomatic struggle between the United States and Japan was marked by the alienation of Japan's chief potential allies, leaving her virtually isolated in an increasingly hostile world. The end of the year found the League of Nations at last prepared to abandon its efforts at conciliation of the Sino-Japanese dispute and possibly to invoke the sanctions of the League Covenant.

**THE BATTLE OF SHANGHAI.** Friction between Chinese and Japanese at Shanghai, which had grown acute since the middle of December, 1931, flared into open warfare on February 9, when Japanese troops and gunboats attacked the Woo-

sung forts. The struggle then inaugurated continued for five weeks before the Chinese forces were finally expelled from Shanghai. It was May 5 before a truce was signed and the end of May before the 100,000 Japanese troops were evacuated. This sanguinary and destructive struggle apparently had little relation to Japan's major policies with respect to China, although it was feared at the time that Japan planned to establish another protectorate in the Yangtze valley. The original Japanese naval demonstration was designed to force the dissolution of the boycott associations in Shanghai and to punish the city for its anti-Japanese activities. When the naval landing party met unexpected resistance, the question of Japanese military and naval prestige became involved, necessitating the dispatch of a large and costly expeditionary army. For full details of the struggle, see CHINA under *History*.

**JAPAN AND MANCHOUKUO.** As described in the 1931 YEAR BOOK, a sweeping Japanese drive against bandits and irregulars in Southern Manchuria was in progress as the year ended. Despite strong pressure from the Powers and the appointment of a commission of inquiry by the League, the Japanese on Jan. 2, 1932, captured Chinchow, which had served as headquarters for the Manchurian war lord, Marshal Chang Hsiao-liang (Chang Hsueh-liang), after his expulsion from Mukden the previous September. The territory between Chinchow and Shanhaikwan was now rapidly cleared of Chinese forces, thus extending Japanese control to the Great Wall, boundary of China proper. Meanwhile, hostilities had broken out in north-central Manchuria between Gen. Hsi Chia, newly proclaimed "independent" governor of Kirin Province, and Gen. Ting Chao, the Chinese commander at Harbin, who remained loyal to Marshal Chang Hsiao-liang. Following the defeat of Hsi Chia and the reputed looting of Japanese property in Harbin, a Japanese column advanced from Changchung and captured Harbin on February 5, after heavy fighting. Virtually all of Manchuria was now under Japan's domination.

This extension of Japanese control was followed by the establishment of "independent" Chinese governments, supervised by Japanese military advisers, in the three Manchurian Provinces of Liaoning (Fengtien), Kirin, and Heilungkiang. The Heilungkiang provincial government was formally organized Jan. 7, 1932, with Chang Ching-hui as governor. Shortly afterwards the Japanese apparently won over Gen. Ma Chan-shan, the Chinese military leader who had been defeated near Tsitsihar the previous November. In February, following the occupation of Harbin, Chang Ching-hui was transferred to the post of governor of the Harbin special district and General Ma was installed as "independent" governor of Heilungkiang at Tsitsihar. At the same time a number of the Mongolian princes were induced to join the independence movement.

The stage was now set for the establishment of a Manchurian-Mongolian state under Japanese auspices. Following a conference of Chinese and Mongolian leaders in Mukden February 15-18, the independence of Manchuria and Inner Mongolia was proclaimed on February 18. The proclamation was signed by the following Chinese officials: Tsang Hsih-yi, governor of Liaoning; Hsi Chia, governor of Kirin; Ma Chan-shan, governor of Heilungkiang; Tang Yu-lin, gover-

nor of Jehol Province; Chang Ching-hui, governor of the Harbin special district; also by two Mongolian princes, Ling Sheng and Chi-wang. The establishment of the new state of Manchoukuo in "the territories of Manchuria and Mongolia" was officially proclaimed on March 1. On March 9, the former Manchu boy-emperor Hsuan Tung of China, commonly known by his personal name of Henry Pu Yi, was installed as Provisional Dictator (*Chin Cheng*) and two days later the constitution of the new state was promulgated. The government established was notable for the large powers exercised by Japanese serving as members or advisers (see MANCHOUKUO under *Government*). The chief officials, however, were Chinese, including: Cheng Hsiao-Hsu, Prime Minister; Ma Chan-shan, Minister of War; Hsieh Chieh-shih, Foreign Minister; Hsi Chia, Finance; and Chang Ching-hui, head of the Privy Council. Changchun, provincial capital of Kirin, was made the capital of Manchoukuo and renamed Hsinching.

The new government immediately assumed complete control in the three Manchurian Provinces, taking over the customs, salt gabelle, and post offices. However, Governor Tang Yu-lin of Jehol refused to allow Manchoukuo troops within his province and continued to remit the profits of the opium monopoly to Marshal Chang Hsiao-ling, who had now established himself in Peiping. Manchoukuo early sought foreign recognition as an autonomous state, independent of China, by dispatching (March 12) telegrams to the Foreign Ministers of 17 countries requesting the establishment of "formal diplomatic relations." Following the lead of the United States and Great Britain, the nations refused to acknowledge receipt of the communication, excepting Japan, whose reply made no mention of recognition.

Coincident with these military and political developments, the Japanese carried through a drastic reorganization of the financial and economic institutions of Manchuria. Rival Chinese and Japanese enterprises, such as banks, railways, mines, public utilities and other large enterprises, were for the most part consolidated under government control and many Chinese enterprises were placed under Japanese supervision.

The absorption of Manchuria did not proceed smoothly. Despite the claim that the new state of Manchoukuo was created in accordance "with the will of thirty million people," large areas of Manchuria continued throughout 1932 to repudiate Manchoukuo's authority. Before the new state was proclaimed revolts broke out against Ma Chan-shan in Western Heilungkiang, against Hsi Chia in Eastern Kirin, in Chientao near the Korean border, at Tunhua, at Heiho in the Amur basin. In scores of other widely scattered cities, towns, and villages, Manchoukuo troops and officials were driven out by irregular Chinese forces or else deserted to the enemy. By March 22, the situation caused Minister of War Araki to announce in the Japanese Diet the need of additional Japanese forces in Manchuria, besides some 30,000 already there. On April 14, Governor Ma Chan-shan of Heilungkiang repudiated Manchoukuo and took the field against it. Japanese forces were sent against the principal concentrations of anti-Manchoukuo irregulars and defeated them after severe fighting in March, April, and May. However, the mobility of the irregulars, the aid they received from the general population, and the great extent of the country ren-

dered their complete suppression extremely difficult. No sooner did the Japanese recapture one town than insurgents captured another.

In July, the Chinese irregulars, having been temporarily driven to cover, the Manchoukuo government sent a Japanese civilian attaché, Gonshiro Ishimoto, into Jehol to negotiate with Governor Tang Yu-lin. Japanese authorities had reiterated their determination to incorporate Jehol in Manchoukuo. They were also represented as desirous of diverting to Changchun the opium revenues of Jehol, estimated at \$600,000 monthly, with which Marshal Chang Hsiao-ling was maintaining the remnants of his Manchurian armies in North China. When Ishimoto was captured by bandits, the Japanese inaugurated a drive into Jehol. They captured the railhead at Pehpiao on July 19 and concentrated troops at Shanhaikwan and Chingwantao, arousing fear in China of an offensive against Peiping itself.

At this time (the first week in August), another general uprising occurred in Manchuria, particularly in the South, where irregulars sought to recapture Chinchow. Daily raids were made upon railway lines and stations and on the night of August 28 Mukden was raided by insurgents, who destroyed much Japanese property. During the next few months, insurgent activities gained increasing momentum, and Japanese forces were fully occupied in coping with them. Jehol and North China received a respite.

Early in October, it was estimated that there were 300,000 volunteer Chinese troops in Manchuria. Barga (the region west of the Khingan Mountains) had seceded from Manchoukuo, and insurgents controlled the greater part of the three Manchurian provinces. Bandit activities endangered foreign residents. A number of British subjects were carried off for ransom and another, Mrs. C. T. Woodruff, was killed in a Harbin street, while resisting bandits intent upon kidnaping her three children. The Japanese on October 10 launched another "mopping-up" campaign, starting from the Korean border and sweeping westward and northwestward across Manchuria. On November 3, they defeated a large volunteer army near Tsitsihar and on November 28 inaugurated a final campaign against the Chinese general, Su Ping-wen, who controlled the western section of the Chinese Eastern Railway and the great area west of Tsitsihar. This drive, carried out successfully in bitter winter weather, ended on December 6, when the Japanese entered Manchuli and Gen. Su Ping-wen and the remainder of his shattered forces crossed into Soviet territory and were interned.

Once more in control of the railway lines, but with isolated areas still under insurgent control, the Japanese almost immediately shifted their attention to the Jehol border. There the Chinese, in expectation of the long-promised drive, had erected entrenchments and strategic roads. Clashes along this front were reported on December 9 and at the end of the year the increasing concentration of Japanese and Manchoukuo troops were believed to prestage the invasion of Jehol.

JAPAN RECOGNIZES MANCHOUKUO. The action of the Japanese Government on Manchoukuo's request for recognition was forecast on August 8, when Gen. Nobuyoshi Muto, appointed to replace General Honjo in command of Japanese troops in Manchuria, was also named "ambassador on special mission" to Manchoukuo. The Japanese Foreign Minister, Count Uchida, in a speech before

the Diet on August 25 promised "the early extension of formal recognition to Manchoukuo." He asserted it was "the only means of stabilizing conditions in Manchuria and of establishing conditions of permanent peace in the Far East." Anticipating the recommendations of the Lytton Report, he warned that Japan "can never consent" to the restoration of Chinese authority, in whatever form, over Manchuria. The formal protocol of recognition, signed by General Muto and Cheng Hsiao-Hsu, Premier of Manchoukuo, on September 15, contained two salient points. (1) Manchoukuo confirmed "all rights and interests possessed by Japan or her subjects within the territory of Manchoukuo by virtue of the Sino-Japanese treaties, agreements or other arrangements, or through Sino-Japanese contracts, private as well as public." (2) Japan agreed to cooperate in maintaining Manchoukuo's "national security, it being understood that such Japanese forces as may be necessary for this purpose shall be stationed in Manchoukuo." The two governments also signed a military agreement, the terms of which were kept secret.

THE LEAGUE AND MANCHOUKUO. In his speech before the Diet on August 25, Count Uchida definitely ruled out recourse to the League Covenant or other peace machinery on the ground that they were not applicable to the situation in Manchuria. He contended that neither the Covenant nor the Kellogg-Briand Pact placed any restraint upon the exercise of the right of self-defense, which he said obviously "may extend beyond the territory of the power which exercises that right." Japan's recognition of Manchoukuo on September 15, without awaiting publication of the Lytton Report, was widely interpreted as a studied affront to the League. Resentment in League circles was evidenced at the opening of the League Council on September 24, when President Eamon de Valera of the Irish Free State, the presiding officer, and Señor Salvador de Madariaga of Spain took Japan to task for having "taken steps which cannot but be regarded as calculated to prejudice settlement of the dispute."

Japan's effort to secure world acceptance of her Manchurian policy met its gravest setback in the findings of the Lytton Report, published on October 2. In denying that Japan acted in self-defense in Manchuria or that Manchoukuo had the popular support of the Chinese population in Manchuria, the Lytton Report swept away the principal legal bulwarks of the Japanese case. The report, however, sustained a number of the Japanese contentions regarding the provocative attitude of the Chinese and the dangers presented by Chinese misrule and disorder. (For a detailed analysis of the report, see LEAGUE OF NATIONS.) The findings and recommendations of the League commission evoked only the defiance of Japanese military leaders. This defiance was echoed by the government in its formal reply to the Lytton Report published on November 21 when the League Council renewed its deliberations on the Manchurian dispute. It was reiterated by Yusoke Matsuoka, Japan's representative on the League Council, in his opening address before the Council on the same day. Both Japan's reply and Mr. Matsuoka denied the findings of the Lytton Report *in toto* or brushed them aside. Mr. Matsuoka declared his country could not consider any substitute for Manchoukuo.

On December 9, when the Lytton Report was being considered by the League Assembly, to which it had been referred without comment by the Council, Japan suffered another setback. M. Paul-Boncour of France indicated that if conciliation failed France would probably support the invocation of sanctions against Japan. This represented a reversal of the French attitude, which had been considered favorable to Japan. Mr. Matsuoka replied that rather than change her Manchurian policy, Japan was prepared to undergo the severest sanctions. On December 13, the British Ambassador at Tokyo warned the Japanese Government that Great Britain would be forced to support the application of sanctions under Article XVI of the League Covenant if Japan persisted in obstructing League efforts at conciliation. As Sir John Simon, the British Foreign Minister, had theretofore consistently opposed strong measures against Japan by the League, the British action represented another diplomatic defeat. The most serious blow of all was the announcement on December 12 of the resumption of diplomatic relations between China and the Soviet Union. This action definitely aligned the Soviet Union with China and the other Powers in opposing Japan's Manchurian policy.

The Japanese government persisted in its course. On December 17, it rejected the proposal that the Soviet Union and the United States be invited to participate in the work of the subcommittee, to which the conciliation of the dispute had been delegated by the League Assembly. It also objected to the adoption of the Nine-Power treaty and the Lytton recommendations as guiding principles for the work of the subcommittee. At the end of the year, Japan at Geneva faced the opposition of virtually all the League members, as well as that of the United States and the Soviet Union. There was a growing agitation in Japan for withdrawal from the League, while within League circles there was increasing pressure upon the subcommittee on Manchuria for the abandonment of seemingly fruitless efforts at conciliation and the imposition of economic and financial sanctions upon Japan.

RELATIONS WITH THE UNITED STATES. Students of the Far Eastern situation during 1932 agreed that the United States government was the driving power chiefly responsible for Japan's diplomatic isolation and for the growing opposition of the League and of the Powers to Japan's Manchurian policy. The United States was the first government to protest. Its note of Jan. 7, 1932, to China and Japan enunciated the so-called Stimson Doctrine of non-recognition, which the League Assembly subsequently approved. This note declared, in substance, that the United States would not recognize the establishment of Japanese control over Manchuria, inasmuch as it impaired American treaty rights and was brought about "by means contrary to the covenants and obligations of the Pact of Paris (Kellogg-Briand Pact)."

The American government in January, 1932, concentrated its entire fleet in the Pacific and maintained it there for the entire year. On January 26, it published its entire correspondence with the government of Japan, revealing for the first time that it had consistently taken a stronger stand on the Manchurian issue than the League of Nations. In his letter to Senator Borah of February 23, Secretary Stimson intimated that

the United States would increase the size of its navy if Japan persisted in its alleged violation of the Nine-Power Treaty of 1922. Finally, Secretary Stimson, in his address of August 8, vigorously defended the American interpretation of the Kellogg-Briand Pact and implied that Japan was guilty of violation of the pact.

These developments resulted in seriously strained relations between the United States and Japan by the end of 1932. The state of affairs was indicated by the number of Japanese writers who referred to the "inevitability of war" with the United States. On June 21, 1932, Viscount Kikujiro Ishii, a Privy Councillor and former Ambassador to Washington, in an address of welcome to the new American Ambassador, Joseph C. Grew, warned that Japan might have to go to war with the United States if the latter "ever attempted to prevent Japan's natural expansion." Several "American spy" scares during the year testified to the agitated state of Japanese opinion. In December, the action of the American Congress in voting to withdraw from the Philippines served to lessen somewhat the tension in Japan. See UNITED STATES under Administration.

JAPAN AND THE SOVIET UNION. When Japanese and Manchoukuo troops in January, 1932, advanced northward upon Harbin, took control of the Chinese Eastern Railway, which had been operated jointly by China and the Soviet Union, and conducted military campaigns to within a short distance of the Soviet border, the Soviet government concentrated more than 150,000 troops in Siberia. With the extension of disorder in North Manchuria, the arrest of Soviet citizens, and sabotage along the Chinese Eastern Railway, tension between the two powers became acute. Neither country appeared anxious for war, however, and the atmosphere cleared perceptibly when on May 4 the Soviet-Japanese fisheries agreement of 1931 was prolonged for one year. Not long afterward, the Soviet government began to withdraw its troops from the Far East and by June 2 the situation had so far improved that Premier Saito declared the Soviet attitude regarding affairs in Manchuria had been "perfectly correct."

On August 14, a new Soviet-Japanese fisheries treaty was signed which eliminated an almost perpetual cause of friction. Late in October, it was reported by Walter Duranty from Moscow that Japan was attempting to create a united front with the Soviet Union and France in defense of their joint interests in the Far East. The effort failed and the end of the year brought a renewal of Soviet-Japanese tension. The Japanese drive against Gen. Su Ping-wen brought Japanese troops to within striking distance of the Soviet border near Manchuli and the refusal of the Russians to extradite General Su and his forces irritated the Japanese. Preparations for a Japanese drive into Jehol aroused Soviet fears as to the safety of the Soviet régime in Outer Mongolia. On December 12, the announcement of the resumption of diplomatic relations between China and the Soviet Union caused an angry outburst by the spokesman for the Japanese Foreign Office. He charged the Russians with double-crossing under the cloak of friendship and threatened a more "definite" policy toward the Soviet Union. Repeated Soviet suggestions for a Soviet-Japanese non-aggression pact were rejected by the Japanese government. See CHINA and UNION

OF SOVIET SOCIALIST REPUBLICS under History.

For relations with France and Great Britain, see FRANCE and GREAT BRITAIN under History; also LEAGUE OF NATIONS.

INTERNAL DEVELOPMENTS. The political situation in Japan was completely changed during 1932 by the phenomenal growth of a Fascist movement hostile to parliamentarianism and compounded of a vague mixture of socialism and extreme nationalism. The Seiyukai party, which succeeded the Minseito as the governing party on Dec. 13, 1931, came into power under suspicious circumstances and became increasingly unpalatable to the patriotic and military groups. A minority party, its difficulties were aggravated by an attempt made on the Emperor's life on Jan. 8, 1932. As a result Premier Inukai dissolved the Diet on January 21, calling a general election for February 20. The election was a landslide for the Seiyukai, which captured 304 seats in the House of Representatives to the Minseito's 147. The public was apathetic, however, and it was charged that the victory was due primarily to Seiyukai manipulation of the prefectural governors and local police chiefs.

Under the Seiyukai, Japan's financial and economic position steadily deteriorated. Speculators made large profits from the abandonment of the gold standard, at the expense of the public. The value of the yen slumped nearly one-third by May 10, increasing the burden of external obligations. The usual excess of imports increased, while the agricultural crisis deepened and the national debt rose. The deep antagonism of patriotic organizations at the alliance of politicians and big business found vent in a series of assassinations. Junnosuke Inouye, Finance Minister in the Minseito Cabinet, was shot to death February 9. On March 5, assassins killed Baron Takuma Dan, chairman of the Board of Directors of the great Mitsui banking house. Late in March, the police uncovered a terrorist plot of unprecedented proportions, in which a score of Japan's leading figures were marked for assassination by some 20 members of the Blood Brotherhood League, headed by the reactionary Buddhist priest, Nishio Inouye.

During the national crisis arising from the conflict at Shanghai, the Seiyukai leaders further angered the military and patriotic elements by their reluctance to send reinforcements to Shanghai, by political bickering over patronage matters, and by their efforts to secure control of the presidency of the South Manchuria Railway, a post which the army now regarded as within its own preserve. This active discontent culminated on May 15 in the assassination of Premier Inukai by a band of military cadets and young naval officers. At the same time the assassins shot down the Premier in his home, bombs were thrown and shots fired at the residence of Count Nobuaki Makino, Lord Keeper of the Privy Seal, at the offices of the Seiyukai party, the metropolitan police headquarters, the Bank of Japan, and the Mitsubishi Bank. The majority of the terrorists subsequently surrendered voluntarily to the police. The Seiyukai ministry resigned.

After a week of delicate negotiation, the military secured the establishment of a super-party coalition cabinet in which the Seiyukai party held three posts, the Minseito two, the military two, and non-party men six. The military secured control over foreign affairs, leaving internal affairs under party control. The ministry was

headed by Viscount Minoru Saito, who also served as Foreign Minister until the installation in the Foreign Office July 6 of Yasuya Uchida, president of the South Manchuria Railway. Other members were: War, Gen. Sadao Araki; Navy, Adm. Keisuke Okada; Home Affairs, Baron Tatsuo Yamamoto; Finance, Korekiyo Takahashi; Colonial Affairs, Ryutaro Nagai; Commerce and Industry, Baron Kumachi Nakajima; Railways, Chuzo Mitsuchi; Justice, Matsukichi Koyama; Education, Ichiro Hatoyama; Agriculture and Forestry, Fumio Goto.

At a special session of the Diet, held June 1-15, the new ministry secured the passage of bills expanding the currency, controlling exchange, increasing tariffs, and appropriating 193,000,000 yen for supplementary expenditures of the army in Manchuria. Before adjourning, the Diet passed joint Seiyukai-Minseito resolutions urging immediate recognition of Manchoukuo and the calling of a special session to consider farm relief legislation. The second special session of the Diet, held late in August, provided an insignificant 170,000,000 yen for unemployment relief and passed a law for the stabilization of rice prices. The military, however, carried through their complete programme. The appointment of General Muto as Japan's representative in Manchoukuo formally subordinated the Foreign Office to the army. The recognition of Manchoukuo and the Japanese-Manchoukuo military alliance met other military demands.

On November 25, the Saito Cabinet approved the largest budget in Japan's history. It called for an outlay of 2,239,000,000 yen (about \$475,787,500 at the current exchange rate of \$0.2125), of which military and naval appropriations totaled 821,000,000 yen, or twice the amount appropriated for these services in 1930-31. A deficit of nearly one billion yen was anticipated. The budget situation provoked warnings from the business leaders and from some sections of the vernacular press that a continuance of the government's policy of currency inflation and bond issues would result in a collapse similar to that of postwar Germany (also see under *Finance*).

A regular session of the Diet opened on December 24, but two days later adjourned until Jan. 24, 1933, without taking up legislative matters. The two important questions awaiting the Diet's consideration were the budget and the question of exchange control. The budget measure, however, involved the Army's programme for mechanization and reinforcement of the units in Manchuria and the problem of farm relief. There was no apparent disposition to change the ministry's Manchurian policy or to check the minor boom which Japanese industries were enjoying as a result of the depreciation of the yen. The yen exchanged at an average of \$0.2073 for the month of December (par \$0.4985). There was considerable misgiving as to the eventual results of inflation.

On November 5 and again on December 27, the Tokyo police announced the arrest of members of patriotic societies in connection with plots to assassinate Premier Saito. On December 22 a new political party of Fascist leanings, called the National League, was inaugurated under the leadership of Kenzo Adachi, former Minseito Home Minister, who was responsible for the overthrow of the Minseito Cabinet and the abandonment of the gold standard in December, 1931. Despite these developments, the Tokyo correspondent of the New York *Herald Tribune* on

December 31, reported a noticeable decline in the Fascist movement in the preceding few months. The authorities, it was stated, had undertaken to suppress the movement by arresting many of the leaders.

The Fascist movement corresponded with a dramatic growth of the Communist movement among the Japanese intelligentsia, students, and professional classes. The lifting of a ban on press publicity concerning Communist activities was followed by the revelation that 6900 persons were arrested by the police during 1932, of whom 2220 were under detention at the end of the year. Conspicuous among those arrested for sympathy with or membership in the Communist party (outlawed in Japan) were sons and daughters of wealthy or well-known families, university professors, and minor government officials. It was the third time in five years that a nation-wide anti-Communist dragnet had been spread.

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**JAPANESE BEETLE.** See ENTOMOLOGY, ECONOMIC.

**JAVA.** See NETHERLAND INDIA.

**JEBEL DRUZE.** See SYRIA.

**JEHOL.** See JAPAN under *History*.

**JEWELL,** REAR ADMIRAL THEODORE FREELING-HUYSEN, U. S. N., RET. An American naval officer, died in Washington, D. C., July 26, 1932. He was born in Georgetown, D. C., Aug. 5, 1844, and was graduated from the U. S. Naval Academy in 1864. During the summer of 1863 he served in the defense of Washington, commanding a naval battery of field howitzers. Commissioned ensign in 1866, he served at various foreign stations, was made president of the Naval War College at Newport, R. I., in 1889, and commanded the Naval Torpedo Station there during 1890-93. He was then appointed superintendent of the naval gun factory at the Washington navy yard. During the Spanish-American War (1898) he commanded the cruiser *Minneapolis* on scouting service in the West Indies, and also the cruiser *Brooklyn* in the Philippines. In March, 1904, he was promoted to the grade of rear admiral and



shortly afterward was placed in command of the European squadron. He retired in November, 1904. He was a member of the Naval Examining Board, a fellow of the American Association for the Advancement of Science, and the author of numerous articles on professional subjects, especially ordnance and torpedoes.

**JEWS. POPULATION.** Dr. Harry S. Linfield, whose "Statistics of Jews" has been a feature of the *American Jewish Year Book* for many years, estimates that in 1932 there were 15,200,000 Jews in the world, of whom 7,600,000 resided in a group of adjacent countries located in the centre of the European continent, the so-called Jewish Central Europe. This region included Poland, Danzig, Lithuania, Latvia, Austria, Czechoslovakia, Hungary, Rumania and the Crimea, the Ukraine, and White Russia in Russia. In this area the Jews constituted nearly 6 per cent of the total population. In North America and the West Indies, Dr. Linfield estimated that there were 4,380,000 Jews, constituting nearly 3 per cent of the total population. Other areas in which Jews made up a sizable proportion of the population were: Palestine, Arabia, Iraq, and Syria where 325,000 Jews were to be found, or 2 per cent of the total population; Tangiers, Morocco, Algeria, Tunis, Libya, where 400,000 Jews were to be found, or 1.5 per cent of the total population; the Netherlands, where 150,000 Jews were to be found, or 2 per cent of the total population; Greece and European Turkey, where 1.74 per cent of the population was Jewish, the Union of South Africa, where Jews constituted nearly 1 per cent of the total population and over 4 per cent of the white population; the Argentine, where Jews made up 2 per cent of the total population. In all other regions of the world the Jews constituted less than 1 per cent of the total population. Dr. Linfield estimated that there were 4,228,029 Jews in the United States. According to an interesting computation made by Jakob Lestschinsky of Berlin, published in the *Menorah Journal* for October, the world's Jewish population has grown from 3,000,000 to 16,000,000 during the last 100 years, whereas Europe, America, South Africa, and Australia increased their population only three and one-half times. Mr. Lestschinsky is authority for the statement that Jews have never been so numerous nor have they been found before gathered together to so great an extent in metropolitan areas. Almost one-half of the Jewish people now live in the 14 largest cities of the civilized world. The unprecedented growth of the Jewish population, says Mr. Lestschinsky, "seems all the more remarkable when we recall that during the last half century the Eastern European Jews were engulfed by three large pogrom waves (1881-82, 1903-05, and 1918-21), with 2000 massacres in which approximately 100,000 Jews were murdered and from 200,000 and 300,000 prematurely died of epidemics." At the beginning of the nineteenth century Jews were crowded together in the most backward countries of Eastern Europe, North Africa, and in Asia Minor. Says Mr. Lestschinsky: "In the course of the century huge Jewish migrations took place from east to west; from the agrarian to the industrial countries, from political despotisms to democratic nations, from the spheres of Slavish-Arabian culture to those of English-German culture."

**IMMIGRATION.** During the year ended June 30,

1931, a total of 5692 Jewish immigrants were admitted to the *United States*, 5834 less than during the previous fiscal year; 1455 Jews were admitted during the six months ended Dec. 31, 1931. The number of Jews departing was but 319 during the fiscal year ended June 30, 1931, and 240 during the following six months. A total of 150 Jews were deported during the fiscal year 1930-31, and 80 during the six months following. During the same period, 405 Jews were debarred from entering the United States in the fiscal year 1930-31, and 168 during the six months of July-December, 1931. Of the 5692 Jews admitted during the fiscal year 1930-31, a total of 3201 came from Jewish Central Europe and 2491 came from other countries, chiefly Canada, Cuba, Great Britain, and Palestine. It is interesting to note that in the case of the countries of Jewish Central Europe, the Jewish immigrants constituted but 5.86 per cent of the total number of immigrants admitted from those countries in 1930-31 as against 36.5 per cent during the preceding year.

During the year ending Mar. 31, 1931, a total of 3420 Jews entered *Canada*, of whom 513 were from the United States. Nearly 86 per cent of the immigrants entering Canada came from Jewish Central Europe and only 14 per cent from Great Britain and the United States. Over 90 per cent of the Jewish immigrants were bound for the three provinces of Ontario, Quebec, and Manitoba. During 1930 a total of 1374 Jews entered *Cuba*, 120 Jews departed, and 29 were debarred from landing. In the same year a total of 3558 immigrants were admitted to *Brazil*. One notes with interest that from 1925 to 1929, 21,362 Jews in all entered this country, constituting 4.3 per cent of the total number of persons admitted. In the same year, 1800 Jews entered *Uruguay*; and 7805 Jews entered *Argentina*. During the period 1913-30, 91,490 Jews in all were admitted into Argentina, constituting 4.6 per cent of total admissions. During 1930 a total of 1200 Jewish immigrants entered the *Union of South Africa*. During 1931 a total of 4075 Jewish immigrants entered *Palestine* as compared with 666 Jewish departures. During the same year 1458 non-Jewish immigrants entered and 680 non-Jewish emigrants departed. In 1931 over one-half of the Jews admitted into the country were persons coming to seek employment or join their dependents; one-fifth were dependents of residents already in Palestine; one-seventh were persons with capital or assured income or maintenance; and a little more than 2 per cent were persons of religious occupations, students, or orphans. From the date of the British occupation of Palestine, Dec. 9, 1917, to the end of 1931, a total of 113,047 Jews entered the country; the number of departures from 1922 to 1931 was 27,809. The net immigration of Jews during 1922-31 was 66,353.

**UNITED STATES.** Because of the continuance of the depression American Jews were forced to concern themselves largely with the solution of their own domestic problems with the result that, certainly as far as material aid was concerned, less thought could be given to the affairs and difficulties of their co-religionists overseas. Nevertheless, American Jews were able to maintain to a very measurable extent their feeling of kinship with their foreign brethren, watching with interest and concern events transpiring in Palestine, Poland, Rumania, and



Germany. Thus, support was given to the activities of the Joint Distribution Committee, despite the threatening condition of domestic institutions and local philanthropies. Campaigns for the support of the Joint Distribution Committee were inaugurated in many cities and on Mar. 27, 1932, a meeting of the National Council of the Committee was held in New York with 300 delegates from all over the country in attendance. One of the sessions of the convention was made the occasion for memorial exercises in honor of the noted Jewish philanthropist, Julius Rosenwald, who had died in Chicago on Jan. 6, 1932. The National Council pledged itself to continue the work of rehabilitation begun shortly after the outbreak of the World War.

Mention has been made of the fact that domestic Jewish institutions were suffering severely. No group felt more keenly the severity of the depression than those agencies devoting themselves to Jewish education, which were being forced to reduce their budgets drastically as teachers' salaries were remaining unpaid, schools were being shut down, and teachers' strikes were breaking out. As an example of how well established institutions were suffering, one notes that the Hebrew Union School for Teachers in New York City, which had been in operation for nine years and which over that length of time had graduated 176 students and had had an aggregate enrollment of over 2000 in its classes, was compelled to discontinue because of lack of funds. Nevertheless, despite such inroads, it was indicated that Jews of the United States were spending over \$6,000,000 annually for Jewish education.

One of the most interesting developments of the year was the continuance of the work for fostering good will between Jews and Christians, a project which had been inaugurated some years ago by the Federal Council of the Churches of Christ in America. This work was going ahead during the year by means of seminars, round table discussions, joint religious services, and similar methods. National attention was directed to the movement by a Jewish-Christian Conference held in Washington early in March under the auspices of the National Conference of Jews and Christians, the co-chairmen being the Hon. Newton D. Baker, Prof. Carlton J. H. Hayes and Roger W. Straus. Professor Hayes struck the keynote for the conference when he declared that the majority religion "has always the chief responsibility in assuring as well as proclaiming religious liberty. As minorities, Jews and Catholics have been particularly eager for equality of treatment in politics and society, more eager to obtain these things than the Protestant majority to grant them. Thereby friction has been increased." The *American Hebrew* and *Jewish Tribune* agreed with Professor Hayes, pointing out that what was needed was a "courageous Protestant leadership that will assume a still greater proportion of the burden to foster future seminars on Christian-Jewish relations." One of the frequent topics for discussions in these good will seminars was discrimination against Jews seeking employment, without regard to their fitness or ability. Jews, too, were preoccupied with the problem and at the annual meeting of the National Conference of Jewish Social Service, held in May, 1932, at Philadelphia, Dr. I. M. Rubinow subjected the question to a searching analysis. In April, 1932, a Com-

mittee on Unjust Discrimination Against Jews Seeking Employment was established in Chicago for the purpose of making a survey of cases of discrimination, cooperating with existing employment agencies to discourage such discrimination, educating offending employers as to the unfairness of the practice, discouraging individual volunteers who may wish to attempt corrective measures, and the preventing and discouraging of false rumors of unjust discrimination against any employer.

**LATIN AMERICA.** In *Cuba* the threatened expulsion of about 800 Jews, charged with promoting communistic agitation, in November, 1931, enlisted the interest of the American Jewish Committee, which pointed out that the suspected persons were really members of a Jewish cultural organization. Representations were made to the Cuban Minister of the Interior who, upon investigation, found that the society in question was not communistic and, therefore, ordered the release of the suspected persons. In *Guatemala*, in February, 1932, the government placed a ban on peddling and decreed the deportation of all persons so engaged. Some 60 Jewish families were ordered deported; however, the intercession of American Jewish organizations with the Guatemalan Minister at Washington gained reconsideration and the deportation orders were rescinded. In *Mexico* the anti-Jewish agitation, which had begun on a small scale several years ago, attained sizable proportions during the year. Apparently, as the *American Jewish Year Book* points out, the basis of the agitation was economic and was not aimed at Jews as such but at aliens in general. It was charged that Jews were replacing native Mexicans in certain fields, were working for lower wages, and as peddlers and merchants were responsible for the spread of installment buying.

**GERMANY.** The continued success of the Nazis in Germany kept the Jewish communities in this country in a state of uncertainty and alarm. At the same time the Social Democratic-Centrist coalition government of Bruening failed to show any wholehearted opposition to the anti-Jewish agitation of the Hitlerites or to take any steps to check their Jew-baiting tactics. The upshot was that the year saw the appearance of a number of minor clashes between Jews and Nazis, some of which were followed by arrests and trials. There were also desecrations of cemeteries and attacks upon synagogues, while the accusation of ritual murder was occasionally heard. The downfall of the Bruening government and the accession of von Papen was received with misgivings; however, von Papen made haste to give assurance to the Jewish communities that his government would guard the equality of all citizens irrespective of race or creed. The success of the Hitlerites in provincial elections had immediate repercussions in the retirement of Jewish officials and the dismissals of Jewish actors and singers from government-supported theatres and opera houses. In several cities the Nazis ordered the prohibition of the Jewish ritual method of slaughtering animals. As a result of an alliance of the Nazis and the Communists, the Prussian Diet, in June, 1932, enacted a measure instructing the government to submit the draft of a law providing for the confiscation of the property of East European Jews who had entered the country after Aug. 1, 1914. However, the law remained a dead letter. During the year

but without very much success. In April, 1932, a report from Kiev stated that the restoration to the Jewish community of the one remaining synagogue had been ordered. The government also permitted the importation by individuals of *Matzo's* and other Passover specialties. The *American Jewish Year Book* is authority for the statement that a number of anti-Jewish attacks in schools, factories, government service, and in the Red Army were reported in the press during the year; these apparently did not differ in type from those of previous years. However, the government continued to punish severely persons guilty of overt acts, while the Communist party and the press condemned all anti-Jewish manifestations whenever they appeared.

**PALESTINE.** The Jews of Palestine were reported as suffering less from the effects of the depression than their co-religionists in other lands. In December, 1931, an official statement showed that there were 30,000 Jews employed in the country, 7000 of whom were engaged in agricultural pursuits, 4500 in building and public works, 4000 in factories and large workshops, 3000 in small workshops, 1000 in transport, and 9500 in miscellaneous occupations. The General Federation of Jewish Labor in Palestine has a membership of 29,000, which included the members of the coöperative agricultural settlement and their wives. It was estimated that approximately three-fourths of the Jewish workers in Palestine were trade unionists. Interestingly enough, unemployment among Jewish wage earners was lower in 1930 than in any of the previous four years. In 1926, 6000 Jewish wage earners were reported out of work; in 1927, the number was 7400, while in 1930, it was 1030. An event which attracted international interest was the Levant Fair held at Tel-Aviv in April, 1932, with 1200 exhibitors representing 24 countries. The mechanization of the country continued, in June, 1932, the first Jordan power house of the Rutenberg electrification project being opened.

The annual report of the Jewish Agency for Palestine, to the Permanent Mandates Commission for the League of Nations, was published on the fifteenth anniversary of the Balfour Declaration. The report presented an optimistic review of developments in Palestine during 1931. It was indicated that the sum of £797,000 was expended during the year by the Jewish Agency and its affiliated institutions in the promotion of reconstruction enterprises and the settlement of Jews on the land. The report pointed with satisfaction to the remarkable increase, both in number and percentage of the whole, in the Jewish rural population and to the fact that the increase in the Arab population was most marked in those districts where the greatest progress had been made in Jewish settlement. It was also declared that agriculture in Palestine as a whole suffered less than in other countries because the local market succeeded in absorbing a large proportion of the produce. Despite the depression the Agency was furthering the "thousand family plan" originally suggested by Supreme Court Justice Louis D. Brandeis in 1927, and a special plantation corporation was being formed; also, building construction in the principal towns was being maintained at its normal level during the year. The Agency report stated that at the end of 1931 Jewish unemployment in towns totaled 1200, which constituted less than 1 per cent of

the Jewish urban population. In rural districts unemployment reached 2.5 per cent.

The Zionist Organization of America, at the opening of its annual convention on July 3 at Philadelphia, appealed for continued support of the up-building of a Jewish national home, particularly in view of the fact that despite the depression Palestine apparently was suffering less than most other lands. Nearly 500 delegates representing all sections of the country attended the sessions of the convention.

**SPINOZA TERCENTENARY.** On November 24, not only Jews but the world of the intellect generally observed the three hundredth anniversary of the birth of Baruch Spinoza. Spinoza was a descendant of those "Marrano" Jews who, fleeing the Spanish and Portuguese inquisitions in the fifteenth century, found a haven in free Amsterdam where they proceeded to relearn the tenets of their old faith. In such an atmosphere Spinoza was born. In his youth looked upon as a brilliant rabbinical student, he suffered ex-communication at the hands of the local rabbinate, largely because of his exposition of a Pantheistic world. He continued to steep himself in Jewish doctrine, none the less, and his famous *Ethics* clearly shows its Jewish origins. Looked upon as a heretic by Jews and Christians alike until the nineteenth century, it is plain to-day that Spinoza was neither an atheist nor a convert to Christianity. This "God intoxicated man," in the words of Benjamin Ginzburg writing in the *Nation* of Nov. 30, 1932, "represents a unique religious phenomenon, an attempt to see the meaning of religion in its universal essence, free from the distortions of nationalistic creeds and free from the symbols of imagination and myth."

**JOHNS HOPKINS UNIVERSITY, THE.** A nonsectarian institution of higher education for men and women in Baltimore, Md., founded in 1876. The enrollment for the autumn of 1932 was 5332. The faculty numbered 694. The productive funds amounted to \$30,807,421, and the income from all sources for 1931-32 was \$3,006,378. The main library contained 423,501 volumes. President. Joseph Sweetman Ames, Ph.D.

**JOHORE.** See UNFEDERATED MALAY STATES.  
**JONES, FRANCIS COATES.** An American painter, died in New York City, May 27, 1932. He was born in Baltimore, Md., July 25, 1857, and studied at the École des Beaux-Arts in Paris under Yvon, Lehmann, Boulanger, and Lefèvre. On his return to the United States in 1882 he settled in New York City where three years later, on receiving the Clarke prize awarded by the National Academy of Design, he was elected an associate member of that society. In 1894 he became an academician, and in 1908 was elected a member of the National Institute of Arts and Letters. His specialty was figure painting, especially of children and young girls in charming surroundings, which showed delicacy of coloring and cleverness in the handling of detail. Among his paintings are: "Mother and Child on the Veranda"; "Grandmother's Tale"; "Lost"; "Afternoon in March"; "The Lilies"; "Spring"; "The Little Visitors"; "Chloe"; "A Perplexing Move"; "A Cup of Tea"; "Nymphs Bathing"; "The Letter"; "Wooded Hillside"; "The Sisters"; and "The Trout Pool." He received the Shaw purchase award of the Society of American Artists (1904), the Isidor medal of the National Academy of Design (1913), and silver medals at

but without very much success. In April, 1932, a report from Kiev stated that the restoration to the Jewish community of the one remaining synagogue had been ordered. The government also permitted the importation by individuals of *Matzo's* and other Passover specialties. The *American Jewish Year Book* is authority for the statement that a number of anti-Jewish attacks in schools, factories, government service, and in the Red Army were reported in the press during the year; these apparently did not differ in type from those of previous years. However, the government continued to punish severely persons guilty of overt acts, while the Communist party and the press condemned all anti-Jewish manifestations whenever they appeared.

PALESTINE. The Jews of Palestine were reported as suffering less from the effects of the depression than their co-religionists in other lands. In December, 1931, an official statement showed that there were 30,000 Jews employed in the country, 7000 of whom were engaged in agricultural pursuits, 4500 in building and public works, 4000 in factories and large workshops, 3000 in small workshops, 1000 in transport, and 9500 in miscellaneous occupations. The General Federation of Jewish Labor in Palestine has a membership of 29,000, which included the members of the cooperative agricultural settlement and their wives. It was estimated that approximately three-fourths of the Jewish workers in Palestine were trade unionists. Interestingly enough, unemployment among Jewish wage earners was lower in 1930 than in any of the previous four years. In 1926, 6000 Jewish wage earners were reported out of work; in 1927, the number was 7400, while in 1930, it was 1030. An event which attracted international interest was the Levant Fair held at Tel-Aviv in April, 1932, with 1200 exhibitors representing 24 countries. The mechanization of the country continued, in June, 1932, the first Jordan power house of the Rutenberg electrification project being opened.

The annual report of the Jewish Agency for Palestine, to the Permanent Mandates Commission for the League of Nations, was published on the fifteenth anniversary of the Balfour Declaration. The report presented an optimistic review of developments in Palestine during 1931. It was indicated that the sum of £797,000 was expended during the year by the Jewish Agency and its affiliated institutions in the promotion of reconstruction enterprises and the settlement of Jews on the land. The report pointed with satisfaction to the remarkable increase, both in number and percentage of the whole, in the Jewish rural population and to the fact that the increase in the Arab population was most marked in those districts where the greatest progress had been made in Jewish settlement. It was also declared that agriculture in Palestine as a whole suffered less than in other countries because the local market succeeded in absorbing a large proportion of the produce. Despite the depression the Agency was furthering the "thousand family plan" originally suggested by Supreme Court Justice Louis D. Brandeis in 1927, and a special plantation corporation was being formed; also, building construction in the principal towns was being maintained at its normal level during the year. The Agency report stated that at the end of 1931 Jewish unemployment in towns totaled 1209, which constituted less than 1 per cent of

the Jewish urban population. In rural districts unemployment reached 2.5 per cent.

The Zionist Organization of America, at the opening of its annual convention on July 3 at Philadelphia, appealed for continued support of the up-building of a Jewish national home, particularly in view of the fact that despite the depression Palestine apparently was suffering less than most other lands. Nearly 500 delegates representing all sections of the country attended the sessions of the convention.

SPINOZA TERCENTENARY. On November 24, not only Jews but the world of the intellect generally observed the three hundredth anniversary of the birth of Baruch Spinoza. Spinoza was a descendant of those "Marrano" Jews who, fleeing the Spanish and Portuguese inquisitions in the fifteenth century, found a haven in free Amsterdam where they proceeded to relearn the tenets of their old faith. In such an atmosphere Spinoza was born. In his youth looked upon as a brilliant rabbinical student, he suffered ex-communication at the hands of the local rabbinate, largely because of his exposition of a Pantheistic world. He continued to steep himself in Jewish doctrine, none the less, and his famous *Ethica* clearly shows its Jewish origins. Looked upon as a heretic by Jews and Christians alike until the nineteenth century, it is plain to-day that Spinoza was neither an atheist nor a convert to Christianity. This "God intoxicated man," in the words of Benjamin Ginzburg writing in the *Nation* of Nov. 30, 1932, "represents a unique religious phenomenon, an attempt to see the meaning of religion in its universal essence, free from the distortions of nationalistic creeds and free from the symbols of imagination and myth."

JOHNS HOPKINS UNIVERSITY, THE. A nonsectarian institution of higher education for men and women in Baltimore, Md., founded in 1876. The enrollment for the autumn of 1932 was 5332. The faculty numbered 694. The productive funds amounted to \$30,807,421, and the income from all sources for 1931-32 was \$3,006,378. The main library contained 423,501 volumes. President, Joseph Sweetman Ames, Ph.D.

JOHORE. See UNFEDERATED MALAY STATES.  
JONES, FRANCIS COATES. An American painter, died in New York City, May 27, 1932. He was born in Baltimore, Md., July 25, 1857, and studied at the École des Beaux-Arts in Paris under Yvon, Lehmann, Boulanger, and Lefèvre. On his return to the United States in 1882 he settled in New York City where three years later, on receiving the Clarke prize awarded by the National Academy of Design, he was elected an associate member of that society. In 1894 he became an academician, and in 1908 was elected a member of the National Institute of Arts and Letters. His specialty was figure painting, especially of children and young girls in charming surroundings, which showed delicacy of coloring and cleverness in the handling of detail. Among his paintings are: "Mother and Child on the Veranda"; "Grandmother's Tale"; "Lost"; "Afternoon in March"; "The Lilies"; "Spring"; "The Little Visitors"; "Chloe"; "A Perplexing Move"; "A Cup of Tea"; "Nymphs Bathing"; "The Letter"; "Wooded Hillside"; "The Sisters"; and "The Trout Pool." He received the Shaw purchase award of the Society of American Artists (1904), the Isidor medal of the National Academy of Design (1913), and silver medals at

the Pan-American Exposition (1901), the Louisiana Purchase Exposition (1904), and the Panama-Pacific Exposition (1915). He served also as treasurer of the National Academy of Design during 1914-29 and was a trustee of the Metropolitan Museum of Art.

**JONES, WESLEY LIVSEY.** An American lawyer and senator, died in Seattle, Wash., Nov. 19, 1932. He was born near Bethany, Ill., Oct. 9, 1863, and on his graduation from the Southern Illinois College in 1886 was admitted to the bar in the same year. Moving to the Territory of Washington three years later, he began the practice of law in North Yakima, and after 1917 practiced in Seattle. His political career began in 1884 when he participated as speaker in the Blaine campaign. In 1898 he was elected Republican member-at-large for the State of Washington to the Fifty-sixth Congress. He held this seat until 1908 when he was elected to the Senate, he was reelected for the three subsequent terms (1915-33). One of the most important measures which he sponsored was the Merchant Marine Act of 1920, providing for the continuance of the United States Shipping Board and for subsidies to shipowners to build new ships at an amount not to exceed \$25,000,000 a year for five years, derived from funds from the sale of government-owned ships and receipts from their operation. In 1929 he acted as agent for the Department of Justice in sponsoring the Jones-Stalker Law, an amendment of the Prohibition Act which increased maximum penalties for violation of the Prohibition law to \$10,000 fine and five years' imprisonment. He aided also in securing power and reclamation legislation. He was chairman of the Senate appropriations committee and of the commerce committee.

**JUGOSLAVIA.** See YUGOSLAVIA.

**JURY SYSTEM, ABOLITION OF.** See LAW IN 1932.

**JUSSERAND, zhu's'-tan, JEAN ADRIEN ANTOINE JULES.** A French diplomat and scholar, died in Paris, July 18, 1932. He was born in Lyons, Feb. 18, 1855, and attended the Universities of Lyons and Paris. Entering the diplomatic service in 1876, he held a variety of posts, being councillor of the Embassy at London (1887-90) and at Constantinople (1890), assistant director for Oriental politics at the Foreign Office (1891-98), and Minister to Denmark (1898-1902). He then became Ambassador to the United States, and at the time of his retirement in 1925 was dean of the Washington diplomatic corps. He gained the respect of both French and American statesmen for the tact and ability with which he served his country's interests during the trying war and post-war periods, and after his return to France continued to work for Franco-American amity. He was a member of the French Institute, a grand officer of the Legion of Honor, an honorary fellow of the Royal Society of Literature, a corresponding fellow of the British Academy, and a past president of the American Historical Association. His works, some of which deal with English literary subjects, include: *Le théâtre en Angleterre depuis la conquête jusqu'aux prédécesseurs immédiats de Shakespeare* (1878); *Les Anglais au moyen âge: La Vie nomade et les routes d'Angleterre au XIV<sup>e</sup> siècle* (1884), which was crowned by the Academy and translated into English by Lucy T. Smith as *English Wayfaring Life in the Middle Ages* (1889); *Le roman anglais* (1886); *Le roman au*

*temps de Shakespeare* (1888); in English, *A French Ambassador at the Court of Charles II*, from the unpublished papers of Count Cominges (1892); *L'épopée mystique de William Langland* (1893); *Histoire littéraire du Peuple anglais* (3 vols., 1895-1909); *Les sports et jeux d'exercice dans l'ancienne France* (1901); *Ronsard*, in the series *Grands écrivains français* (1913); *En Amérique jadis et maintenant* (1916; Eng. trans., *With Americans of Past and Present Days*, 1917, which received the Pulitzer Prize of that year); in English, *The School for Ambassadors and Other Essays* (1924); and *Le Sentiment Américain pendant la guerre* (1931).

**JUVENILE DELINQUENCY.** See CHILD WELFARE; CRIME.

**KALANIANA'OLE, ELIZABETH KAKANU KALEIWOHI-KAAUWAI.** A Hawaiian princess, died in Honolulu Feb. 19, 1932. She was born in Makawao, Maui, in 1879, and during her childhood was a protégée of her cousin, Queen Kapiolani. Her marriage to Prince Kuhio in 1896 was followed by a two-year tour of the world, during which she and her husband were entertained as royalty in all the leading countries. Their residence, Pualeilani (Wreath of Heaven) at Waikiki Beach, was regarded by the older generation as the palace of the country, and all the homage due royalty was paid to them. For 20 years Prince Kuhio was Hawaiian delegate to Congress, and on his death in 1922 his widow succeeded him as a member of the Hawaiian Homes Commission, which had been established through his efforts to rehabilitate the Hawaiian race on the land, principally on farms on the island of Molokai. She was also president of the Kapiolani Maternity Hospital Association. Her second husband was J. Frank Woods.

**KAMERUN.** See CAMEROON.

**KANSAS. POPULATION.** According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 1,880,999, as against 1,769,257 in 1920. Kansas City had (1930) 121,857 inhabitants; Wichita, 111,110; Topeka, the capital, 64,120.

**AGRICULTURE.** The following table shows the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod Bu	Value
Wheat	1932	9,270,000	106,551,000	\$33,031,000
	1931	12,632,000	239,868,000	79,156,000
Corn	1932	7,362,000	136,197,000	21,792,000
	1931	6,573,000	115,028,000	32,208,000
Hay	1932	1,969,000	2,692,000 <sup>a</sup>	11,314,000
	1931	1,986,000	2,351,000 <sup>a</sup>	13,613,000
Oats	1932	1,608,000	34,572,000	4,840,000
	1931	1,561,000	43,708,000	8,305,000
Grain sorghum	1932	1,328,000	17,264,000	3,108,000
	1931	1,107,000	17,158,000	4,118,000
Barley	1932	704,000	9,856,000	1,380,000
	1931	563,000	9,008,000	1,982,000
Potatoes	1932	44,000	5,148,000	2,008,000
	1931	46,000	3,634,000	2,253,000

<sup>a</sup> Tons.

**MINERAL PRODUCTION.** The State's much diversified mineral production, consisting normally, to one half or more, by value, of petroleum, was much reduced for 1931 by depression in the petroleum industry. The quantity of petroleum drawn from the State's wells fell to 37,018,000 barrels (1931), from 41,638,000 (1930); the total by value, to \$25,500,000 (1931), from \$54,880,000 (1930). The quantity of natural gas produced was 37,630,000 M cubic feet for 1930

(latest tabulated total), and 38,469,000 M for 1929; the value, \$12,459,000 for 1930 and \$13,429,000 for 1929. There was a considerable production of gasoline from natural gas, to the quantity of 32,590,000 gallons for 1931 and of 35,106,000 for 1930; by value, the total, not obtainable for 1931, was \$1,570,000 for 1930. The cement industry, as in most other States, was severely depressed, the producers' shipments of Portland cement decreasing to 4,478,823 barrels for 1931, from 5,633,098 for 1930; and by value to \$4,112,809 (1931), from \$8,254,416 (1930). The mining of zinc, which had yielded 74,304 short tons (by value \$7,133,184) for 1930, was heavily curtailed as to quantity in 1931 and yet more reduced as to total value of the product. Lead production, after falling to 12,910 short tons for 1930, from 26,596 for 1929, and to the value of \$1,291,000 (1930), from \$3,351,096 (1929), suffered further reduction in 1931 as to both quantity and value. The production of salt, to the contrary of the movement in the generality of the State's industries, was fairly well maintained, totaling 691,160 short tons for 1931, as against 759,800 for 1930; by value, \$3,003,756 for 1931 and \$3,148,728 for 1930. The quantity of coal mined declined to 1,995,000 short tons (estimated) for 1931, from 2,429,929 for 1930; in value it declined more steeply, from the total of \$5,231,000 for 1930. The clay products attained the value of \$2,315,005 for 1930, the latest year of available figures, and of \$3,279,953 for 1929. The total value of the State's mineral product, duplications eliminated, was \$100,253,311 for 1930; for 1929, \$124,472,480.

**FINANCE** State expenditures in the year ended June 30, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments, \$17,084,837 (of which \$595,694 was for local education); for conducting public-service enterprises, \$425,608; for interest on debt, \$903,942; for permanent improvements, \$16,339,612; total, \$35,353,999 (of which \$19,344,024 was for highways, \$3,892,474 being for maintenance and \$15,451,550 for construction). Revenues were \$36,923,478. Of these, property and special taxes furnished 26.6 per cent; departmental earnings and compensation to the State for officers' services, 9.6; sale of licenses, 44.3 (in which was included a gasoline sale tax that produced \$8,610,549). Funded debt outstanding on June 30, 1931, totaled \$23,500,000. Net of sinking-fund assets, the debt was \$21,891,811. On an assessed valuation of \$3,681,574,879 the State levied in the year ad-valorem taxes of \$7,564,176.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 9283.52. During the year previous, some 55 miles of line had been abandoned.

**EDUCATION.** For the year ended with June, 1931 (the latest for which the statistics were obtainable) the number of persons of school age in the State was reported as 555,209. There were enrolled in the public schools 434,654 pupils. Of these, 315,720 were in common schools or elementary grades; in high schools, 118,934. The year's expenditures for public-school education totaled \$41,109,215. The defeat of a proposed tax-limiting amendment to the State constitution, in 1932, tended to subordinate the direct advantage of taxpayers, among whom difficulty was widespread, to the claims of the public schools to retain their full customary sources of sustenance.

**CHARITIES AND CORRECTIONS.** A Board of Administration, under the law as existing in 1932, maintained control of the State institutions for the care and custody of persons. This board subsisted, substantially, as created in 1895. It was composed of three ordinary members, and the Governor ranked, *ex officio*, as a fourth member. It had as its executive aid a business manager. Institutions under its care fell into three groups: the correctional, the charitable, and the educational of special types. Charitable institutions, with their respective populations of October, 1932, were: for the mentally afflicted, State hospitals at Topeka (1800), Osawatomie (1582), and Larned (876); State Hospital for Epileptics, Parsons (739); State Training School, Winfield (1017 feeble-minded); State Sanatorium for Tuberculosis, Norton (253); State Orphans' Home, Atchison (211); correctional, the State Penitentiary (1739) at Lansing, State Industrial Reformatory (686, of ages from 16 to 21) at Hutchinson, Women's Industrial Farm (120) at Lansing, Boys' Industrial School (273) at Topeka, and Girls' Industrial School (158) at Beloit; educational, a School for the Blind (114) at Kansas City, School for the Deaf (223) at Olathe, Western University (Negroes, 130) at Kansas City, and Kansas Vocational School (Negroes, 162) at Topeka.

**POLITICAL AND OTHER EVENTS.** Governor Woodring, who had endeavored in March to bring about a saving of \$2,000,000 in State expenditure through voluntary cuts in the pay of State employees and in other outgo, was renominated for Governor on the Democratic ticket in the primaries of August 2; A. M. Landon received the Republican nomination. Conventions of both parties at Topeka declared on August 30 against the repeal of Federal prohibition. The Federal Supreme Court, in a decision of February 29, sustained the refusal of the Kansas Public Service Commission to grant the Western Distributing Company, a subsidiary of the Cities Service Company, an increase in the rate that it might charge for natural gas supplied at El Dorado, Kansas. The case was of importance in a conflict between the State authorities and the Cities Service interests over the latter's rates, which had arisen in 1931.

**ELECTIONS.** At the elections of November 8 the State went strongly Democratic on the National ticket, by 424,203 votes for the Democratic Presidential candidate, Roosevelt, to 349,498 for Hoover (Rep.). George McGill, Democrat, was reelected United States Senator. The Republicans, on the other hand, elected Alfred M. Landon, petroleum producer, Governor of the State, the Democratic candidate, Governor Harry H. Woodring, failing of reelection. A mainly Republican delegation was elected to the House of Representatives for the Seventy-third Congress. Republicans held majorities in both houses of the State Legislature. A constitutional amendment to authorize the State to levy graduated taxes on incomes from all sources was adopted by popular vote. A proposed amendment to limit combined State and local taxes on property to 2 per cent (urban) and 1½ per cent (rural) was defeated.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, Harry H. Woodring; Lieutenant-Governor, J. W. Graybill; Secretary of State, E. A. Cornell; Treasurer, Tom B. Boyd; Auditor, Will J. French; Attorney-

General, Roland Boynton; Superintendent of Public Instruction, George A. Allen, Jr.

**Supreme Court:** Chief Justice, William A. Johnston; Associate Justices, Rousseau A. Burch, John S. Dawson, W. W. Harvey, William E. Hutchinson, William A. Smith, E. R. Sloan.

**KANSAS, UNIVERSITY OF.** A State institution of higher education in Lawrence, Kan., founded in 1864. The 1932 autumn enrollment was 3701, of whom 2443 were men and 1258 women. The 1932 summer session had an enrollment of 1433, of whom 734 were women and 699 men. The full-time teaching staff, exclusive of deans, numbered 233. The endowment fund amounted to \$240,000, and the income for the year, including the balance carried over from 1931, was \$1,600,000. There were 246,000 volumes in the library. Chancellor, Ernest Hiram Lindley, LL.D.

**KARAFUTO**, ká'rà-fu'tó. The Japanese portion of the island of Sakhalin, lying south of the parallel of 50° N. latitude. With an area of about 13,935 square miles, Karafuto had a population (census of Oct. 1, 1930) of 295,187. Fishing, mining, lumbering, and agriculture are the chief industries. Coal mined in 1931, 637,962 tons. Fish products in 1931 were valued at 12,750,419 yen. The budget for 1931-32 was estimated to balance at 26,123,936 yen (yen averaged \$0.4885 for 1931). Governor in 1932, S. Agato, appointed 1931.

**KARA-KALPAKIA.** See SOVIET CENTRAL ASIA.

**KARELIA.** An autonomous socialist soviet republic within the Russian Socialist Federal Soviet Republic. Karelia lies between Finland and the White Sea. The area of 56,476 square miles is about that of the State of Illinois; the population (1931) totaled 285,300 (57.1 per cent Russian, 37.4 per cent Finns, and 5.5 per cent others). The capital is Petrozavodsk, population (1926), 27,105.

**KARIKAL.** See FRENCH INDIA.

**KAZAK REPUBLIC.** See SOVIET CENTRAL ASIA; UNION OF SOVIET SOCIALIST REPUBLICS.

**KEDAH.** See UNFEDERATED MALAY STATES.

**KEELING ISLANDS.** See STRAITS SETTLEMENTS.

**KEEN, WILLIAM WILLIAMS.** An American surgeon, died June 7, 1932, in Philadelphia, Pa., where he was born Jan. 19, 1837. Upon graduation from Brown University in 1859 he attended Jefferson Medical College, Philadelphia, and served as an acting assistant surgeon in the Federal army during part of the Civil War. For two years he studied in Europe, returning in 1866 to Philadelphia to practice and to lecture on anatomical subjects at Jefferson Medical College. He was in charge of the Philadelphia School of Anatomy during 1866-75, was professor of artistic anatomy at the Pennsylvania Academy of Fine Arts during 1876-89, professor of surgery at the Woman's Medical College during 1884-89, and thereafter, until his retirement in 1907, professor of surgery at Jefferson Medical College.

A specialist in the surgery of the brain and nervous system, Dr. Keen was among the first in the United States to perform successfully new and difficult operations in this field. He served as president of the American Surgical Association (1899), the American Medical Association (1900), the Congress of American Physicians and Surgeons (1903), the American Philosophical Society (1907-17), and the International Congress of Surgery in Paris (1920). During the

World War he was a major in the Medical Reserve Corps and was also a member of the National Research Council. He was an honorary fellow of the American College of Surgeons, the Italian Surgical Society, and the Royal Colleges of Surgeons of England, of Edinburgh, and of Ireland. He was also an associate fellow of the American Academy of Arts and Sciences. In 1920 he was made an officer of the Order of the Crown of Belgium and in 1923 of the French Legion of Honor. He delivered numerous lectures defending vivisection.

Dr. Keen's works include: *Reflex Paralysis and Gunshot Wounds and Other Injuries of Nerves* (both with Weir Mitchell and Morehouse, 1864); *Keen's Clinical Charts* (1870); *Early History of Practical Anatomy* (1875); *Surgical Complications and Sequels of Typhoid Fever* (1898); *Addresses and Other Papers* (1905); *Animal Experimentation and Medical Progress* (1914); *Treatment of War Wounds* (1917); *Surgical Operations on President Cleveland* (1917); *Colver Lectures at Brown University on Medical Research and Human Welfare* (1917); *Selected Papers and Essays* (1922); and *Keen's System of Surgery* (8 vols., 1906-21). He also edited such noted medical works as Heath's *Practical Anatomy* (1870); Holden's *Medical and Surgical Landmarks* (1881); and Gray's *Anatomy* (1887).

**KEEWATIN.** See NORTHWEST TERRITORIES.

**KEIFER, KÍ'fēr, J(oseph) WARREN.** An American lawyer, soldier, and congressman, died in Springfield, O., Apr. 22, 1932. He was born in Clark Co., O., Jan. 30, 1836, and attended Antioch College. In 1856 he settled in Springfield, O., where he began the study of law and two years later was admitted to the bar. At the outbreak of the Civil War he gave up his practice to join the Third Ohio Infantry, and during the four years' conflict participated in 27 battles. He commanded the Third Division of the Sixth Army Corps in the Battle of Cedar Creek, which witnessed Sheridan's victory over Early on Oct. 19, 1864. For his exploits here and in the battles of Opequon and Fisher's Hill he was brevetted brigadier-general of volunteers. During Lee's last campaign his troops compelled the surrender of Ewell, Kershaw, Custis Lee, and other Confederate generals at Sailor's Creek on Apr. 6, 1865, in the last general field battle of the war. On this occasion also he received personally the surrender of Commodore Tucker and his marine brigade, numbering about 2000 men, and was brevetted major general of volunteers. At the close of the war he resumed his law practice in Springfield. He also established in 1873 the Lagonda (Ohio) National Bank, of which he was president for more than 50 years.

General Keifer served in the Ohio State Senate during 1868-69, and was active in the formation of the Grand Army of the Republic, being department commander during 1868-70 and vice commander-in-chief during 1871-72. In 1876 he was elected to Congress as representative from the 7th Ohio District. He continued as a member of that body until 1885, serving in the 47th Congress (1881-83) as Speaker of the House. At the outbreak of the Spanish-American War he was commissioned major general of volunteers, being placed in command of the First Division of the Seventh Army Corps. On the organization of the Spanish War Veterans in 1900 he served as first commander-in-chief. He was reelected to Con-

gress in 1904 and served three additional terms. In 1911 he was chosen national member of the commission appointed to observe the Perry Victory Centennial. In his later years he was an active peace advocate, addressing the International Union of Peace at its meeting in Brussels in 1910. In 1912 he was elected a life member by the Interparliamentary Peace Conference of the World that met in Paris. He was also one of the committee of 40 persons that issued the formal call for the third peace conference scheduled to be held at The Hague in 1915. He wrote *Slavery and Four Years of War* (2 vols., 1900).

**KELANTIN.** See UNFEDERATED MALAY STATES.

**KELLEY, FLORENCE.** An American social worker, died Feb. 17, 1932, in Philadelphia, Pa., where she was born Sept. 12, 1859. She was graduated from Cornell University in 1882, studied law at the University of Zurich and Northwestern University, and was graduated from the latter in 1894. On being admitted to the Illinois bar she practiced in Chicago for several years. While in Switzerland she married Count Wischwetzky, a Polish nobleman, from whom she was later divorced, resuming her maiden name. She served as chief inspector of factories in Illinois from 1893 to 1897, was American editor of the *Archiv fur Sozialgesetzgebung* during 1897-98, and after 1899 was general secretary of the National Consumers' League, an organization whose members desire, "so far as possible, to do their buying in such a way as to further the welfare of those who make or distribute the things bought." Through this organization she worked for the betterment of industrial conditions affecting women and children in particular, and exercised a considerable influence upon the course of labor legislation in many States. During the World War she was secretary of the U. S. Board of Control of Labor Standards for Army Clothing. She wrote *Some Ethical Gains through Legislation* (1905) and *Modern Industry in Relation to the Family* (1913), and edited Edmond Kelly's *Twentieth Century Socialism* (1910).

**KELLOGG-BRIAND PACT.** See LEAGUE OF NATIONS; PEACE; JAPAN under *History*.

**KENNETT, ROBERT HATCH.** A British Hebrew scholar, died in Ely, Feb. 15, 1932. He was born in St. Laurence, Ramsgate, Eng., Sept. 9, 1864, and was educated at Queen's College, Cambridge. Following his ordination in the Church of England in 1887, he was made curate at St. Botolph's, Cambridge. He was also chaplain at Queen's College during 1887-93 and again during 1903-20, and lecturer in Hebrew and Syriac during 1887-1903. In 1891 he became lecturer in Hebrew and Syriac at Caius College, and in 1893 university lecturer in Aramaic. After 1903 he was Regius professor of Hebrew at Cambridge and canon of Ely. He was also examining chaplain to the Bishop of Ely (1905-25) and to the Bishop of Manchester (1913-20). In 1909 he was Schweich lecturer. He contributed to the *Cambridge Biblical Essays* (1909), to *Early Ideals of Righteousness* (1910), and to theological journals and biblical dictionaries, and wrote *A Short Account of the Hebrew Tenses* (1901); *In Our Tongues* (1907); *The Servant of the Lord* (1911); *The Composition of the Book of Isaiah in the Light of History and Archaeology* (1920); *Deuteronomy and the Decalogue* (1920); *The Last Supper* (1921); and *Old Testament Essays* (1928).

**KENTUCKY. POPULATION.** According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 2,614,589, as against 2,416,630 in 1920. Louisville had (1930) 307,745 inhabitants; Frankfort, the capital, 11,626.

**AGRICULTURE.** The accompanying table shows the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod. Bu.	Value
Tobacco . . .	1932	483,000	345,101,000*	\$35,545,000
	1931	565,000	488,725,000*	34,699,000
Corn . . . . .	1932	2,811,000	67,464,000	18,890,000
	1931	2,928,000	83,448,000	28,372,000
Hay . . . . .	1932	1,141,000	1,151,000*	8,844,000
	1931	1,185,000	1,241,000*	12,375,000
Potatoes . .	1932	60,000	4,620,000	3,095,000
	1931	55,000	3,960,000	3,010,000
Wheat . . . .	1932	270,000	2,835,000	1,304,000
	1931	252,000	5,544,000	2,717,000
Oats . . . . .	1932	162,000	2,349,000	564,000
	1931	232,000	5,104,000	1,684,000
Sweet potatoes .	1932	25,000	2,200,000	1,342,000
	1931	21,000	2,058,000	1,646,000

\* Pounds.    † Tons.

**MINERAL PRODUCTION.** The output of coal, as in other important producing States, fell off, declining to 40,238,803 net tons for 1931, from 51,208,995 for 1930. A lower average price by the ton, obtained by the mines, \$1.27 (1931) as against \$1.49 (1930), resulted in a drop in the value of the year's coal production more severe than was the drop in quantity; coal produced in 1931 attained the total value of \$51,163,000, as against \$76,186,000 for 1930. The number of persons employed at coal mines fell to 48,204 (1931), from 56,674 (1930); the average number of days' work to the employee, to 159 (1931), from 187 (1930).

Petroleum production followed the tendency prevalent among other States in the face of the overproduction in Texas; it declined in quantity to 6,456,000 barrels (1931), from 7,389,000 (1930); in value, to \$5,295,000 (1931), from \$11,080,000 (1930). The output of natural gas was 28,023,000 M cubic feet for 1930, the latest year for which data were available; the value of this product for 1930 was \$9,691,000. Clay products attained for 1930 the value of \$5,563,392; for 1929, of \$7,062,220. The State furnished nearly half of the Union's production of native asphalt, its total for 1930 being 305,024 short tons, in value \$2,374,834. The total value of the mineral product of the State, duplications eliminated, was \$111,091,254 for 1930; for 1929, \$132,649,508.

**FINANCE.** State expenditures in the year ended June 30, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments, \$23,979,731 (of which \$6,842,755 was for local education); for interest on debt, \$653,597; for permanent improvements, \$17,270,134; total, \$41,920,642 (of which \$19,235,160 was for highways, \$4,730,277 being for maintenance and \$14,504,889 for construction). Revenues were \$37,356,798. Of these, property and special taxes furnished 35.1 per cent; departmental earnings and compensation to the State for officers' services, 7.4; sale of licenses, 42.9 (in which was included a gasoline sale tax that produced \$8,555,588). The State's debt was chiefly unfunded. Funded debt outstanding on June 30, 1931, totaled \$2,492,021. Net of sinking-fund assets, it was \$2,492,777. On an assessed valuation of



\$3,059,586,369 the State levied in the year ad-valorem taxes of \$10,964,088.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 3990.89. During the year previous, 63.66 miles of line had been abandoned.

**EDUCATION.** Preparations were made for the creation of a new State code of laws affecting the public schools, the General Assembly providing an educational commission to study the public-school system and report thereon to the session of 1934, with a view to guiding codification.

**CHARITIES AND CORRECTIONS.** Under an act of 1932 the management of seven State institutions for the care and custody of persons was committed to a Department of Public Welfare, which became the successor of the previous Board of Charities and Corrections. The direction of this department was placed in the hands of a body of five salaried officers, functioning as a board, the chairman of this board acting as executive head of the department. The institutions under its control, with their average respective populations of the year ended June 30, 1932, were: Eastern State Hospital, Lexington, 1684; Central State Hospital, Lakeland, 2308; Western State Hospital, Hopkinsville, 1746; Feeble-Minded Institute, Frankfort, 651; Houses of Reform, Greendale, 528; State Reformatory, Frankfort, 2437; Penitentiary, Eddyville, 1154.

**LEGISLATION.** The General Assembly met in regular biennial session, adjourning on the night of March 17-18. It made an effort to reform the State's peculiar financial practice of issuing warrants without close restriction, whereby an unfunded debt of some \$13,000,000 had accumulated in the course of years. A budget bill was passed, requiring that warrants be not issued in excess of 90 per cent of the anticipated revenues of a given year. Governor Laffoon, however, vetoed this bill, declaring that the Legislature had failed to provide the necessary current revenue to enable the State administration to do without warrants in excess of the proposed proportion. An allied measure, a funding bond act, was made a law. It provided for an issue of \$14,000,000 of funding bonds wherewith to take up the outstanding warrants of the State. This measure was later declared unconstitutional by the State Court of Appeals. By a reapportionment act the State was divided into nine districts for the election of Federal Representatives; six of the districts thus created were of Democratic complexion. Motor-buses and other commercial users of the highways were placed under a mileage tax and State regulation. The Federal constitutional amendment to alter the dates of inaugurations and of the initial sessions of Congress was ratified. The right of appeal from decisions of the juvenile courts was granted. The State tax on realty was reduced, but the Legislature failed to pass either the sales tax proposed by the Governor or any other tax to make up the resulting loss of some \$3,000,000 a year of revenue. An appropriation act carrying some \$18,000,000 for State purposes outside of the highway funds was passed, but later the appropriations were cut by the Governor.

**POLITICAL AND OTHER EVENTS.** The State Court of Appeals, ruling on June 24 that the issuance of \$14,000,000 of funding bonds to retire the State's interest-bearing warrants was invalidated by the State constitution, caused difficulty in the finances, as the warrants had tended to depreci-

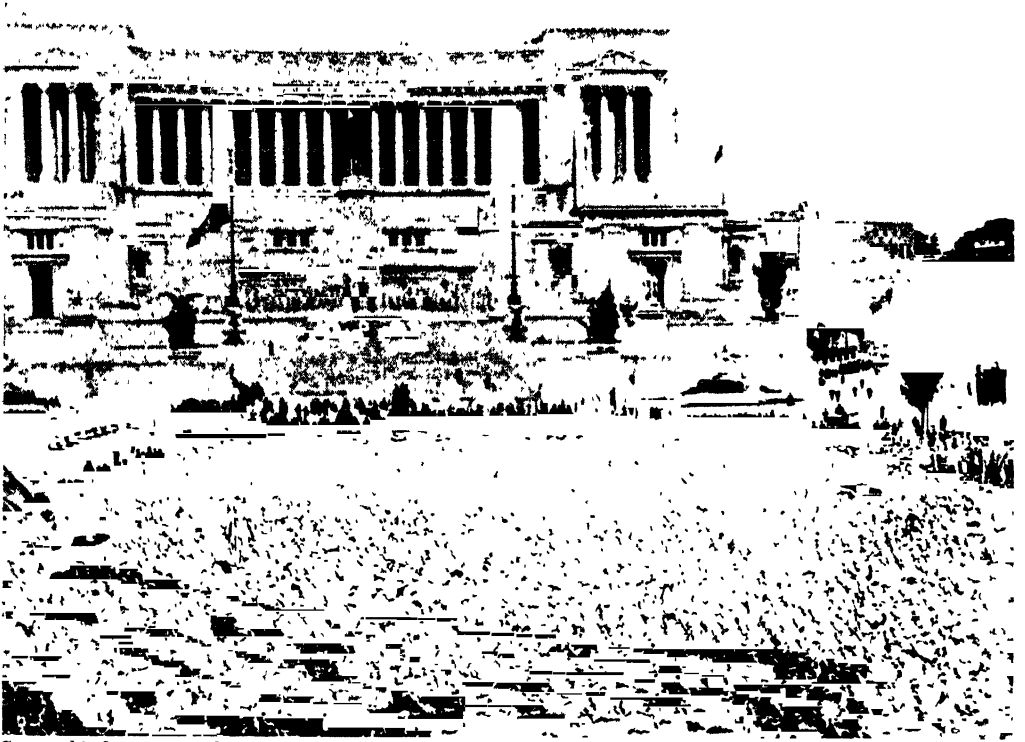
ate in price. Governor Laffoon made an effort to restore their market by having a trustee for all warrants appointed, and by effecting executive economies in State expenditure, thus reducing the prospect that new warrants would issue. Trials of defendants charged with a part in the mining violence of 1931 in the coal fields were held in the early months of the year. The State Court of Appeals refused to overrule trial Judge Prewitt, who had excluded from the court room certain representatives of the press. A movement outside the State, in sympathy with the Kentucky miners, led to a visit to Bell County, on the part of a party of well-known writers. The party was reconducted over the State border by Bell County officials on February 10. A group of students from Columbia University and other Eastern institutions, in sympathy with the Bell County miners, was expelled from the county upon arrival, on March 25, after a hearing before a county Judge, it being alleged that the visitors' presence was a "menace to life and property." Later the group protested before Governor Laffoon, who referred them to the courts for the redress of any infringement of their constitutional rights as citizens. A third expedition, including Arthur Garfield Hays and Dudley Field Malone and backed by the American Civil Liberties Union, was barred on May 14 from Pineville in Bell County, where it had intended to hold a public meeting.

Senator Alben W. Barkley gained the Democratic renomination at the State primary elections on August 6, having declared for a resubmission of Federal prohibition to the people, and defeating former Senator Martin, who had attacked him for previously favoring prohibition. The redistricting act whereby the Legislature had created 9 districts for the election of Representatives, in place of the old 11, was declared invalid by a Federal special three-judge Court late in July, on the ground that, by creating a new 9th District of excessive population, it infringed the Federal reapportioning act of 1911, requiring equal representation. This rendered it necessary to nominate all Representatives at large, by the primary State-wide vote; all persons who had previously qualified as candidates before either party for Representative seats were admitted on the primary ballots. The resulting primary vote was peculiar, in that while the incumbent Democratic Representatives were in general renominated, Louisville was left without a Democratic candidate for the House.

**ELECTIONS.** The popular vote of the State was cast for the Democratic National ticket in the proportion of nearly 3 to 2, the totals being, for President, Roosevelt (Dem.), 580,574; Hoover (Rep.), 394,716. Alben W. Barkley, Democrat, was reelected United States Senator. The nine Representatives of the State in the Seventy-third Congress were elected at large, because of an adverse court decision on the State's redistricting act. Democrats were elected to all the seats. No elections to State offices were held.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, Ruby Laffoon; Lieutenant-Governor, A. B. Chandler; Secretary of State, Sara W. Mahan; State Treasurer, Elam Huddleston; Auditor, J. Dan Talbott; Superintendent of Public Instruction, James H. Richmond; Attorney-General, Bailey P. Wootton; Commissioner of Agriculture, Labor, and Statistics, Eugene Flowers.





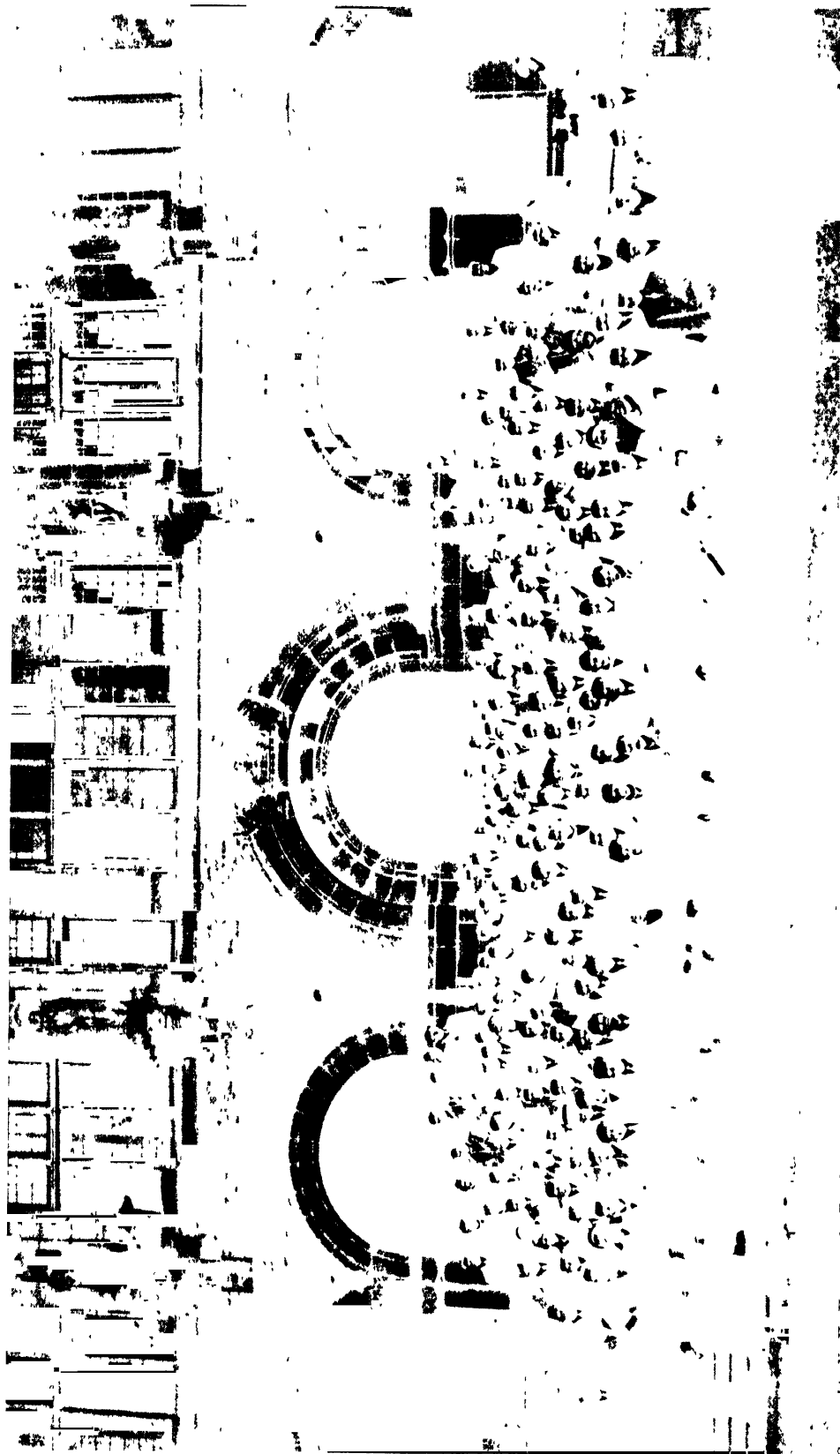
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TENTH ANNIVERSARY OF FASCIST REVOLUTION  
Scene at Victor Emmanuel Monument, Rome, Italy



*Wide World*

2685th ANNIVERSARY OF FOUNDING OF ROME  
Premier Benito Mussolini addressing a gathering of 100,000 young Fascists



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INTERNATIONAL CONGRESS OF COMPARATIVE LAW  
Delegates Assembled in front of The Hague Peace Palace, August, 1932

*Court of Appeals:* Chief Justice, Richard Priest Deitzman; Associate Judges, William Rogers Clay, Gus Thomas, William H. Reese, S. S. Willis, J. Basil Richardson, Wesley Vick Perry.

**KENTUCKY, UNIVERSITY OF.** A coeducational State institution of higher learning in Lexington, Ky., founded in 1866. The enrollment in the autumn of 1932 was 2642. There were 1463 students registered in the 1932 summer session. The faculty numbered 269. The productive funds amounted to \$184,075, and the income for the year was \$1,386,088. The library contained 132,638 volumes. President, Frank LeRond McVey, Ph.D., LL.D.

**KENYA**, kē'en-yā (formerly the East Africa Protectorate). A British crown colony and protectorate in East Africa, bordering on the Indian Ocean between Italian Somaliland and Tanganyika and extending inland to Uganda and Ethiopia. Area, 224,960 square miles; population, estimated in 1929 at 3,003,158, including 16,663 Europeans, 39,504 Asiatics, and 12,504 Arabs. The population in 1931 was estimated at 3,025,000 (17,285 Europeans). Capital, Nairobi, with 47,806 inhabitants (5228 Europeans). Mombasa had a population of 57,057 in 1931.

The colony is mainly agricultural, there being about 2882 European farmers in the territory in 1930. Coffee, maize, sisal, and wheat are extensively raised in the highlands and maize, coconuts, sisal, and cotton in the lower regions. Sugar cane, groundnuts, simsim, barley, and potatoes are other crops. There are more than 3300 square miles of merchantable timber; some gold, marble, lime, and mica are produced, but the mineral resources are not fully explored. Kenya and Uganda Protectorate constitute a customs union, the joint imports in 1930 being £6,923,665 and the joint exports £5,483,024. In the year 1930 Kenya's revenue totaled £3,241,600 and expenditure £3,438,874. The public debt on February, 1931, was £16,900,000.

The colony is governed under the Constitution of December, 1925, which provides for executive and advisory legislative councils. Governor and Commander-in-Chief in 1932, Sir Joseph Byrne.

**HISTORY.** The discovery of a promising gold field in the vicinity of Lake Victoria and the Uganda boundary line during 1932 revived friction between the natives and the European settlers. The gold was discovered within the 30,000,000 acres which had been set aside perpetually as a native reserve. When the natives refused to lease the lands voluntarily, despite the high rents offered, the Kenya Legislature on December 21 voted to allow the Crown (in which title to mineral resources rests) to grant mining claims in the reserves in return for cash compensation paid to a general natives' fund. The measure provoked widespread protest in England, where many public leaders urged that new lands equivalent to those leased should be allotted to the natives.

**KENYON COLLEGE.** A college of arts and sciences for men in Gambier, O., established in 1824 by the Protestant Episcopal Church and associated with it. The enrollment for the autumn term of 1932 was 173. The faculty numbered 22 members. The endowment funds amounted to \$2,221,000, and the income for the year was \$195,000. The value of buildings and equipment was \$1,592,500. The library contained 78,000 volumes. President, William F. Pierce, L.H.D., D.D., LL.D.

**KINDERGARTEN ASSOCIATION.** NATIONAL. See NATIONAL KINDERGARTEN ASSOCIATION.

**KING, GRACE ELIZABETH.** An American author, died Jan. 12, 1932, in New Orleans, La., where she was born in 1852. Her sketches first attracted attention in the *New Princeton Review* and were the basis of her novel, *Monsieur Motte* (1888). Her special knowledge of the early history of New Orleans and its creole culture was depicted in *Earthlings* (1888); *Tales of Time and Place* (1892); *Jean Baptiste Lemoine, Founder of New Orleans* (1892); *Balcony Stories and A History of Louisiana* (1893); *New Orleans, The Place and the People* (1895); *De Soto and His Men in the Land of Florida* (1898); *Stories from Louisiana History* (1905); *Pleasant Ways of St. Médard* (1910); *Creole Families of New Orleans* (1921); *Madame Givard, an Old French Teacher of New Orleans* (1922); and *La Dame de Sainte Hermine* (1924).

**KING, LIDA SHAW.** An American classical scholar, died in Providence, R. I., Jan. 10, 1932. Born in Boston in 1868, she was graduated from Vassar College in 1890 and from Brown University (A.M.) in 1894 and continued her graduate studies at Vassar (1894-95), Radcliffe (1897-98), Bryn Mawr (1899-1900), and at the American School of Archaeology, Athens, Greece (1900-01). The Litt.D. degree was conferred on her by Mt. Holyoke in 1912 and the LL.D. degree by Western Reserve University in 1913. She taught the classics at Vassar (1895-97) and at the Packer Collegiate Institute (1898-99, 1901-02). In 1905 she was called to Brown University as assistant professor of classical philology and as dean of the Women's College (now Pembroke). After 1909 she was professor of classical literature and archaeology. She retired in 1922. She was a member of the managing committee of the American School of Classical Studies in Athens and a contributor to the *American Journal of Archaeology* and various educational magazines.

**KING'S CUP AIR RACE.** See AERONAUTICS.

**KINGSLEY, DARWIN PEARL.** An American insurance leader, died in New York City, Oct. 6, 1932. He was born in Alburg, Vt., May 5, 1857, and was graduated from the University of Vermont in 1881. After teaching school in Colorado for two years he became editor of the *Grand Junction News*, and in 1884 was delegate to the Republican national convention. He served as auditor and insurance commissioner of Colorado during 1887-89, and then entered the service of the New York Life Insurance Co. as inspector of its New England agencies. Three years later he was made general superintendent of agencies, and in 1898 was elected vice-president and trustee. He became president of the company in 1907, and on his retirement in 1931 was made chairman of the board. During his administration the number of policies in force was tripled, being increased from 993,630 in 1906 to 2,527,327 in 1928. The annual income was also increased from \$100,902,178 in 1906 to \$356,405,867 in 1928. He was president of the Chamber of Commerce of New York during 1920-21 and served also as director of numerous banks, including the Chemical Bank & Trust Co. and the New York Trust Co. He was the author of *The First Business of the World* (1903); *Militant Life Insurance* (1911); *Let Us Have Peace* (1919); and *Life Insurance Light* (1927).

**KIRGHIZIA.** See SOVIET CENTRAL ASIA.

**KITSON, THEO ALICE RUGGLES.** An American sculptor, died in Boston, Mass., Oct. 29, 1932. She was born in Brookline, Mass., in 1871, and studied sculpturing under Henry Hudson Kitson (to whom she was married in 1893) and under Dagnan-Bouveret in Paris. Her work was exhibited at the National Academy of Design in New York, the Pennsylvania Academy of Fine Arts in Philadelphia, the Boston Art Club, the Museum of Fine Arts in Boston, and the Art Institute of Chicago. For the Chicago Exposition of 1893 she was selected by the women of Michigan to make two bronze figures representing the woods of that State. She received a bronze medal at the St. Louis Exposition of 1904. Among the public monuments which she designed are: "The Minute Man of '76" in Framingham, Mass.; "The Volunteer of '61" in Newburyport, Mass.; and soldier monuments in Goshen and Walden, N. Y., Vicksburg, Miss., Minneapolis, Minn., Pasadena, Calif., Providence and Little Falls, R. I., and Ashburnham, North Andover, North Attleboro, Sharon, and Topsfield, Mass. She designed also the Spanish-American war monuments in Schenectady, N. Y., and Lynn, Mass.; the World War memorials in Frankestown, N. H., and Dorchester, Brookline, and Hingham, Mass.; the portrait statue of General Kosciuszko in the Boston public gardens; and the "Mother Bickerdyke" group in Galesburg, Ill. She was a member of the National Sculpture Society and of the Copley Society (Boston) and was vice-president of the Boston Society of Sculptors.

**KIWANIS INTERNATIONAL.** An organization of clubs made up of not more than two of the leaders in each business and profession, united for the rendering of civil and social service to the community. Each club enjoys autonomy but at the same time functions in direct connection with district and international administrations. There are 29 geographical districts, each with a governor, in the United States and Canada. The first club was organized in Detroit, Mich., in January, 1915; by 1917 the organization had spread into Canada.

At the close of 1932 the international organization consisted of 1873 clubs, with an approximate membership of 83,000. Some 35,000 civic and welfare projects were carried out by these organizations during the year. The 1932 convention was held in Detroit, Mich., June 27-30, and the 1933 convention was to be held in Los Angeles, Calif., June 25-29. The international objectives for 1932-33 were: personal service to under-privileged children; intelligent, aggressive, and serviceable citizenship; friendly understanding among all citizens, rural and urban; vocational guidance; and boys' and girls' work. The officers elected were: president, Carl E. Endicott of Huntington, Ind.; secretary, Fred C. W. Parker of Chicago; and treasurer, Walter R. Weiser of Daytona Beach, Fla. Headquarters are at 520 North Michigan Avenue, Chicago, Ill.

**KLAIPEDA.** Same as MEMEL (q.v.).

**KNIGHTS OF COLUMBUS.** A society of Roman Catholic men, organized under a special charter granted by the General Assembly of the State of Connecticut Mar. 29, 1882. Under the charter it is permitted to do business as a fraternal benefit society and to promote and conduct educational, charitable, religious, social welfare, war relief and welfare, and public relief work. The four principles of the order are charity,

unity, fraternity, and patriotism. It observed its golden jubilee in March, 1932.

The order is composed of a supreme council, a supreme board of directors, 61 State councils, and 2540 subordinate councils. The supreme council is the governing body and highest authority in the order, and is composed of the supreme officers, supreme directors, past supreme knights, and officers and representatives of the State councils. This council meets annually in August for legislative purposes and for the election of five members of the supreme board of directors. The latter board, consisting of 15 regularly elected members and seven supreme officers, is the executive body of the order and meets quarterly for the transaction of business. The supreme officers are elected biennially at the supreme convention.

The 1932 supreme convention was held in Washington, D. C., August 14-17. There was unveiled on the opening day the bronze statue of Cardinal Gibbons by Leo Lentelli, for which Congress had granted a site in a small park in front of the Church of the Sacred Heart. The speech of acceptance, on behalf of the people of the United States, was made by President Hoover. The supreme council indorsed the recommendation for a \$1,000,000 endowment fund available to members for relief purposes in times of economic stringency.

In its 50 years of existence the society has paid out more than \$34,000,000 to the beneficiaries of its members. Death claims paid during the fiscal year ending June 30, 1932, amounted to \$2,311,432, and the total insurance in force at that date was \$294,795,378. The total membership as of June 30, 1932, was 547,288, which represented an associate membership of 289,884 and an insurance membership of 257,404.

The officers in 1932 were: Martin H. Carmody of Grand Rapids, Mich., supreme knight; William J. McGinley of New Haven, Conn., supreme secretary; and D. J. Callahan of Washington, D. C., supreme treasurer. The order publishes *Columbia*, a monthly magazine. Headquarters of the Supreme Council are in New Haven, Conn.

**KNOWLES, MORRIS.** An American consulting engineer, died in Pittsburgh, Pa., Nov. 8, 1932. He was born in Lawrence, Mass., Oct. 13, 1869. On his graduation from the Massachusetts Institute of Technology in 1891, he was for a time engaged by the East Jersey Water Co. In 1893 he became associated with the Massachusetts State Board of Health, studying the metropolitan water supply, and in 1895 with the metropolitan water commission of Boston. Removing to Pittsburgh in 1897, he was engaged there as engineer of the filtration commission of the department of public works until 1910. After 1903 he was a member of the consulting engineering firm, Chapin & Knowles, and after 1915 president of Morris Knowles, Inc. He was consultant in various water supply investigations for New York City, Philadelphia, and Lawrence, Mass., and during 1909-11 designed the water works system of the Tennessee Coal & Iron Railroad Co. He served also as a member of the Pittsburgh flood commission during 1909-15, as a member of the board of advisory engineers of the Miami (Ohio) conservancy district in 1914, as consulting engineer of the Essex border utilities commission of Ontario, Canada, during 1916-21, and as a member of the engineering board of review of the Chicago Sanitary District in 1924. During the

World War he was supervising engineer in the construction of Camps Meade and McClellan and chief engineer of the housing division of the U. S. Shipping Board. In addition to being a member of the zoning commission of the U. S. Department of Commerce, he was chairman of the committee on utilities of the President's Conference on Home Building and Home Ownership, vice-chairman of the Pennsylvania commission to study municipal consolidation in counties of the second class, and chairman of the Pittsburgh planning commission (1922-29) and of the board of zoning appeals (1923-27). He was the author of *Industrial Housing* (1920).

**KOLSTAD, PEDER LUNDVIK.** A Norwegian statesman, died in Oslo, Mar. 6, 1932. Born in Oestfold in 1878, he attended the Agricultural High School, from which he was graduated in 1902. He taught agricultural subjects for several years, and in 1913 became rector of the Kalnes Agricultural School. In 1922 he was elected to the Storting, where he was one of the most influential leaders of the Agrarian party. In 1927 he became vice-president and in 1931 president of the Odelsting, the lower section of the Storting. On the downfall of the government of Premier J. L. Mowinkel in May, 1931, he accepted the premiership and the portfolio of finance. His government endeavored to carry out certain principles of the Agrarian party, such as equal tariff protection for agriculture and industry. On account of the party's opposition to all revolutionary tendencies the general strike of the summer of 1931 was amicably settled through government mediation.

**KONGO, BELGIAN.** See CONGO, BELGIAN.

**KOREA (CHOSEN).** A peninsula of eastern Asia annexed by the Japanese Empire on Aug. 22, 1910, and incorporated as an integral part of Japan by an Imperial Rescript of 1919. Capital, Keijo-fu (Seoul).

**AREA AND POPULATION.** With an area of 85,228 square miles, Korea had a population at the 1930 census of 21,057,969, as compared with 19,522,945 at the census of 1925. The 1930 population included about 470,000 Japanese and 53,500 foreigners. The population of the chief cities at the end of 1929 was: Keijo-fu (Seoul), 340,200 (93,272 Japanese); Fusan-fu (Pusan), 119,655 (42,642 Japanese); Heijo-fu (Pyong-Yang), 156,442 (27,438 Japanese); Taikyu-fu (Tai-Ku), 94,801 (28,090 Japanese); and Chemulpo, 59,558 (11,534 Japanese).

**EDUCATION.** Less than 20 per cent of the population is literate. In 1929, there were, mainly for Japanese, 463 elementary schools, with 63,171 pupils; 11 middle schools, with 5649 pupils; 14 normal schools, with 2429 students; and 24 girls' high schools, with 9432 pupils. Schools for Koreans included 1620 primary schools, with 422,800 pupils; 78 private common schools, with 19,966 pupils; 24 higher common schools, with 10,716 pupils; and 15 higher common schools for girls, with 3840 pupils. The University of Seoul had 553 students in March, 1929, of whom 387 were Koreans and 166 Japanese. Japanese is the official language but the language of the people is a mixture of Japanese and Mongolo-Tartar.

**PRODUCTION.** About 20 per cent of the land area, or 10,116,000 acres, was under cultivation in 1931 and about 36 per cent of cultivated land was devoted to paddy fields. Japanese owned about one-half of the tilled area. Rice, barley, wheat, beans, tobacco, cotton, hemp, ginseng, and

various cereals are the leading crops. Livestock raising, fruit growing, and silk culture are important farm industries. A variety of minerals are produced, chiefly gold, iron, graphite, and anthracite. The chief manufactured products are textile fabrics, paper, pottery, metal ware, tobacco products, brewed drinks, and leather. The value of the 1930 output of the chief products was: Rice, 351,645,585 yen; barley, 61,583,331 yen; millet, 36,531,349 yen; soy beans, 31,438,979 yen; minerals 24,654,463 yen; marine products, 30,389,231 yen.

**COMMERCE.** The trade of Korea is almost entirely with Japan and China. Imports and exports in 1931 were valued at \$133,502,000 and \$129,224,000, respectively, as compared with imports of \$181,285,000 and exports of \$131,048,000 in 1930. Japan furnished 80.5 per cent of the total imports (75.8 per cent in 1930) and took 95.2 per cent of the total exports (90.3 per cent in 1930). China supplied 14.6 per cent of the 1931 imports (16.6 in 1930) and took 4.6 per cent of the exports (9.2 in 1930). The leading export items in 1931 were: rice, \$68,357,000; soy beans, \$6,816,000; raw silk, \$5,931,000; fish, \$4,860,000; and fertilizers, \$4,177,000. Piece goods, heavy iron, machinery, fertilizers, and coal were the principal imports. Imports from the United States in 1931 were \$2,247,000 (\$4,257,000 in 1930).

**FINANCE.** The fiscal year ends March 31. Budget estimates for 1930-31 and 1931-32 balanced at the equivalent of \$119,122,000 and \$119,104,000, respectively. The total debt on Mar. 31, 1931 was 387,945,000 yen (\$193,390,000), as against 377,136,000 yen (\$188,002,000) a year earlier. The debt consisted chiefly of exchequer bonds and public undertaking loans.

Actual revenue in 1930-31 amounted to 218,210,352 yen and expenditure to 208,724,448 yen (about \$109,105,000 and \$104,362,000, respectively, at par).

**COMMUNICATIONS.** Government railway lines extended 1710 miles in 1931 and private lines about 440 miles. The highway network covered 10,767 miles, mostly graded earth or gravel roads. An air line linked the chief cities with Japan and with Manchuria. On Mar. 31, 1931, there were 747 postal stations, 24,407 miles of telegraph wire, and 85,719 miles of telephone wire.

**GOVERNMENT.** Korea is governed as an integral part of Japan through a governor-general entrusted with large administrative powers. Governor-General in 1932, Gen. Kazunari Ugaki, who assumed office in June, 1931. The Korean autonomist movement was marked during 1932 by the bombing of a group of high Japanese officials at a military parade in Shanghai, China, on April 29 (see CHINA under *History*).

**KOWEIT.** See ARABIA.

**KREUGER, IVAR.** A Swedish industrialist and financier, died by suicide in Paris, Mar. 12, 1932. He was born in Kalmar, Sweden, Mar. 2, 1880, and attended the Royal Technical University in Stockholm. On coming to the United States about 1893 he was engaged as a real estate broker in Chicago. He later became superintendent of building construction in New York, Syracuse, and other cities. Other construction commissions carried him to England, Germany, France, Mexico, Canada, and South Africa. He was one of the early specialists in the use of structural steel in the erection of the skyscraper. On his return

to Sweden he established, with Paul Toll, in 1908 the firm of **Kreuger & Toll**, which during the next five years when he was managing director constructed some of the most imposing structures in Stockholm and other Swedish cities. In 1913 he sought an expansion of his power in the match industry, the oldest of the highly technical industries of Sweden and in which she led all other countries of the world. He acquired the powerful Jönköping & Vulcan Match Co., as well as 11 independent companies, which he combined into the United Swedish Match Factories. In 1917 he organized as a holding company the Swedish Match Co., which within a few years was developed into an international match trust controlling 250 factories in 43 different countries through the International Match Corp., organized in New York City in 1923. In turn, it was controlled by Kreuger & Toll, which had been reorganized strictly as an investment and financing company, with Kreuger as chairman. Its last important acquisition, in 1931, was the Federal Match Corp., ranking third in size among companies in the United States.

Kreuger & Toll owned shares in 225 subsidiary corporations, including banks, forests, pulp and saw mills, iron and gold mines, power plants, railroads, chlorate of potash and other factories, office buildings and apartment houses. The most important of these were the Swedish Pulp Co., the Grangesberg Co. (controlling Swedish iron ore deposits), the Boliden Mining Corp. (controlling a group of gold mines in northern Sweden), and the Hufvudstaden Real Estate Co. Through its banks, chief of which was the Scandinaviska Kreditaktiebolaget, the firm conducted such operations as participation in financial syndicates, making short-term investments, and amalgamation of industrial enterprises. It also granted state and similar credits in connection with industrial concessions, especially national match monopolies. Loans in exchange for the latter, varying in duration from 20 to 60 years, were granted to the governments of Danzig, Ecuador, Estonia, Greece, Hungary, Latvia, Lithuania, Poland, Rumania, Peru, Turkey, and Yugoslavia. Special agreements pertaining to the match industry in those countries had also been made with the French and German governments in return for loans. In gratitude, the French government made Kreuger a grand officer of the Legion of Honor.

However, it was loans that Kreuger & Toll made to the German government, including one of \$29,480,000 in 1929, the Swedish share of the German international loan under the Young Plan, and another of \$125,000,000 for 50 years' duration, made previous to the declaration of the moratorium in June, 1931, that were largely responsible for Kreuger's embarrassment at the time of his death. He had been unable during his recent visit to the United States to raise 120,000,000 kroner (\$20,000,000) with which to maintain the liquidity of his chief bank, the Scandinaviska Kreditaktiebolaget. Subsequent revelations of the exploitation of resources to which he had resorted over a period of eight or more years exploded the myth which had been built around him as one of the greatest financial geniuses of the twentieth century. See SWEDEN under *History*.

**KRUS**. See LIBERIA under *History*.

**KU KLUX KLAN**, KNIGHTS OF THE. An American benevolent, eleemosynary, and fraternal

institution, incorporated under the laws of the State of Georgia in 1915. "The membership is made up of white, male, Gentile persons, native-born American citizens, 18 years of age. They must be of sound mind, good character, commendable reputation, and respectable vocation; must believe in the tenets of Christian religion; and must owe no allegiance to any foreign government, nation, institution, sect, ruler, prince, potentate, people, or person, and whose allegiance, loyalty, and devotion to the Government of the United States of America in all things is unquestionable." The Klan continued its activity in matters of civil government affecting its ideals or principles. The programme adopted for 1933 was "Communism must be destroyed in America." The officers were: President, Hiram W. Evans; secretary, H. C. Spratt; treasurer, Sam H. Venable. Headquarters are in Atlanta, Ga.

**KULAKS**. See UNION OF SOVIET SOCIALIST REPUBLICS.

**KUNZ**, GEORGE FREDERICK. An American mineralogist and gem expert, died June 29, 1932, in New York City where he was born Sept. 29, 1856. After attending Cooper Union he became associated with Tiffany & Co., New York jewelers, and in 1879 was made a vice-president of the firm. He was a special agent for the U. S. Geological Survey from 1883 to 1909, and in 1902 discovered near Pala, San Diego Co., Calif., a transparent pinkish variety of spodumene which was named kunzite in his honor and which is used as a gem stone. He also was responsible for the name tiffanyite, given to a rare milky-blue-white diamond. From 1892 to 1898 he was a special pearl investigator for the U. S. Fish Commission, and in the Twelfth Census of 1900 had charge of the collection of statistics on precious stones. He was research curator of precious stones in the American Museum of Natural History, and in important capacities related to his profession, was connected with the expositions held in Paris (1889), Kimberley, South Africa (1892), Chicago (1893), Atlanta (1895), Omaha (1898), Paris (1900), and St. Louis (1904). In addition he was interested in various civic undertakings, being president of the American Scenic and Historic Preservation Society, founder and honorary president of the Museum of the Peaceful Arts (now the Museum of Science and Industry) in New York City, vice-president of the American Museum of Safety, and president of the American Metric Association. He was a founder and past president of the New York Mineral Club and past president of the New York Academy of Sciences. Among the honors bestowed on him were a knighthood in the Order of St. Olaf of Norway and an officership in the French Legion of Honor and the Japanese Order of the Rising Sun. He received the Ph.D. degree from the University of Marburg in 1903 and the Sc.D. degree from Knox College in 1907. His publications include: *Gems and Precious Stones of North America* (1890); *The Book of the Pearl* (with Charles H. Stevenson, 1908); *The Curious Lore of Precious Stones* (1913); *Magic of Jewels* (1915); *Ivory and the Elephant* (1915); *Shakespeare and Precious Stones* (1916); and *The Ring* (1917). He contributed to periodicals more than 400 articles on gems, minerals, meteorites, and folklore.

**KUOMINTANG**. See CHINA under *History*.

**KURDISTAN**, koor'de-stan'. A term applied to an indefinite region in eastern Asia Minor comprising portions of Turkey, Persia, Soviet Trans-

caucasia, and Iraq and inhabited by approximately 1,500,000 semi-nomadic Kurds, a people related to the Persians in race and language. Due to their nationalistic aspirations the Kurds have remained in a state of chronic revolt against their respective governments. See IRAQ under *History*.

**KURIA MURIA ISLANDS.** See ADEN.

**KUWAIT.** See ARABIA.

**KWANGCHOW (KWANGHOWAN),** kwüŋ'chō'wün. A small territory on the coast of the Chinese Province of Kwangtung, leased to France in 1898, and two small islands commanding Kwangchow Bay leased to her the following year. It is under the authority of the governor-general of French Indo-China who is represented by a French resident-superior. Resident-Superior in 1932, M. Silvestre (appointed, 1929). See FRENCH INDO-CHINA.

**KWANTUNG,** kwan'tüŋ', or KWANTAO. A territory at the southern end of the Liaotung Peninsula in Manchuria leased to Japan by China, as a successor to Russia after the Russo-Japanese War. Area, including 40 small islands adjacent to the peninsula, 1336 square miles, population, on Jan. 1, 1932 was 938,288 (excluding the army and navy), including 121,517 Japanese. Capital, Dairen (formerly Dalny), with about 262,000 inhabitants. The area of land under cultivation in 1930 was 488,830 acres. The agricultural products include, rice, tobacco, hemp, and various grains and vegetables. The fishing industry is of importance. Bean cake and bean oil, salt, paper, iron and steel, soap, glass, and cement were the chief products and the total value of all products was 70,000,000 yen. Imports for 1931 totaled 97,934,730 yen and exports 192,872,735 yen; (yen had an average exchange rate of \$0.4885 in 1931). The special account budget for 1931-32 was estimated to balance at 22,171,316 yen; and the local expenses budget, at 5,803,081 yen. The territory is administered by a Japanese governor-general. Governor-General in 1932, S. Tsukamoto. See MANCHURIA, JAPAN.

**LABOR.** FEDERAL ANTI-INJUNCTION LAW. On Mar. 23, 1932, President Hoover approved a Federal anti-injunction law, the so-called Norris-La Guardia Act, which was generally hailed as the most important victory in the history of the organized labor movement. The measure was also a victory for Senator George W. Norris, who had almost single handed kept up the fight for such a measure over a period of eight years. The Senate passed the bill by a vote of 75 to 5; the House's vote was 363 to 13. The act, whose purpose is "to define and limit the jurisdiction of courts sitting in equity," has as its outstanding provisions the following: (1) The outlawing of "yellow dog contracts" in Federal courts; (2) the restriction of Federal anti-labor injunctions; (3) the right of trial by jury for contempt offenses outside the immediate presence of the court. The Federal anti-injunction law has no application to State courts, the term "court of the United States" meaning "any court of the United States whose jurisdiction has been or may be conferred or confined or limited by act of Congress, including the courts of the District of Columbia." At the present time the following twelve States have already adopted somewhat similar anti-injunction laws in labor disputes: Arizona, Illinois, Kansas, Minnesota, Montana, New Jersey, North Dakota, Oregon, Pennsylvania, Utah, Washington, and Wisconsin. The *Monthly Labor Review* presents

the following summary of the provisions of the new law:

Section 1 forbids any Federal court to issue an injunction except in accordance with the act. Section 2 declares the public policy of the United States in labor disputes, and assures the employee's right to collective bargaining. Anti-union contracts are outlawed by section 3, and such contracts are made unenforceable in any Federal court. Sections 4 and 5 relate to the restrictions on the issuance of injunctions from doing certain acts either singly or in concert. Officers of associations are no longer held responsible for the unlawful acts of individuals, by section 6, while section 7 prescribes the procedure, namely, that no injunction shall be issued, except after a hearing of the testimony of witnesses in open court, with an opportunity for cross examination, and only after the findings of fact by the court. By the provisions of section 8, an effort to settle disputes must be made before injunctive relief will be granted. Section 9 provides that when an injunction has been issued it shall include only a prohibition of such specific acts as have been expressly complained of and are expressly included in the findings of fact made by the court. Sections 10 and 11 provide for the right of appeal, and trial by jury. A demand for the retirement of a judge may be made by section 12, whenever an attack has been made upon his character or conduct, or if made elsewhere than in the presence of the court. Various definitions are set forth in section 13, while sections 14 and 15 contain the usual provision relating to the constitutionality of the act and the repeal of all conflicting acts.

In the twelve States mentioned above, as has been said, anti-injunction laws already are to be found on the statute books. In four of the States (Kansas, Minnesota, Pennsylvania, and Wisconsin), the law specifically provides that no injunction shall be issued without previous notice and an opportunity to be heard in open court. The Wisconsin law (acts of 1931) defines the public policy of the State relative to collective bargaining, and creates a new section relating to litigation growing out of the labor disputes and limiting the jurisdiction of courts sitting in equity. Another important section concerns the conditions of issuance of injunctions and restraining orders. This section provides that no court shall have jurisdiction to issue an injunction in any case involving a labor dispute except after the testimony of witnesses in open court and with an opportunity for cross examination. Six States (Arizona, North Dakota, Oregon, Utah, Washington, and Wisconsin) have laws containing provisions similar to those contained in section 20 of the Clayton Act, and three other States (Illinois, Montana, and New Jersey) have laws which, although similar in many respects to the Clayton Act, differ in the exact wording of the law.

**FIVE-DAY WEEK.** These columns before have indicated the growing significance of the five-day week movement in the United States. In the report delivered to President Hoover, in July, by the Council of Personnel Administration, of which T. E. Campbell, President of the Civil Service Commission, was chairman, the Federal government was urged to take the initiative in the establishment of the five-day week in public offices. President Hoover approved the shorter term in principle and ordered the Commerce and Labor Departments to resurvey its possibilities. The Department of Labor, the United States Civil Service Commission and the Employees' Compensation Commission adopted the five-day week; also Washington announced that the shorter working week was to be the standard for all road building, flood control and harbor work financed by the Federal relief bill. The executive council of the American Federation of Labor, in the same month, decided to ask President Hoover to call a conference of the



representatives of labor in industry to work out a plan for the early adoption of the five-day week and the six-hour day. According to the A. F. of L.'s leaders, charity and unemployment relief payments were no solution to the nation's serious industrial problems while voluntary action on the part of some corporations could scarcely be deemed sufficient to cope with the great national emergency. The executive council therefore demanded "that industrial management be compelled to act through the pressure of public opinion expressed, as we hope it will be, through the Chief Executive of the nation." The universal five-day week and six-hour day were set forth as labor's immediate remedy for unemployment and industrial management was challenged to offer a better plan.

The reader is referred to the following articles for discussions of the various aspects of the history of labor during the year: CHILD LABOR; COÖPERATION; LABOR ARBITRATION AND CONCILIATION; LABOR LEGISLATION; MINIMUM WAGE; OLD AGE PENSIONS; STRIKES AND LOCK-OUTS; UNEMPLOYMENT; WOMEN IN INDUSTRY; WORKMEN'S COMPENSATION; and to the articles dealing with the respective countries. See also TRADE UNIONS; COMMUNISM; and SOCIALISM for special aspects of the labor subject.

**LABOR, AMERICAN FEDERATION OF.** At its annual convention, held at Cincinnati from November 21 to December 2, the American Federation of Labor adopted its most militant policy in recent years. Not only did it finally give its approval to a drive on the part of organized labor in the interests of State unemployment insurance funds but it also went on record as demanding from employers the creation of a shorter work-day and work-week. The executive council, in its annual report to the convention, stressed, in view of the mounting record of unemployment in the country, the need for compulsory unemployment insurance under State auspices with the entire cost borne by industry. Thus, the chief spokesman for labor in the United States abandoned its long opposition to compulsory insurance. Due to constitutional limitations and the importance of obtaining Federal unemployment insurance legislation, the executive council recommended that bills be introduced in State legislatures with supplementary federal enactments covering workers in interstate commerce or in federal territories. Other proposals made by the council to lessen unemployment and to counterbalance mechanization in industry were the following: the five day-week and shorter working-day; division of work; a larger public works programme; furtherance of self liquidating projects; adequate relief funds; and the calling of a national conference to take the first steps toward national economic plans. On the general economic situation the report declared: "The crisis in our economic order calls for reconsideration of those essential principles which are its cornerstones. In the revisions which shall constitute the policies of the future, labor will be responsible for getting incorporated understanding of the equities which a producing worker has in his job and proportionate consideration of social values involved." As steps toward attaining this security for workers the report advanced the following proposals: The organization of the job market through a system of State employment services under federal coördination. Organization of wage

workers into trade unions under their own control. Distribution of man-hours so that all may have an opportunity to earn a living. Higher wages. Vocational counsel and retraining to assist boys and girls to find the kind of work for which they are best fitted. National economic planning for the purpose of balancing production and distribution. "Balance is our hope for mitigating the severity of business depressions and attendant unemployment," the report stated. "Plans for maintaining economic balance must grow out of a unified basic philosophy and co-ordinated procedure to advance human well-being."

As "integral parts of such a central plan," the report recommended the following: Steeply graduated income and inheritance taxes. Constructive control of credit to finance production. Recognition of the equities of workers in the industries in which they work, and at least protection equal to that given financial investments. Federal agency to collect and collate data on man-hours and wage-earner income, necessary to appraise producing workers' participation in industrial progress. Such an agency would provide the standards for determining economic balance. Federal licenses for corporations operating on an interstate scope, with specific requirements as to accounting. All accounts available to those interested, and protective service for investors. Organization of wage earners to advance their interests intelligently within industry and other relationships. "We believe that national economic planning should aim at raising standards of living for lagging groups and not at a programme of limitation of production with price fixing," the report stated. "We need to find out how best to use our capacity to produce." As an ameliorative measure in periods of unemployment, the report urged advanced planning of public works and use of national credit for self-liquidating projects, for building homes for workers, and other small income groups, for slum reclamation, and similar undertakings. Said the report: "Planning the expansion and contraction of national credit should be a part of the whole undertaking of economic planning, based upon a reliable standard of economic and social soundness." And further on: "The type of undertakings to be financed and details of construction work should be worked out in advance so as to further in balanced proportions the promotion of national welfare. The only cure for unemployment is employment. Every relief plan gains in soundness as it approximates normal conditions of incomes from the creation of wealth needed by society. When industry breaks down, emergency construction undertakings will stimulate recovery."

The report placed the number of unemployed as more than 11,000,000, which was nearly 8,000,000 more persons out of work than in 1930. Due to unemployment and wage reductions workers' income was about one-half that of 1929, the council's report placing the loss for the year 1932 alone as being probably about \$25,000,000,000. Total membership in unions affiliated with the American Federation of Labor was 2,532,261 in 1932, as compared with 2,889,550 in 1931, a loss of 357,289.

Much of the convention's deliberations centered in these two demands of a shorter working period for labor and compulsory unemployment insurance. In fact these demands were voiced at

once in the keynote address delivered by President William Green on November 21, and a week later on November 28 Mr. Green reverted to the question when he declared that labor would strive with all its strength to compel universal adoption in industry of the five-day week and six-hour day. Mr. Green declared that labor's patience with industrial management was at an end and its chief policy from thence on would be to resort to "forcible methods" if necessary to establish a shorter work week. By such measures he said he meant the use of every weapon available to labor, including economical, political, and industrial devices. Mr. Green declared, in a peroration that aroused the enthusiasm of his audience that: "We say that we are going to strike for this great economic reform. Just as the carpenters led the fight for the eight-hour day, so the time has come for some militant union to lead the fight for the shorter work-day and work-week. I and my associates on the executive council are going to find a way out even though we may be compelled to resort to forcible methods to compel industry to yield. We will not be denied the realization of this great reform. It will be given to us in response to reason or we will secure it through force of some kind." The speech was followed by the unanimous adoption of a report calling for the "universal adoption without delay" of the six-hour day and the five-day week, the maintenance of present wage rates at least, and wage increases if possible. The A. F. of L. called upon the Federal government to show the way to industry by adopting the shorter work-day and work-week in federal offices.

On November 30, by an overwhelming vote, the American Federation of Labor went on record as favoring compulsory unemployment insurance under State auspices. The report adopted followed the lines laid down in the executive

request for the modification of the Volstead Act to legalize the manufacture of 2.75 per cent beer. Other proposals adopted by the convention were the following: the elimination of private profit from the production of materials for national defense; opposition to the building of additional ships up to the London naval treaty strength; the inauguration of a "militant campaign" to further the establishment of an exclusive State fund for workmen's compensation modeled after the law in existence in Ohio State; a federal licensing law for corporations; the endorsement of old age pensions; Philippine independence. Washington was selected for the 1933 convention and on that date the Samuel Gompers memorial was to be unveiled.

The officers, all reelected, were: William Green, president; Frank Duffy, first vice-president; T. A. Rickert, second vice-president; Matthew Woll, third vice-president; James Wilson, fourth vice-president; John Coefield, fifth vice-president; Arthur O. Wharton, sixth vice-president; Joseph N. Weber, seventh vice-president; G. M. Bugniazet, eighth vice-president; Martin Francis Ryan, treasurer; and Frank Morrison, secretary.

**LABOR ARBITRATION.** During the fiscal year 1931-32, the Conciliation Service of the Federal Department of Labor handled 759 cases of industrial disputes. Of this number, 659 were satisfactorily adjusted and 15 pending cases were carried forward into the next fiscal year. The 759 cases came from 45 States and the District of Columbia, and involved 449,169 workers. Since the creation of the Conciliation Service in 1913, mediation has been had in 10,946 labor disputes, which involved 13,868,072 workers, either directly or indirectly. The following table indicates the record of the service over the period 1914-32, indicating the number of cases handled, and the proportions that were adjusted and could not be adjusted:

SUMMARY OF CASES, 1914-1932

Cases	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Number	33	42	227	378	1,217	1,780	802	457	370	534
Adjusted	28	26	178	248	1,073	1,442	596	338	266	428
Unable to adjust	5	10	22	47	71	111	96	48	41	27
Pending	..	5	21	42	7	18	9	24	31	60
Unclassified	..	1	6	41	66	214	101	47	32	19

Cases	1924	1925	1926	1927	1928	1929	1930	1931	1932
Number	544	559	551	545	478	522	557	582	759
Adjusted	346	392	377	395	307	385	386	385	640
Unable to adjust	62	64	61	57	57	40	66	52	55
Pending	67	42	43	24	53	76	60	82	15
Unclassified	69	61	70	69	61	21	45	63	49

NOTE.—Cases pending at end of last fiscal year and now adjusted, 19. Total number of adjustments for 1932, 659. 208 cases in 1918 and 219 cases in 1919 were adjusted pending decisions of National War Labor Board.

council's report, cited above, which called for the inauguration of compulsory insurance schemes under State auspices with all employers paying into such funds not less than 3 per cent of their payrolls. Administration of the funds was to be the responsibility of the States with reserve funds invested by them. No insurance company was to be allowed to write unemployment insurance, and labor and management were to have a voice in the administration of the insurance machinery.

Another important precedent set by the American Federation of Labor was the adoption of a resolution calling upon Congress to repeal the Eighteenth Amendment. At previous conventions the organization has never gone further than a

The following more important cases show the nature of disputes which the Conciliation Service is called upon to mediate:

**Silk Workers, Allentown, Pennsylvania.** On Apr. 24, 1931, a strike of approximately 8000 employees of 42 silk mills in Allentown, Pennsylvania, and its vicinity, took place as a result of a wage reduction of 16½ per cent. At the period of the strike, which lasted for more than four months, there was no union organization among the workers in the industry, but they were soon unionized by the United Textile Workers of America. The union demanded for the strikers the restoration of the cut in wages and the assurance that there would be no further steps toward wage reductions without negotiations; no recognition for the union was demanded. The manufacturers on their side refused to meet with either union officials or the committee of strikers on the ground that the Allentown community had always operated on the open shop basis. The manufacturers, however, did indi-

cate a willingness for each one individually to meet with his own employees. In May, in view of the fact that the community of Allentown was suffering a severe loss due to the shutdown, a citizens' committee was appointed by the Mayor to interpose its good offices. In June, the assistance of Governor Pinchot was asked for by the strikers' committee. In July, communists appeared on the scene and proceeded to disrupt meetings by heckling or to take possession forcibly of platforms. By August, however, the strikers were prepared to give way before the manufacturers' terms because in the middle of that month several shop committees began meeting with their respective mill managements. By the end of August the mills apparently were again in operation, the workers having again returned on the basis of acceptance of wage cuts with, however, the right to organize.

**Veterans' Hospital, Coatesville, Pennsylvania.** The Conciliation Service was called upon to investigate complaints that the contractor erecting a veterans' hospital at Coatesville, Pennsylvania, was not paying prevailing rates of wages. Due to the intercession of the Service, carpenters' rates were raised from \$.50 per hour to \$.65 with time and a half for overtime and double time for Sundays and holidays; also the wages paid to plumbers and steam fitters were raised from \$.75 to \$.95 per hour. These negotiations which began in April, 1932 continued without stoppage of work.

**Building Trades Crafts, Des Moines, Iowa.** Despite the existence of trade agreements, the building trades of Des Moines were notified that on Oct. 1, 1931, wage cuts ranging from \$1 to \$3 a day would be put into effect by their employers, the Master Builders Association. Due to the intercession of commissioners from the Conciliation Service, who worked on the case from October 1 to November 9, settlement was effected by including the following: The employers recognized the existence of trade agreements, as far as building laborers were concerned, and agreed to abide by the specified scales until May 1, 1932, in the case of the bricklayers and carpenters, a cut of \$2 per day was taken unconditionally and return to work took place on October 7, in the case of the members of the building trades council—the hoisting engineers, structural iron workers, plasterers and cement finishers, latheists, and the painters and decorators—State arbitrators were appointed and as a result of a decision handed down on November 1, it was found that verbal agreements were in existence and, therefore, the men were to be restored to their old wage levels until May 1, 1932. Though the master builders refused to abide by the decision of the arbitration board, public opinion was strongly in favor of the unions with the result that the arbitration board's recommendations were accepted and a compromise settlement was reached which provided for about one-half the reduction asked and extended closed shop agreements until May 1, 1933.

**Lady Garment Workers, Boston, Massachusetts.** In February, 1932, with the imminent expiration of a two-year agreement between the International Ladies Garment Workers' Union and the dress, cloak and suit manufacturers of Boston, a strike threatened at the declared intention of the manufacturers not to renew the old agreement. Commissioners of the Conciliation Service appeared on the scene and found that the manufacturers' association had disintegrated to such an extent that only 9 of the 100 manufacturers in the city were members of the association. Efforts to create a stronger organization among the manufacturers were without success, the upshot was that on February 15 a strike of 3000 garment workers was called. However, the commissioners succeeded in obtaining the intercession of Mayor James M. Curley, who called a mayor's conference from which there emerged a sub-committee of manufacturers, union representatives and commissioners of conciliation. Following two weeks of negotiation, an agreement was finally effected, acceptable to the cloak manufacturers, the dress manufacturers and the union. The new agreement recognized most of the policy which had prevailed in the industry up to then but it did accept a downward readjustment in the wage scale and it accorded to the manufacturers the right to reorganize their shops to the extent of 10 per cent of their employees.

**Textile Strike, Langley, Bath and Clearwater, Horse Creek Valley, South Carolina.** A strike of 1600 textile workers, members of local unions affiliated with the United Textile Workers of America, employed in three mills located in what is generally known as Horse Creek Valley, South Carolina, broke out on Mar. 28, 1932, as a result of wage reductions for weavers following a change from the manufacture of print cloths to broadcloth. The strike, which involved only the weavers in the beginning, spread rapidly and by April 1 resulted in a closing down of the three mills. Several weeks following, a Commissioner of Conciliation was called in who proceeded to conduct negotiations with the representatives of the strikers, the mill management and the Governor of South Carolina. The strike was in effect for seven weeks and ended in the correction of the situation in the weaving room of the Langley mill where the strike

had originated, the reinstatement of all employees without discrimination, and the understanding that any differences arising in the future between workers and subordinate officials could be taken up with the general manager, in the event of inability to reach a satisfactory adjustment.

**NEW ZEALAND.** On Apr. 8, 1932, after having experimented with the device for almost half a century, New Zealand passed an act amending its industrial conciliation and arbitration law in such a manner as practically to abolish compulsory arbitration. Under the old law as finally amended up to 1925, an industrial dispute had to be submitted to councils of conciliation composed of persons chosen by each side, and if these failed to reach an agreement the question under dispute went to the arbitration court. The councils of conciliation are still retained by the 1932 enactment and if in a given dispute an agreement is reached, its terms are filed. However, during the course of the month following, any employer, trade union, industrial union or industrial association bound by the agreement may apply to the arbitration court for partial or total exemption and the court in its discretion can grant or refuse the plea. The New Zealand government, in rescinding the compulsory features of the law, took its stand on the ground that the method had become an obstacle to national recovery because it rigidly fixed wages, hours, and other industrial conditions. The only important respect in which compulsion was retained applied to organizations of female workers who were permitted to approach the arbitration court for an award fixing the basic minimum wage in their industries. The arbitration court was retained but submission of a dispute to it was to be voluntary and after the failure of conciliation. Thus passed from the scene a device which in the first two decades of its life was hailed by reformers as one of the means created by democratic societies to lessen, if not abolish, industrial strife.

**LABOR BANKS.** See COOPERATION.

**LABOR CONFERENCE, INTERNATIONAL.**

The Sixteenth Session of the official International Labor Conference, meeting in Geneva on April 12-30, adopted a new Convention for the protection of young persons in industry which extended the prohibition of the employment of children under 14 years of age to practically all classes of work. Preliminary discussions were held on the abolition of fee-charging employment agencies and on international regulations affecting invalidity, old age and widows' and orphans' insurance. The Conference adopted a resolution requesting the secretary-general of the League of Nations to bring to the attention of the Council of the League and of all member nations the following suggestions: (1) that national and international public works projects be undertaken on a large scale without delay; (2) that the League of Nations and the International Labor Office be invited to participate in the economic conference at London; (3) that the nations by joint action lay the foundations for "an international monetary system possessing the necessary qualities of stability"; and (4) that the problem of production and international trade be examined for the purpose of concluding "such international conventions as will insure the resumption of economic activity." The Conference also requested the International Labor Office to study, with a view to the early adoption of international regulations, the possibility of intro-

ducing the 40-hour week in all industrial countries.

**LABOR DISPUTES.** See **LABOR; STRIKES** AND **LOCKOUTS; TRADE UNIONS.**

**LABOR LEGISLATION.** Nine States, two insular possessions, and the Congress of the United States met in regular legislative session in 1932. Special sessions were held in several additional States. Outstanding were the pioneer American compulsory unemployment reserves law in Wisconsin; the recommendations by five official investigating commissions which reported in favor of State-wide compulsory unemployment reserves legislation; improving amendments to workmen's compensation and old-age pension laws; and three Congressional enactments: the extension of the Federal Vocational rehabilitation act to 1937 with an annual appropriation of \$1,000,000, the emergency relief and reconstruction act of 1932 including \$322,224,000 for public works, and the drastic restrictions on the issuance of injunctions in labor disputes by Federal courts.

*Alabama* (Special session.) No labor legislation reported.

*Arizona* (First special session.) Hours of motor-passenger-vehicle operators are limited; unemployment relief act enacted.

*Arkansas* (Special session.) No labor laws enacted.

*Hawaii* (First special session.) No labor laws enacted. (Second special session.) Minimum wage on public works reduced; minor changes in public employees' vacations; employment agency license fee reduced from \$25 to \$10; retirement act amended; public employees' salaries reduced 10 per cent.

*Illinois* (First special session.) Committee to investigate unemployment created. (Second special session.) No labor laws enacted. (Third special session.) Emergency relief commission created; emergency relief funds provided.

*Indiana* (Special session.) Contracts for State highway construction must stipulate wage rate.

*Kentucky*. Wages paid in scrip are safeguarded; wage assignment law amended; State public employment service established in the labor department, safety regulations prescribed for oil wells and coal mines, county civil service board created.

*Louisiana*. Procedure provided for wage garnishment; provisions governing arbitration of disputes between persons extended to apply to certain industrial disputes, child labor act amended, committee to investigate unemployment insurance created.

*Maine* (Special session.) No labor laws enacted.

*Massachusetts*. Wage payment law amended; investigation authorized into the advisability of establishing wage standards on public works; women's and children's hour law amended; act providing vacations for municipal laborers amended; investigation authorized relative to extension of one day's rest in seven law, funds to finance public works programme re-allocated; appropriations authorized for additional emergency employment; 1931 act giving preference in certain employments to persons with dependents is continued; child labor law is amended, workmen's compensation law is amended; old age security act is amended; investigation authorized into advisability of lowering minimum eligible age for pensions, minor amendments made to Worcester Retirement Act, maintenance provisions of State retirement system extended and cash value increased; boiler inspection act is amended.

*Michigan* (Special session.) Commission of inquiry created to investigate State departments.

*Mississippi*. Preference for employment on public works is given to workers of two years' residence in the State immediately preceding employment, legislative investigating committee on reorganization of State and county government is created and continued.

*Missouri*. Constitutional amendment permitting passage of old age pension act ratified November 8.

*New Jersey*. Wage payment law is amended; mechanics' lien law is amended; law protecting wages on public contracts is amended; "yellow-dog" contracts are declared void; hour and prevailing wage law for employees of contractors doing public work is amended; employment of minors prohibited in any occupation considered harmful by Commissioner of Labor; act giving State citizens preference in public works employment is amended; deduction from salaries of State employees to supplement emergency relief funds is authorized; emergency relief act of 1931 is amended; funds for emergency relief are

provided; State block-aid committee for emergency relief is created; workmen's compensation law is amended; old age pension law is amended; retirement system for municipal employees amended; receipt of pension by public employee during term of office prohibited, county employees' retirement act amended, under certain conditions insurance carrier's inspections of refrigerating plants are acceptable in lieu of State inspection; civil service act is amended; governor is empowered to reduce temporarily State personnel during present emergency.

*New York*. Payment of wages to employees on public work is further regulated; mechanics' lien law amended; joint legislative investigating committee on liens is continued; incorporation of wage earners' groups must be approved by Industrial Board; consecutive service of interurban motor truck and bus operators is limited to 10 hours with eight-hour rest intervals, authority of certain corporations to make contributions for betterment of local conditions is continued; probable life of certain public welfare work is determined to be 20 years, funds for emergency relief provided, emergency relief law of 1931 is amended; legislative investigating committee on unemployment is continued; approved electric contacts permitted on elevator fire doors, certain safety requirements are extended to excavations connected with building construction; workmen's compensation law is amended, right of volunteer firemen to accident benefits under General Municipal Law is extended; third party actions under compensation law given preference on court calendars, State employees' retirement act amended, New York City employees' retirement act amended, automatic salary and wage increases in State service temporarily suspended.

*Ohio* (First special session.) State emergency relief commission created, emergency relief funds provided. (Second special session.) Emergency relief funds provided; salaries of State employees reduced.

*Pennsylvania* (Special session.) State Emergency Relief Board created, emergency relief funds provided.

*Philippines* (Laws of 1930.) Contractors' bonds required; law regulating hours of labor for government employees amended; public works appropriation, workmen's compensation act amended.

*Puerto Rico*. Procedure for wage claims amended, conciliation and mediation act amended, division of economic and social research and investigation created in the department of labor. (Second special session, 1931.) No labor laws enacted. (Third special session, 1932.) No labor laws enacted.

*Rhode Island*. Provision made for retirement of notes issued by towns and cities for emergency relief; health certificate required of employees in certain food establishments.

*South Carolina*. Wage payment law amended.

*Texas*. (Special session.) Employment of local labor on public works recommended.

*Virginia*. Mechanics' lien laws amended; misappropriation of money for wages penalized, highway commissioner is directed to employ unemployed citizens on road work, intrastate railway employers' liability act amended, workmen's compensation law is amended; industrial safety investigating committee created.

*West Virginia* (Special session.) Emergency relief funds provided, reduction of salaries of certain public employees directed.

*Wisconsin* (Special session, 1931.) Additional provision for emergency relief, pioneer unemployment reserve law will take compulsory effect July 1, 1933, unless employers of 175,000 employees establish by June 1, 1933, approved voluntary plans, emergency board is authorized to reduce State appropriations.

*United States*. Application of immigration contract labor laws clarified, trade union label authorized in the District of Columbia, injunctions in labor disputes are limited, Interstate Commerce Commission is directed to investigate the application of a six-hour day for railroad employees; District of Columbia private employment agency law amended; emergency relief for District of Columbia provided; emergency relief and construction act of 1932 including \$322,224,000 for public works; vocational rehabilitation act extended to 1937 with \$1,000,000 annual appropriation; furlough, salary reduction, and compulsory retirement required for federal employees. See **CHILD LABOR**.

**LABOR LEGISLATION, AMERICAN ASSOCIATION FOR.** Founded in 1906, this membership organization of socially-minded economists, lawyers, journalists, labor leaders, and employers has worked along scientific lines, fearlessly attacking needless industrial evils from the general welfare viewpoint. It continues its work as the American arm of the International Association for Social Progress formed by the fusion of the three international organizations for labor

legislation, unemployment, and social insurance. See SOCIAL PROGRESS, INTERNATIONAL ASSOCIATION FOR. Progress of the Association was recorded in its substantial quarterly, the *American Labor Legislation Review*, the December, 1932, issue of which contained a convenient annual summary and index of all new labor laws enacted in the United States. A cumulative index to the preceding 20 volumes of this *Review* was published in 1931.

The continuance of business depression during the year brought renewed interest in the Association's unemployment programme. As in 1915 and 1921 a country-wide unemployment survey was made in 1930 and standard recommendations concerning emergency relief measures, public employment agencies, long-range planning of public works, stabilization, and unemployment insurance were stressed. After consultation with representative authorities throughout the country an unemployment insurance bill was drafted which the Association called "An American Plan for Unemployment Reserve Funds" and which was carefully framed to meet the special conditions of American industrial life. It was revised in 1932.

The twenty-sixth annual meeting was at Cincinnati, December 28-30, several sessions being held jointly with the American Economic Association and the American Statistical Association.

The president in 1932 was Ernest G. Draper, the secretary, John B. Andrews, with headquarters at 131 East 23d Street, New York City. See LABOR LEGISLATION.

**LABOR UNIONS.** See TRADE UNIONS.

**LABRADOR**, läb'ra-dör. A dependency of Newfoundland bounded on the east by the Atlantic Ocean, and on the west and south by the Province of Quebec; the coast boundaries are Blanc Sablon in the south and Cape Chidley in the north. Area, 112,400 square miles; population (1929) was 4203 including about 1300 Eskimos. Fishing and lumbering are the chief industries. See NEWFOUNDLAND.

**LABUAN.** See STRAITS SETTLEMENTS.

**LACKAYE**, läk-i', WILTON. An American actor, died in New York City, Aug. 22, 1932. He was born in Loudoun Co., Va., Sept. 30, 1862, and attended Georgetown University. In 1883 he entered on his theatrical career in New York City, appearing as Lucentio in *Francesca da Rimini*, with Lawrence Barrett. He next supported Fanny Davenport in Shakespearean productions, and in 1889 as Prince Saviani in *Jocelyn* portrayed the first of a long succession of vivid character rôles. After appearing as Don Stephano in *Featherbrain* he went to London in 1891, where he won success as Simeon Strong in *The Idler*. His outstanding hit, on his return to the New York stage, was as Jefferson Stockton in *Aristocracy*. In 1895 he created his unique and most highly praised rôle, that of Svengali in the dramatization of Du Maurier's novel *Trilby*; the play ran for two years and was revived in 1905, 1907, 1915, and 1921. The year 1899 was marked by his appearance as "Reb" Shemuel in *The Children of the Ghetto*, which he played in both New York and London. He next appeared as Petronius in *Quo Vadis?* (1900), Curtis Jadin in *The Pit* (1903-04), Consul Bernick in *The Pillars of Society* (1904), and Jean Valjean in *Law and the Man*, an adaptation by himself of Victor Hugo's *Les Misérables* (1906). Other important rôles were John Haggleton in *The Battle* (1908), James

Ralston in *Jim the Penman* (1910), John Marshall in *The Stranger* (1911), and François Desclos in *The Right to Happiness* (1912). Of the many villainous parts which he played that of Fagin in an adaptation of Dickens's *Oliver Twist* (1912) was one of the most celebrated. He later was seen as Lord Goring in *An Ideal Husband* (1918), Dr. John Calvert in *A Good Bad Woman* (1919), Dr. Gustav Ziska in *The Monster* (1922), Richard Lennon in *High Stakes* (1924), and James Telfer in a revival of *Trelawney of the Wells* (1927). His last appearance on the New York stage was in *Love, Honor, and Betray* (1930).

**LACROSSE.** The 1932 lacrosse season was distinguished by the determination of all the teams in the United States to earn the right to meet Canada in the demonstration game at the Olympic games at Los Angeles. By winning all 11 of its games the Johns Hopkins twelve led the teams of the country and then went on to greater things by downing Canada in the exhibition, two games to one. Because of the promise of the Olympic climax the season was the greatest yet held, and the decision of the authorities to represent the United States by a complete team rather than by one composed of picked stars aided the spread of the game materially. Eight teams played through the elimination series for the right to go to Los Angeles and in the final Johns Hopkins defeated the strong University of Maryland team, 7 to 5. In the Olympic competition Johns Hopkins triumphed over Canada in the first game, 5-3, but was checked in the second, the lone game lost by the twelve all season, 5-4. A brilliant offense turned back the Canadians in the rubber game, 7 to 4.

A professional box lacrosse league was formed early in the year and teams were planted in Boston, New York, Philadelphia, and Montreal, but the game, rough enough to be sure, did not strike the public fancy and the league died out after a few weeks of desultory play.

In the middle of December the United States Intercollegiate Lacrosse Association met in New York and made drastic changes in the game. The rules makers performed a major operation on the ancient sport of the Indians and brought forth a game which they are certain will be greatly improved in 1933. They reduced the number of men on a team from 12 to 10 (a far cry from the days when the Indians played the game, a tribe to a side); cut down the size of the field from 110 yards to 80 yards; decided to play quarters instead of halves; and voted to allow the use of face masks.

**LAFAYETTE COLLEGE.** An institution for the higher education of men in Easton, Pa., founded in 1826. The registration in the autumn of 1932 was 952, the enrollment being restricted to 1000. The faculty numbered 100. The productive funds amounted to \$3,793,532 on July 1, 1932, and the income for the previous year was \$663,163. The number of volumes in the library was 85,000. President, William Mather Lewis, A.M., LL.D., Litt.D.

**LAMBS.** See LIVESTOCK.

**LAND CLASSIFICATION.** See SOILS.

**LANDS, PUBLIC.** Citizens of the United States filed upon 4,551,774 acres of public land during the past fiscal year, according to the annual report of U. S. Commissioner, Charles C. Moore of the General Land Office for the fiscal year ended June 30, 1932. The new entries included more



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than 50,000 acres in excess of the annual average for the ten-year period expiring on the same date, although 666,853 acres less than were filed upon in the previous year. The area passed to patent was 1,897,976 acres. Filings under the homestead laws accounted for about 90 per cent of the acreage in original entries and more than 75 per cent of that patented.

The total cash receipts from sales, leases, and other disposition of the public lands were \$4,065,210 and from Indian lands \$63,874. This includes bonuses, rentals, and royalties, paid under the general leasing act, the government receiving \$3,236,987. The largest amount was obtained from mineral lands in Wyoming, \$1,435,109. The next largest was from California, a total of \$1,402,264. Under the law the amounts secured from the disposition of the public lands, including leases, were deposited in the Treasury of the United States for distribution as follows: \$2,100,555 to the reclamation fund, to public land States and certain counties within such States, \$1,402,420; to the general fund, \$562,233; and to the various Indian tribes, \$63,874; a total of \$4,129,084. The total expenditures for the conduct of business of the General Land Office, including expenses of district land offices and the various field forces, disbursements of deposits by individuals for surveying public lands, and from appropriations from funds for surveying Indian reservations, amounted to \$2,204,227. Profits from the operation of the General Land Office, therefore, were \$1,924,860.

Homestead entries, under the various laws, numbered 11,010 and embraced 4,049,854 acres. Restorations to entry from withdrawals with a preference right to ex-service men covered an area of 3,578,768 acres and there also became subject to entry with a like preference right, through the approval of surveys, 809,664 acres.

No sensational finds of mineral were reported, but the work of mineral development progressed in a normal manner. Coöperative and unit plans of operation were under way in the development of oil and gas lands. The departmental order of Mar. 13, 1929, which in effect withdrew the public lands from oil and gas exploitation, was modified on Apr. 4, 1932, and under appropriate regulations the public domain was again opened to the filing of applications for prospecting permits under section 13 of the leasing act and subsequent legislation providing for unit developments.

Approximately 1,000,000 acres were added to the national forests. Federal water power withdrawals affected 19,050 acres of land. Such withdrawals aggregated a total of 2,119,570 acres. Public lands to the extent of 6,049,905 acres were placed in a state of reservation, either by Executive or departmental order during the fiscal year and 3,619,457 acres theretofore reserved were restored to entry or other disposition.

**LAND UTILITY.** See AGRICULTURE; SOILS.

**LANGMUIR, DR. IRVING.** See CHEMISTRY; NOBEL PRIZES.

**LANGUAGE STUDIES.** See PHILOLOGY, MODERN.

**LAOS, lă'ôz.** A territory under French protection since 1893 and one of the states of French Indo-China. Resident-Superior in 1932, J. Bosc. See FRENCH INDO-CHINA.

**LAPUAN MOVEMENT.** See FINLAND under History.

**LATANE, JOHN HOLLADAY.** An American historian, died in New Orleans, La., Jan. 1, 1932. He was born in Staunton, Va., Apr. 1, 1869, and was graduated from Johns Hopkins University in 1892, receiving the Ph.D. degree three years later. After serving as acting professor of history and economics at the Baltimore City College, he became in 1896 master of history and English at the San Rafael (Calif.) Military College, and in 1898 professor of history and economics at Randolph-Macon Woman's College. From 1902 to 1913 he was professor of history at Washington and Lee University. He then became professor of American history and head of the history department at Johns Hopkins University. He acted also as dean of the college faculty from 1919 to 1924. On the founding of the Walter Hines Page School of International Relations at Johns Hopkins in 1930 he was made a member of the research staff. During the World War he was chairman of the educational committee of the Maryland Council of Defense. He was the author of *Diplomatic Relations of the United States and Spanish America* (1900); *America as a World Power* (1907); *History of the United States* (1918); *From Isolation to Leadership* (1918); *The United States and Latin America* (1920); and *History of American Foreign Policy* (1927).

**LATHROP, JULIA CLIFFORD.** An American social worker, died Apr. 15, 1932, in Rockford, Ill., where she was born in 1858. She attended Rockford and Vassar Colleges, being graduated from the latter in 1880. She made special studies in the care of the insane, in the better education of children, and in juvenile laws, and also made special investigations of these subjects in countries of Europe. After 1899 she spent a great deal of time in residence at Hull House, Chicago. She was also a member of the Illinois State Board of Charities from 1893 to 1901 and again from 1905 to 1909. For a time she was president of the Illinois Society for Mental Hygiene and vice-president of the Chicago School of Civics and Philanthropy and of the Juvenile Protective Association. In 1913 she became the first chief of the Children's Bureau of the U. S. Department of Labor. This bureau was authorized to investigate and report to the department all matters pertaining to child welfare and child life, especially the birth rate, infant mortality, juvenile courts, accidents and diseases of children, child labor, and labor laws of the various States affecting children. Miss Lathrop held the appointment until 1920. In 1925 she was made an assessor on the child welfare committee of the League of Nations. She had been named in 1923 by the National League of Women Voters as one of the 12 greatest living American women.

**LATIN AMERICA.** See articles on the various countries of the Caribbean, Central America, and South America; also PAN AMERICAN UNION; UNITED STATES; and SPAIN under History, etc.

**LATTER-DAY SAINTS, CHURCH OF JESUS CHRIST OF.** A religious body commonly known as the Mormon Church, existing chiefly in the United States. It was organized Apr. 6, 1830, at Fayette, N. Y., by Joseph Smith to whom is credited by his followers the discovery, through divine revelation, of a set of metal plates, buried in a hill, from which by a special power received from God he translated the text of the Book of Mormon, the special sacred book of the church. The Mormon articles of faith include belief in God,

Jesus Christ, and the Holy Ghost as individual beings, the punishment of men for their own sins, the atonement, divine authority, baptism, laying on of hands, prophecy, salvation for the dead, the Bible "as far as it is translated correctly," the Doctrine and Covenants, the Pearl of Great Price which contain revelations and instructions claimed to have been received divinely by Joseph Smith, the common virtues, and obedience to constituted authorities. The membership of the church is largely in the Mountain States, owing to the early migrations of Mormons and their final settlement in Utah.

The administrative divisions of the church are known as the general, stake, ward, branch, and mission. A stake is a geographical division and comprises wards and branches, and is directed by a presidency of three. A ward is frequently a part of a city, and is directed by a bishop and two counselors. The branch, similar to the ward, is directed by an elder. In 1932 the church included 104 stakes, 934 wards, and 70 independent branches, with a membership of 544,453. There were 13 missions in America with a membership of 99,254; the missions in Europe had a membership of 29,332, and those in the Pacific Islands of 15,396. Of the 1692 missionaries, 798 were at work outside the United States.

The general authorities who have jurisdiction over the entire church are the First Presidency, the Quorum of the Twelve Apostles, the First Council of Seventy, and the Presiding Bishopric. In 1932 these authorities were: First Presidency: Heber J. Grant, president; Anthony W. Ivins, first counselor. Quorum of the Twelve Apostles: Rudger Clawson, president, and Reed Smoot, George Albert Smith, George F. Richards, David O. McKay, Joseph Fielding Smith, James E. Talmage, Stephen L. Richards, Richard R. Lyman, Melvin J. Ballard, John A. Widtsoe, and Joseph F. Merrill, apostles. First Council of Seventy: Brigham H. Roberts, J. Golden Kimball, Rulon S. Wells, Charles H. Hart, Levi Edgar Young, and Antoine R. Ivins. Presiding Bishopric: Sylvester Q. Cannon, presiding bishop; David A. Smith, first counselor; and John Wells, second counselor.

The church maintains seven temples which are devoted to sacred ordinances for the living and the dead, such as baptisms, endowments, and marriages. It maintains also Brigham Young University (q.v.), four junior colleges, three collegiate institutes, one high school, and 80 seminaries, small schools adjoining high schools and providing special religious instruction. The Sunday schools in 1932 had an enrollment of 280,034 pupils and 29,682 officers and teachers. Junior seminaries had an enrollment of 15,452.

The auxiliary bodies include a women's relief society, numbering in 1932 about 66,884 members, who care for the sick and poor. The Melchizedek Priesthood, a senior order, had 81,218 members, and the Aaronic Priesthood, a junior order, 82,823 members. The two mutual improvement associations, composed of young people, had an enrollment of 122,888. The primary association for those under 12 had 110,323 members. The church holds two general conferences each year, one during the first week in April and the other the first week in October, at which the work of the general authorities is reviewed.

**LATTER-DAY SAINTS, REORGANIZED CHURCH OF JESUS CHRIST OF.** After the death of Joseph Smith in 1844, several factions developed

among the Latter-day Saints. In 1852, in Wisconsin, one of these scattered congregations effected a partial reorganization, which was completed in 1860 under the name of "Reorganized Church of Jesus Christ of Latter-Day Saints." The church chose as its leader Joseph Smith, the son of the founder, who on his death in 1914 was succeeded as presiding officer by his son, Frederick M. Smith. The reorganized church claims to be the true continuation of that established by Joseph Smith in 1830, adhering to the faith and religious practices which were established in the original church but rejecting as false, and inconsistent with the doctrine, beliefs, and practices of the church prior to 1844, the doctrine of polygamy.

In 1932 the church reported a membership of 112,000, which included members throughout the United States and in Canada, Great Britain, Australia, Germany, Isle of Pines, Holland, Switzerland, Norway, Sweden, Palestine, South Sea Islands, Hawaii, and New Zealand. There were 745 churches, 7000 ministers, and 730 Sunday schools with 50,000 pupils. The church maintained Graceland College in Lamoni, Iowa, and homes for the aged and the Independence Sanitarium in Independence, Mo. The official periodical, the *Saints' Herald*, is issued weekly. Headquarters are in Independence, Mo.

**LATVIA.** A Baltic republic formed from territories of the former Russian Empire on Nov. 18, 1918; bounded by Estonia on the north, the Soviet Union on the east, and Lithuania and Poland on the south. Capital, Riga.

**AREA AND POPULATION.** With an area of 25,402 square miles, Latvia had an estimated population of 1,918,000 in 1931. The population at the census of 1930 was 1,900,045 (including 56,168 foreigners), as compared with 1,844,805 at the census of 1925. Letts comprised 73.4 per cent of the Latvian citizens, Russians 12.52 per cent, Jews 4.97 per cent, Germans 3.12 per cent, Poles 1.36 per cent, and Lithuanians, Estonians, and others the remainder. In 1930, 34.9 per cent of the total population lived in towns of 2000 or more. Births averaged 36,949 annually for the period 1927 to 1931 and deaths 27,194, the average rates per 1000 of population being 19.5 and 14.3, respectively. The chief cities, with the census population in 1930, were: Riga, 377,917; Liepāja (Libau), 57,238.

**EDUCATION.** Each national minority has the right to its own schools, with its own language of instruction. In 1930, 13.6 per cent of the population 10 years of age and over were illiterate. Enrollment in elementary schools on Jan. 1, 1931, was 187,995; in secondary schools, 22,462; in the Latvian University at Riga, 8577.

**PRODUCTION.** Agriculture remains the primary industry, as indicated by the 1930 census showing a population 65 per cent rural. However, manufacturing has made rapid gains. Cultivated land in 1930 comprised 4,813,000 acres, or 30 per cent of the total area; meadows and pasture, 4,246,000 acres; woods and forests, 4,100,000 acres. The value of the chief field crops in 1931 was 219,051,000 lats (\$42,277,000), as against 283,860,000 lats (\$54,785,000) in 1930. Wheat, rye, barley, oats, potatoes, flax, and clover were the principal crops harvested. Livestock in 1931 numbered 1,117,000 cattle, 712,000 swine, 923,000 sheep, and 366,000 horses. Butter shipments in 1931 totaled 41,310,000 pounds, worth \$9,061,000 as against 40,633,000 pounds, worth \$11,141,000, in 1930.

The badly depressed condition of agriculture necessitated government relief in the form of export premiums, bonuses for butter and bacon production, and appropriations for the stabilization of flax, grain, and sugar-beet prices. In December, 1931, the *Saeima* or Latvian parliament imposed a moratorium on the debts of farmers and fishermen for one year. Industrial production in 1930 was valued at \$85,586,000; there was a further decrease in 1931. The chief manufacturing industries, in order of the number of workers employed in 1930, were woodworking, metal working; food, drink, and tobacco; textiles, paper and printing, and chemicals. On Dec. 31, 1931, there were 21,935 registered unemployed.

**COMMERCE.** While the value of both imports and exports declined sharply in 1931, the unfavorable trade balance was the smallest since 1922. Imports totaled 176,734,000 lats (\$34,110,000), against 296,328,000 lats (\$57,192,000) in 1930, and exports totaled 163,722,000 lats (\$31,598,000), against 247,877,000 lats (\$47,841,000) in 1930. Machinery, cotton fabrics, coal and coke, sugar, other textiles, and heavy iron were the leading imports and bacon, butter, wood products, and vehicles the chief exports. Germany, the United Kingdom, and the Soviet Union, in the order named, were Latvia's principal customers, while Germany, the Soviet Union, Poland, and the United Kingdom were the chief sources of supply. In 1932, all exports totaled 96,000,000 lats and imports 83,000,000 lats (preliminary). Exports to the United States were \$152,512; imports from the United States, \$543,917.

**FINANCE.** The economic depression produced ever-increasing deficits in Latvia. The deficit for the fiscal year ended Mar. 31, 1931, was 2,500,000 lats (lat equals \$0.19295 at par). For 1931-32, preliminary figures showed a deficit of 25,000,000 lats, with revenues totaling about 134,000,000 lats and expenditures about 159,000,000 lats, as compared with budget estimates balancing at 178,494,000 lats. The budget for 1932-33, as passed by the *Saeima* or parliament June 21, 1932, balanced at 133,532,800 lats (about \$25,772,000), a reduction of about 17 per cent from the previous approved budget. Nevertheless, another large deficit was forecast. The national debt on Jan. 1, 1932, was about \$22,007,000, of which \$6,890,000 was due to the U. S. Government, £1,925,000 to Great Britain, \$6,000,000 to the Swedish Match Trust, 4,500,000 francs to France, and 896,000 lats (\$173,000) to Latvian citizens.

**COMMUNICATIONS.** Latvia in 1931 had 1712 miles of railway lines, of which 1603 miles were state owned. The telegraph and telephone systems were owned also by the state. There were about 22,796 miles of highway (674 miles of macadam). In 1931, 2937 vessels of 1,477,000 net registered tons entered the ports and 2926 vessels of 1,458,000 tons cleared. The merchant marine on June 30, 1931, consisted of 127 vessels of 100 tons or more, aggregating 206,086 gross tons.

**GOVERNMENT.** Under the constitution adopted by the constituent assembly, Feb. 15, 1922, executive power is vested in a president, elected by Parliament for three years; and legislative power in the *Saeima*, or parliament, comprising 100 members elected for three years, by universal direct suffrage (men and women), on the basis of proportional representation. President in 1932, Albert Kviesis (Agrarian), elected Apr. 9, 1930. Premier in 1932, Margers Skujenieks, appointed

Dec. 5, 1931, heading a coalition of agrarian and bourgeois groups.

**HISTORY.** An outstanding development in Latvian history during 1932 was the ratification of a pact of nonaggression, neutrality, and conciliation with the Soviet Union. In 1927, Latvian delegates had signed a nonaggression pact with the Soviet Union, but considerations of Latvian internal politics prevented its ratification. Negotiations were continued, however, and on Feb. 5, 1932, another nonaggression pact was signed at Riga. This was supplemented by a convention on conciliation procedure signed on June 18. Both the pact and the convention went into effect July 18, with the exchange of ratifications.

The economic situation became worse during 1932, despite government efforts to alleviate it. Effective in February, 1932, the government limited to three-fourths of the corresponding imports during 1931, the importation of all commodities on which separate import quotas had not already been established. The importation of sugar was monopolized by the government and a government grain monopoly was established. Latvia was represented at the Stresa Conference, held at Stresa, Italy, in September, 1932, but received no direct benefit from that source (see UNITED STATES OF EUROPE). In September, the government notified the United States Treasury that it would take advantage of the option granted in the debt-funding agreement by postponing for two years the payment of principal (amounting to \$37,000) due Dec. 15, 1932, on its debt to the United States. However, Latvia paid non-postponable interest (amounting to \$102,652) on December 15, as well as \$9200 of principal (see REPARATIONS AND WAR DEBTS). The American Foundation Company on Oct. 21, 1932, secured the contract to build a \$5,000,000 hydro-electric power station and dam across the Duna River.

**LAUSANNE CONFERENCE.** See REPARATIONS AND WAR DEBTS.

**LAVONGAI.** See BISMARCK ARCHIPELAGO.

**LAW, INTERNATIONAL.** See INTERNATIONAL LAW.

**LAW IN 1932. ADMINISTRATION.** *In general.* The crime situation continues to present the gravest legal problem. While given most publicity in the United States, where the horrible murder of the Lindbergh child was the most conspicuous event of the year, it is evident that other countries are hardly less affected. In April, Sir Herbert Samuel, then Home Secretary, presented to Parliament statistics disclosing the "serious increase in crime in Great Britain since the war." Hoping to secure immunity habitual criminals resorted to a policy of terrorism. In Germany penalties for political murders were commuted to life imprisonment after bold threats of still greater violence had been made. At Chicago on September 20 Judge McGoorty's house was bombed and while he escaped, a letter followed, threatening him with shotguns where bombs had failed. Just a week later in Massachusetts, the home of Judge Webster Thayer, who had presided at the trial of Saccho and Vanzetti, executed five years earlier, was similarly destroyed, the judge and his family barely escaping with their lives, members of the jury having been previously threatened.

*Jury System.* There seems to be a growing conviction that the jury system, as it generally works, is in no small degree responsible for this unfortunate situation. In London, England, one

hundred justices are reported to have asked the Home Secretary to initiate legislation to abolish juries at quarter sessions. To the American people the unsatisfactory working of the jury system was brought home by a series of tragedies culminating, during the year, on their nearest outpost in the Pacific. Assaults upon women in Hawaii had been increasing for several years when the trend reached its climax in the abduction and violation of the wife of Lieutenant Thomas Massie, U.S.N., stationed at Honolulu. Five Orientals (two Kanakas, two Japanese, and one Chinese) riding in a car which collided with another, were apprehended a few hours after the crime was committed, and at least three of them had criminal records. Two of them were identified by Mrs. Massie as among her assailants. They were all placed on trial before a jury consisting entirely of Orientals and half castes, who, after "deliberating" 97 hours, failed to reach a verdict and were discharged. The case has never been retried, and in October Governor Judd, of Hawaii, and Public Prosecutor Kelley, of Honolulu, came to New York to discuss the advisability of dismissing the case.

One of the five accused, Joseph Kahahawai, despite his criminal record (having pleaded guilty to another charge of assault and served a term of imprisonment) and the victim's identification, was released on bail, being required only to report daily to the authorities. One day, after so reporting, he was seized near the court building, carried away in an automobile and slain. Lieutenant Massie, his mother-in-law, Mrs. Granville R. Fortescue, and two enlisted men of the navy were charged with cooperating in that result and, after a long trial, in which they were ably defended by Clarence Darrow, were, on May 4, convicted (by a jury which contained no Americans), and sentenced to ten years of imprisonment. This was later commuted to one hour by Governor Judd; for there was a general feeling among the unprejudiced that the second tragedy was a direct result of the first, and that it was the natural consequence of defects in the jury system. The number of mistrials where the accused were natives had appeared to encourage criminals of that class and to lead them to rely on a "hung jury" as affording immunity. The early American missionaries in the islands appear to have sensed the situation and to have foreseen that the jury, as they had known it in New England, would not be workable in Hawaii. They never imported the grand jury at all but provided for indictments by judges and conviction by verdicts of nine out of twelve instead of requiring unanimity. Had these improvements on the common law system been left undisturbed, it is highly improbable that such tragic miscarriages of justice as that which seems to have resulted in the trial of Kahahawai and his associates would have occurred. But when, in 1900, Congress passed the organic act for the territory of Hawaii, the provision for verdicts by three-fourths was eliminated and the old common law jury substituted with its requirement of unanimity. The widespread feeling aroused by the Massie outrage compelled the Department of Justice to take cognizance of the matter and strong assurances were given out by the Attorney General that steps would be taken to prevent a recurrence. An Assistant Attorney General was sent to Hawaii, and when he returned he proposed certain changes, including repeal of the provision

requiring prosecuting officers to be appointed from the Territory (which proposal the Hawaiians considered an attack on home rule), but made no recommendation for improvement of the jury system which would reach the crux of the matter. The only Federal legislation during the year as to the jury was Public Law 209, authorizing alternate jurors in certain criminal cases in order to avoid mistrials in case of a juror's death or severe illness. The trial of United States Sen. James J. Davis, for misuse of the mails, which was halted, after many days, by one juror's misconduct, necessitating a complete retrial, shows not only the need of such a law but of its extension to other causes of mistrials.

In *People v. Scornavache*, 347 Ill. 403 (reviewed *Am. Bar Assn. Journ.*, xviii, 226), a bare majority of the Illinois Supreme Court held that the State might insist upon a jury trial in a criminal case, even where the accused had waived it. The opinion appeals to history but no precedents outside of the United States (and few there) are cited and no constitutional provisions are invoked; which, in the view of the minority of the court was "fatal to the conclusion." The ruling was hailed (by one of them), as "a Christmas present to the State's attorneys" by preventing an offender "to appear before a friendly judge and elect to accept the judgment of the court rather than of the jury." But those who believe that the jury system itself is obsolete and should be displaced, or at least restricted, see in this decision one more obstacle. How the domain of the civil jury is being narrowed, however, is illustrated in *Crowell v. Benson*, 285 U. S. 22. *Harper's Magazine* for 1928 contained an article by Robert H. Elder, former District Attorney for Kings County, N. Y., tracing the effect of Workmen's Compensation Acts in displacing juries by commissions whose awards are compulsory. The Federal Supreme Court, in the case last cited, upheld the authority of Congress to provide for the ascertainment by a deputy commissioner (instead of a jury) of the amount of damages to employees from injuries incurred on navigable waters. The tribunal divided, however, on the question whether a court, in reviewing the deputy commissioner's findings, could take new evidence. The majority held in the affirmative. On November 8 Oregon voters adopted a Constitutional Amendment, authorizing trials without juries where both prosecution and defense consent. Such an amendment had already been adopted in California, applicable to capital cases, and in November a married pair were tried for murder thereunder at Los Angeles by a single judge (Pacht) whose findings and sentence of conviction are reported to have been received with widespread approval, and the case demonstrated the possibility of great saving of time and expense, and greater certainty of correct conclusion, than the old-fashioned jury trial.

*Other Features of Criminal Law Administration.* Among acts of Congress during the year was one providing for a public defender in the Panama Canal Zone—something new in the Federal system. Public Law 210 fixes the commencement of a prison sentence by a Federal court, provides deduction for good conduct and extends the provisions of parole laws. In *Blackmer v. U. S.*, 284 U. S. 421, the Supreme Court upheld the act of Congress authorizing a fine for the failure of an American witness, living abroad, to obey a subpoena, served by a United States Con-

sul, from a United States Court. The petitioner, who had resided in Paris since 1924, was there served by the Consul with two subpoenas to appear and testify for the Government in the case of the *United States v. Fall and Sinolair*, then pending in the District of Columbia Supreme Court. He failed to appear, was declared in contempt and fined \$30,000 with costs in each case. The Federal Supreme Court pointed out that the United States did not lose jurisdiction over Blackmer by his removal to France; but that he was still subject to their laws, and to the duty of returning at their command; and that, in enforcing such duty, they might utilize their consuls without an express treaty concession to that effect from the country of the citizen's residence. Hence, the court concluded, the statute was consistent with due process of law. Had a similar statute been available to the New York courts, the witness, Sherwood, much wanted during the investigation of Mayor Walker, might have been brought back from Mexico.

**Extradition.** Holding extraditable one charged with fraud, the United States Court of Appeals for the 7th circuit, on November 15, ordered John ("Jake the barber") Factor returned to England for trial on such a charge. The ruling reversed a contrary one by Judge Carpenter and has not yet been reviewed by the Supreme Court. The case has a direct bearing on that of Samuel Insull, accused of similar offenses, who fled to Greece upon learning of his indictment by a grand jury of Cook County, Ill. An extradition treaty between that country and the United States had been signed but not ratified, and when Insull was apprehended at the request of the American authorities he employed native counsel and contested the legality of the proceeding. But the Greek Court of Appeals, on November 5, construed the treaty as contemplating such an emergency, and directed that Insull be detained until the arrival from Washington of the Presidential warrant for his formal arrest. On December 27, the same court proceeded to rule on the case as if it were trying Insull for the crime charged; whereas, under international law, the only proper question before it was whether he had been regularly accused of committing a crime in the territory of another State. The Court denied the requisition on the ground that "it does not become evident that Mr. Insull committed the offense charged," and released him. Luke Lee and his codefendants, convicted in North Carolina of violating the banking laws, resisted extradition from Tennessee, the Federal Supreme Court having denied relief.

On December 21, Governor Moore of New Jersey refused the requisition of Governor Russell of Georgia to extradite Robert E. Burns, escaped prisoner from the latter State, where he was serving a sentence for robbery with arms. As between States of the Union, such proceedings are supposedly controlled by U. S. Const. IV, 2, which would seem to leave no option on a State's part. But the Supreme Court held in *Kentucky v. Dennison*, 24 How. 66, 16 L. ed., 767 (Mar. 14, 1861), that "there is no power delegated to the general government . . . to use any coercive means" to enforce the duty. This leaves a gap which only a constitutional amendment will close.

The Proceedings of the American Law Institute at its May session, disclosed a growing sentiment that rules of criminal procedure and evidence favoring the accused, because of their

origin at a time when penalties were far more severe, should be modified. Thus the tentative draft for the administration of the criminal law No. 2, relating to "Double Jeopardy," which was the first to be considered at the session, contained a clause providing that the State shall be entitled to a new trial where material error has been committed, to its prejudice, and the accused has been acquitted. This is permitted at present, it was explained, in but one State, Connecticut; though it accords with the practice in Spain and other continental countries (See *Kepper v. U. S.*, 195 U. S. 121). Judge Seabury, in his address at the Institute dinner, stressed the abuse, to the extent of deterring the course of justice, of two time honored rules: (1) the exemption from testifying against oneself; and (2) the inviolability of professional communications to the lawyer. On the other hand the United States Supreme Court in *Powell v. Alabama*, 287 U. S. 45, which is generally referred to as the "Scottsboro Case," elevated to a new plane another privilege of the accused, and set aside the conviction of seven negroes on the ground that the trial court had not provided them with "effective counsel." In fact, it had appointed the entire local bar to act for them, and later a Tennessee lawyer had taken charge of the case in their behalf; but the doctrine of the decision seems to be that unless counsels are especially selected who are familiar with the practice of the forum, there is a want of due process of law under the 14th Amendment. Justices Butler and McReynolds, dissenting, call this "an extension of Federal authority into a field hitherto occupied exclusively by the several States. . . . The Court, without being called upon, and without a hearing, adjudicated an important constitutional question of State court criminal procedure." The Northern press comment and that of the "liberals" were highly favorable.

President Wickersham, in his annual address before the Institute, noted "that there never has been a revision of the Federal Penal Code" and pointed out that

The penal laws of different States vary greatly, both in the definition of crime and in the scheme of penalties. Perhaps more important even than accurate definitions is it to formulate a sound policy of sanctions. Penal codes generally present illogical blendings of penalties, based, sometimes on retributive or vindictive principles, sometimes with a view to reformation. Few of them proceed upon any definite principle, such e.g. as that announced in the recently adopted Penal Code of Italy, that the protection of society is the object of the criminal law. With the adoption of a clearly defined theory of punishment, the formulation of prohibitions and penalties would be greatly facilitated.

The Spanish *Gaceta Oficial* of November 5 contained the texts of new laws abolishing the death penalty, mitigating other penalties and amending accordingly the Penal Code of 1870. About the same time it was announced that chains, instruments of torture and other vestiges of "the barbaric past" would be excluded from Spanish prisons. An exception was made of the chain of Marshal Pardo de Cel who led a 15th century rebellion, calling himself King of Galicia. The proposed amendment of the Michigan Constitution, withdrawing executive authority to grant clemency to first degree murderers, was not adopted.

**TRIBUNALS.** *World Court.* On June 7, the Permanent Court of International Justice, by a vote of 6 to 5, decided in Switzerland's favor its controversy with France, holding that the latter had no right to suppress the free, frontier zone, dat-

ing from 1815, and establish custom houses there; and directing that such zone be reestablished before 1934. On August 3, during the session of the International Congress of Comparative Law at The Hague Peace Palace, the World Court, sitting in the same building, rendered an interlocutory decree in the East Greenland case (*Norway v. Sweden*), holding that no rights would be lost by either party in merely preserving the *status quo ante*. An early decision on the merits is not expected.

*Supreme Court of the United States.* On January 12, Justice Holmes resigned, after nearly thirty years of service, assigning his failing health as the reason. The vacancy caused by his resignation was filled by the appointment on February 10 of Benjamin Nathan Cardozo, Chief Judge of the New York Court of Appeals since 1927 (see *THE NEW INTERNATIONAL ENCYCLOPEDIA*, Supplement, vol. 1).

Before the American Law Institute, on May 5, the Chief Justice summarized as follows, the Court's work for the term then closing:

We have disposed of 775 cases, as compared with 698 at a corresponding date last term. Of these, disposition has been made of 237 cases on the merits and 538 on petitions for certiorari.

As the latter are usually disposed of without writing an opinion, the number of opinions written would average a trifle less than 27 for each of the nine members of the court. The Chief Justice continued:

Provision has been made for a hearing by three judges in a Federal District Court, when it is sought to restrain the enforcement of a state statute. Appeals in such cases lie directly to the Supreme Court from orders granting or denying an interlocutory injunction, as well as from final decrees granting or denying a permanent injunction. In a large proportion of these the question is not to be determined on the mere face of the statute assailed, but in the light of its application to the facts. Accordingly, the District Court, in the exercise of judicial discretion, may grant or withhold an injunction pending final hearing. Upon appeals from such interlocutory orders, it is an established rule to consider only the question whether the three judges in the District Court have abused that discretion.

On October 13, under the auspices of the American Bar Association, with its President presiding, and before an audience which included its assembled members, President Hoover laid the cornerstone (containing various appropriate documents and souvenirs), of the new Supreme Court Building. President Guy A. Thompson of the Bar Association opened the exercises with a brief tribute to that "monument to justice." John W. Davis, former President of the Association and former Solicitor General of the United States, who spoke in behalf of the Bar, and Chief Justice Hughes, who responded for the Court, whose members, except Justice Brandeis, were on the platform, both recounted the vicissitudes of the Court with respect to its place of abode, from its first meeting in Philadelphia; the assignment of quarters in a small room of the Senate Chamber in the new Capitol at Washington, where it met first on Feb. 2, 1801; its removal to the basement "in what was irreverently called 'that old potato hole'" in 1810; its temporary housing in the north wing after the Capitol was burned in 1814; its occupation for 40 years from 1819 of the present Law Library; and of the former Senate Chamber since 1859. The programme was interspersed with musical selections by the U. S. Marine Band and, in spite of the drizzling rain which set in toward its close, it

was said that "never again in the experience of living men will there be an event of like importance in the history of American jurisprudence." The Court's new home is rising pursuant to the Act of Congress of May 25, 1926, for the acquisition of the site, which lies just east of the Capitol grounds and north of the Library of Congress. The Act of Dec. 21, 1928, created a Supreme Court Commission, that of Mar. 4, 1929, appropriated funds for plans and specifications; that of December 20 of the same year authorized an appropriation of \$9,740,000 for construction; that of June 6, 1930, appropriated \$1,000,000; and that of July 3, 1930, \$8,240,000. The new building is not expected to be ready for occupancy before 1934, by which time the Court will have occupied its present quarters—the former Senate Chamber—just three quarters of a century.

*Rota.* This ancient Papal tribunal, dating from before the 15th century, completed in mid-August its judicial year, during which it disposed of 58 cases, arising from 17 countries, as compared with 64 matrimonial cases in the preceding year and 45 in 1926. On October 1 the members of the court were received by the Pope and reported an unusually heavy calendar in sight for the coming judicial year. The first American advocate to practice before the Court was recently admitted in the person of the Rev. Wm. J. Doheny.

*Judiciary Elsewhere.* Judge Cuthbert W. Pound, of the New York Court of Appeals since 1915, was advanced by Governor Roosevelt to the post vacated by Justice Cardozo. Descended from Quaker stock, the new Chief Judge was born at Lockport, N. Y., June 30, 1864, educated in the public schools and at Cornell University, from which he graduated in 1887, was admitted to the Bar and began practice in his native town and was its attorney for three years. He was a member of the State Senate in 1894-5, professor of law at Cornell, 1895-1904, member, and later President, of the State Civil Service Commission, 1900-1906, and a justice of the Supreme Court from 1906 to 1915. In New Jersey, Governor Moore advanced to the vacancy caused by the death of Chancellor Walker in October, Justice Luther A. Campbell of the Supreme Court. Despite the criticism of a State Senator that the appointment was hastily made, it was unanimously confirmed by the Senate on October 18 and the new Chancellor immediately assembled the Vice Chancellors for a conference. He cautioned them to be circumspect in appointing receivers, and especially to avoid naming as such anyone even remotely connected with themselves. It is reported that one man had been appointed a receiver no less than 94 times. New York lawyers have recently criticized the frequent appointment as a receiver of the Irving Trust Co., whose officers retort that it has functioned more efficiently and economically than others. Chancellor Campbell further announced that there would be similar conferences every three months. Henry Fielding Dickens, sixth son of the famous novelist, retired during the year from the position of Common Sergeant (Magistrate) of the City of London after serving therein for 15 years, and was succeeded by Judge Gregory, K. C., of the "Old Bailey" (the Central Criminal Court), who in turn, was succeeded by Judge Whitely.

*Contempt.* Certain English newspapers published in the Far East were wont to criticize the United States Court for China in exercising its power to punish for contempt. How much farther

the English courts go was illustrated on November 7 when the editor of the London *Midweek* was fined £50 and the publishers £25 by the English Court of King's Bench for publishing matter prejudicial to the Sun Life Assurance Company, during the pendency of an indictment in Canada of the publisher of the Montreal *Journal of Commerce* for criminal libel of the Company's President.

**Judicial Selections.** There appears to be a growing sentiment against the choice of judges by popular election; but recent events in Greater New York demonstrate that there is a worse method than partisanship, viz., bipartisanship. Perverting a commendable practice by which, for many years, New York State conventions of both parties have nominated some outstanding candidate (e.g. Ch. J. Pound this year), party leaders in Brooklyn last year, and in Manhattan this year, selected the nominees on both sides by mutual agreement, including, in each instance, the young son of a party leader, and in the latter instance a State Senator who had been sponsor and chairman of the committee investigating New York City's government. That the latter willingly accepted a nomination from those whom he had so vigorously pursued, was cited by Judge Seabury, and other Bar leaders, as the demonstration of a "deal"; and an independent judicial ticket, sponsored by the City Bar Association, led by its President, John W. Davis, was offered the voters as an alternative and received a large vote, but not sufficient to stem the partisan tide in a Presidential campaign.

Even when we turn to the appointive system, as it operates in the Federal government, where the actual selection is usually made by a cabinet officer and from lists prepared by an assistant, the results are not reassuring. This has been especially true of late regarding appointments to the judiciary of the insular possessions where a different system of law and language prevails, and knowledge of each is essential to efficient judicial service. After the Senate Committee rejected certain nominations to the Philippine Supreme Court (1931 YEAR BOOK 457), Secretary Hurley caused the removal of E. Finley Johnson, for 30 years a Justice of that court. He had, indeed, been sued by a litigant for the alleged alteration of a court record (*Alzua v. Johnson*, 231 U. S. 106), but a long period had elapsed since then. Secretary Hurley also caused the appointment to the same court of a retired army officer, son of a former Iowa party leader, but without previous judicial experience or practice in the Civil Law which prevails in the Philippines. In addition to his retired army pay of \$6000, this new judge receives \$10,000 from the Philippine government, making his combined salary greater than that of the Insular Supreme Court's Chief Justice. In Puerto Rico the vacancy caused by advancing to the governorship Attorney General Beverly was filled by the appointment of a former representative and unsuccessful candidate for U. S. Senator from Wyoming, who knew neither the law nor the language of Puerto Rico, as was pointed out by Senator Norris when the nomination was reported.

A still different angle to the puzzling problem of judicial selection was disclosed when, in June, Governor Ely chose Prof. Felix Frankfurter of Harvard Law School, for a vacancy on the Supreme Judicial Court of Massachusetts. The appointment was criticized by former Governor Ful-

ler and others, chiefly because of Professor Frankfurter's espousal of the cause of Saccho and Vanzetti, but was warmly supported by the liberals. In the midst of the controversy, and before the Executive Council could pass on the appointment, the Professor wrote the Governor declining it, stating that he preferred to continue his career as a teacher of law. Judges James Wilkerson of Chicago (who sentenced Capone), and Kenneth Mackintosh of Seattle, formerly of the Washington State Supreme Court and later of the Wickersham Commission, were nominated by the President for the Court of Appeals of their respective circuits; but although a resolution in their behalf was adopted by the American Bar Association at its October meeting, each failed of confirmation.

**Legal Profession.** It is hardly probable that any marked, general improvement in the judiciary will be effected without a corresponding advance in the character and standards of the Bar. For from it the judiciary is recruited and to it, as the group most familiar with the situation, the public must look for leaders of reform. And, as Dean Wigmore tells us, "the rise and perpetuation of a legal system is dependent on the development and survival of a highly trained professional class." The quality and equipment of the lawyer, then, concern not merely the class to which he belongs but society as a whole. The number of lawyers in the United States which, in 1920, was less than the number of physicians, appeared by the 1930 census to be about 7000 more than the latter and 160,605 in all. This marked an increase of over 18,000 lawyers during the decade. In some centres the ratio of increase was much greater; as in New York City where the number grew from 11,499 in 1920 to 18,281 in 1930. The law school enrollment, which appears to have reached its maximum of just under 49,000 in 1929, is still over 40,000 and annual admissions to the Bar aggregate about 10,000. As the latter figure is more than twice the number of annual losses by death or otherwise, the fears of those who consider the legal profession overcrowded seem justified; although a large, and perhaps growing, percentage of those admitted to the Bar, never practice. Central official examinations are now required in most States and one of the remedies proposed for abnormal increase is raising the standards of such examinations so as to exclude the unfit. Some recent examinations disclose a high percentage of failures; thus California 80 per cent, Massachusetts 81 per cent, Mississippi 71 per cent, Missouri 80 per cent, Rhode Island 75 per cent, Utah 74 per cent. This indicates a gratifying vigilance on the part of the Bar Examiners but is of doubtful efficacy in the long run if only intellectual qualifications are to be considered. Those who hope for a smaller and more select Bar support the movement, actively inaugurated more than a decade ago, that requires every applicant to show at least two years of college work or its equivalent before admission. An educational requirement, in addition to the technical one, has now been prescribed in 19 States. Heretofore efforts in that direction have been confined mainly to legislatures and progress has been slow, bills of that character having failed last year in eight legislatures. Two notable decisions of 1932 reinforce, if they do not finally establish, the doctrine that admission to the bar is a judicial function, and that the legislature



may, at most, add to the qualifications which courts impose; the latter cannot be limited by statute. Thus, the Wisconsin Act (1931 YEAR BOOK), purporting to reinstate a suspended lawyer, was declared unconstitutional by the Supreme Court of that State in an exhaustive opinion (*State v. Cannon*, 240 N. W. Rep., 441), which reviews both English and American precedents, and pronounces the statute in question "an assertion of legislative power without parallel in the history of the English-speaking people." The Court, however, exercised its own prerogative by offering to reinstate the offending lawyer upon his payment of the costs in the suspension proceedings. In an advisory opinion (180 N. E. 725, Apr. 21, 1932), to the Massachusetts Senate, the Supreme Judicial Court of that State significantly declared:

No statute can control the judicial department in the performance of its duty to decide who shall enjoy the privilege of practicing law. . . . When and so far as statutes specify qualifications and accomplishments, they will be regarded as fixing the minimum and not as setting bounds beyond which the judicial department cannot go. Such specifications will be regarded as limitations, not upon the judicial department but upon individuals seeking admission to the Bar.

These utterances are in line with previous decisions from Arizona, Illinois, New Jersey, and Pennsylvania. Different conclusions, once announced in New York and California, seem now to have been qualified by later expressions. In North Carolina alone there is undisputed contrary authority. And while these tribunals were defining the judicial prerogative as regards admission to the Bar, others were actually exercising it. Thus on July 1 the Arizona Supreme Court made effective a rule requiring of all applicants for admission a high school education or its equivalent before beginning the study of law, which must be pursued for three years and, if in a law school, it must be one approved by the Bar Examiners. The Kansas court has gone farther in requiring, after June 1, 1936, three years of collegiate study, following a four year high school course. It is evident, then, that the advocates of higher educational qualifications for lawyers need no longer, in most States, go before legislatures, hat in hand, to ask that their proposals be enacted into statutes and to meet the combined opposition of ignorance, prejudice, and self interest, coupled with politicians' timidity and suspicion. Instead, their efforts may now be confined to courts of last resort whose members ought to need no persuasion to aid in "building a better bar."

Sam. P. Cochran, a 77-year-old citizen of Dallas, took the recent Bar Examination in Texas, with 200 others and passed. At a special session of the Supreme Court to receive the applicants, Mr. Cochran was compared by the Chief Justice with Cato, the Elder, who "learned Greek at 80."

*Professional Ethics.* Certain Nevada lawyers who circulated printed abstracts of the State's divorce laws, offering to share fees with non-resident lawyers who might send them divorce cases, and, in some instances, describing the attractions of Reno as a place of sojourn while awaiting a decree, were disciplined and suspended from practice by officials of the self-governing Nevada Bar. In another western State, that has only the old-fashioned voluntary bar association, officers of the latter admitted inability to deal effectively with similar conduct on the part of its members. South of the Rio Grande,

it seems, also, even more objectionable advertising of the opportunities afforded by Mexico's easy divorce laws goes entirely unchecked except for such measures as may be taken in this country by the postal authorities.

*LAW CONGRESSES AND CONVENTIONS.* *American Law Institute.* The 10th annual meeting of this body opened in Washington, May 5. The Director announced the completion of the restatement of the law of contracts, work on which had been commenced nine years before. Publication was promised in September; but before the American Bar Association in October, the Director stated that the work would not be distributed before November. President Wickersham, in his opening address at the Institute, explained "unexpected delays in the completion of the restatement of the conflict of laws" as "partly due to the effect of a somewhat epoch-making series of decisions by the Supreme Court of the United States which necessitated a restudy of the effect of the principles established by them regarding the situs of personal property, tangible and intangible, both with respect to administration and to devolution of ownership." The Director's report stated that the Council expected to submit for the 1933 session the proposed final draft of agency, the first two divisions of torts (intended and unintended harms), and a tentative draft of the first division (formation) of business associations. Work was begun in June, 1927, on the restatement of trusts and the first division (estates) of property was completed in 1931. More of the Institute's proceedings will be found under special topics in this article.

*The International Congress of Comparative Law* assembled in the *Salle des Chevaliers* at The Hague on August 2 with a registered list of 305 delegates and probably twenty-five more unlisted, "owing," says Dean Wigmore, "to the imperfect system of registration." Thirty-one countries were represented and twenty-four more had appointed delegates who failed to appear. Numerically, the largest delegation (72), was from the United States—more than 20 per cent of the whole, of which Dean Wigmore was the acknowledged leader; but there was an exceptionally strong delegation from Great Britain, including Sir William Holdsworth, Professors F. P. Walton and R. W. Lee of Oxford, Lord Hanworth, and Lord Macmillan. Among those from France was Edouard Lambert, Director of the *Institut de droit comparé* of Lyons. From Italy came Professor Vivante and from Austria Dr. Josef Redlich. The papers were many and varied though some of them, and more of the discussions, wandered from the field of Comparative Law. The social entertainment, also, was lavish. "But," as Dean Wigmore well noted, "the mechanical arrangements for facilitating the delegates' attendance at the meetings were strangely inadequate and gave rise to much disappointment." Nevertheless,

The occasion was so distinguished, so unprecedented in our profession's history, so international in flavor, so significant as a forum of world law, and the environment of the Peace Palace and the World Court so impressive, as to overwhelm all minor considerations.

A national convention of Italian lawyers assembled at Rome on October 5. Premier Mussolini, in an address of welcome, ascribed to their profession a place higher than that of the poets and philosophers who initiated the Renaissance; for the former, he said, revived the Roman law.



*The American Bar Association* (see 1931 YEAR BOOK), held its 55th annual meeting in Washington from October 10 to 15. The President of the Association, Guy A. Thompson of St. Louis, delivered his address on October 12 and in the evening of the same day President Hoover spoke before the body. Paul Reynaud, of the Paris Bar, was a speaker on the following evening, and that of October 14 was entirely given over to the Marquis of Reading, who had come from England for the special purpose of delivering his address. One of the most profitable of the different conferences held, from the standpoint of professional progress, was that of the Bar Examiners where papers of a high grade were presented relative to the problems above reviewed regarding admission to the Bar. The Association's medal, for the most notable contribution to American law, was awarded to John H. Wigmore, Dean Emeritus of Northwestern University Law School, and author of a monumental work on "The Law of Evidence." Amendments to the Constitution were adopted, reducing the number of Vice Presidents to ten—one for each Federal Judicial Circuit instead of one for each State—and increasing the term of General Council members to three years. Clarence E. Martin of West Virginia was elected President for the ensuing year and the other officers mentioned in the 1931 YEAR BOOK, were reelected.

*Department of Justice.* What has been called "the world's largest law office" has, together with its head, been the subject of an unusual amount of criticism during the year. A bitter personal controversy between the Attorney General and a Senator from his own State, over the appointment of a Federal district judge there (1931 YEAR BOOK), was finally settled by elevating to the Court of Appeals another judge of the same district court, thus creating an additional vacancy for which the Attorney General accepted the Senator's choice while the latter withdrew from active opposition to the Attorney General's original selection for the other vacancy. In the course of the controversy it came to light that Mr. Mitchell, while Solicitor General, had left the Government unrepresented in an argument, before the Court of Appeals, of a case (*Flannery v. Wilouts*, 25 Fed. (2d), 951), in which he had been the personal attorney for the individuals affected (whose interests were adverse to the Government), had failed to arrange for a review in the Supreme Court, and had endeavored to prevent the collection of an inheritance tax of \$1,130,616 which the Government had assessed on the estate of the late James J. Hill's widow. The Federal district court decreed that the tax was valid and should be paid and it was that decree which the Court of Appeals heard, without the presence of government counsel, and, relying largely upon Mr. Mitchell's own testimony below, reversed. It being the Solicitor General's duty to have cases decided adversely to the Government reviewed in the Supreme Court, and no step therefor, being taken in this case, the Government lost its revenue. At that time the Department upheld the constitutionality of sec. 302 (c) of the Revenue Act of 1926, providing that transfers made within two years of a testator's death are presumed to have been made in contemplation thereof and hence were taxable; the Department having so contended in *Heiner v. Donnan*, 285 U. S. 312 (1932), and Justices Stone and Brandeis, having agreed with it, although a

majority of the Court took the other view. More criticism of the Department arose in connection with the use of troops against the so-called "Bonus marchers," which said Department, in a report to the President, characterized as "the greatest aggregation of criminals ever assembled in Washington." Gen. Pelham Glassford, District of Columbia Police Commissioner, replied that there had been less crime since the arrival of the veterans than previously, adding:

This report, signed by Atty-Gen William D. Mitchell, was a false attack upon the veterans. It was so much in conflict with the police reports and facts known to the police department, that I made an immediate reply. As a consequence, it became obvious that my tenure of office . . . would be of short duration.

General Glassford resigned on October 20. A letter in the Congressional Record (74-6898) indicated that an unusual number of appointments as special counsel went to members of the Attorney General's law firm and its connections, and it was said that Departmental influence was used to place his young son in J. P. Morgan's firm. Senator Harrison released figures showing that 231 employees of the Department were blanketed into its service during the year without the examination for which the law provides.

*Law Library.* July 14 marked the centenary of the act (4 Stats. at Large, 479), creating the Law Library of Congress as a separate entity; and in honor thereof an exhibition of portraits and other collections, relating to the Supreme Court, was opened in the Library building and viewed by many, especially following the cornerstone laying exercises at the new Supreme Court building. The Law Librarian, John T. Vance, in an article treating of the history and functions of the institution over which he presides, terms it "a true *amicus curiae*."

On August 31 a group of American lawyers, headed by Dean Wigmore, returning from the Comparative Law Congress at The Hague, unveiled, in the Cathedral of Tréguire, France, a bronze tablet to St. Yves, patron saint of the legal profession.

*NECROLOGY.* Among the eminent lawyers and jurists who died during the year were Maj. Gen. Enoch H. Crowder, of Missouri (Apr. 11, 1859-May 7, 1932), who served as Judge Advocate General and Provost Marshal General of the United States Army during the World War, was the author of the Selective Draft Law, and later the first Ambassador to Cuba, where he handled with skill many delicate problems of International Law; Lindley M. Garrison (Nov. 28, 1864-Oct. 18, 1932), Vice Chancellor of New Jersey, 1905-1913, Secretary of War, 1913-1916 (leaving that post voluntarily because of difference with President Wilson over methods of enlarging the army and also the question of Philippine independence which Secretary Garrison deemed premature), and receiver of the Brooklyn Transit Company, later reorganized into the "B.R.T.," 1918-1923, in which he was highly successful; Edwin R. Walker (Sept. 13, 1862-Oct. 14, 1932), Chancellor of New Jersey from 1912, when he was appointed by Governor Wilson upon the advancement of Chancellor Pitney to the Supreme Court; Dr. Ernst Freund (Jan. 30, 1864-Oct. 20, 1932), Professor of Law at the University of Chicago since 1894, author of *Police Power* (1904), *Standards of American Legislation* (1917), *Administrative Powers Over Persons and Property* (1928); Sir Herbert Stephen (June

25, 1857-Oct. 23, 1932), Clerk of the Assize of the Northern Circuit of England, son of Sir James F. Stephen, eminent English judge and editor of the latter's books, author of *Law of Malicious Prosecution, Digest of Criminal Procedure, Prisoners on Oath*: a recognized authority on English criminal law and adviser to *nisi prius* judges; Horace K. Tenney (Sept. 11, 1859-Oct. 20, 1932), head of a prominent law firm in Chicago, former President of the Chicago and Illinois Bar Associations, professor of law in the University of Chicago and member of the editorial board of the American Bar Association *Journal*; Leonidas D. Smith (Nov. 25, 1866-Nov. 7, 1932), Tennessee Attorney General since 1926, and former special judge of the circuit and Supreme Courts; Charles A. Hitchcock (Feb. 8, 1859-Nov. 4, 1932), and Jerome L. Cheney (June 18, 1863-Nov. 30, 1932), former New York Supreme Court Justices.

**CONSTITUTIONAL AND PUBLIC LAW.** *British Commonwealth.* The Imperial Conference, which opened at Ottawa July 21, resulted in various preferential trade agreements between units of the Commonwealth, which have been mostly enacted into law by their respective legislatures. The South African Union, in order to put the agreements into effect, arranged amendments to its commercial treaty with Germany, effective October 24. On November 4 both British and Canadian Houses of Commons passed measures ratifying their agreements, and on November 15 the Bahama legislature. The Irish Free State, though represented at the Conference, refrained from entering into any of the agreements, and the Imperial preference previously enjoyed by it automatically ceased on November 15. Meanwhile the Dáil's enactment of the law (not effective until 18 months after passage), abolishing the oath to the King and its refusal to pay the land annuities, brought reprisals from Great Britain in the form of an act authorizing the Cabinet to raise duties up to 100 per cent on imports from the Free State. The power thus conferred has been twice exercised while the Dáil has several times raised the duties upon imports from Great Britain. On November 17 the third round table conference on Indian Affairs assembled in London "to draw up a Constitution that will really work," according to the Aga Khan, Moslem leader. The Conference ended on December 24, with the outlines of the new All-India Constitution complete. The elections in Burma appeared to have resulted adversely to the plan of separation from India. A report of the joint parliamentary committee on November 10 proposed a reduction in membership of the House of Lords and election in part by County Councils.

*Germany.* On October 16, the *Reichsgericht* or Supreme Court of the German republic, sitting at Leipzig, rendered an important decision relative to the respective powers of *Reich* and State governments. Construing Art. 48 of the Weimar Constitution, the court held that law and order were sufficiently endangered in Prussia on July 20, to justify the *Reich* President's intervention and appointment of a Federal Commissioner, with deputies, to administer the state, and with authority supreme in that sphere. But, the court continued, suspension of the regular order was temporary only, affecting the administrative functions alone of the Prussian officials, and not depriving them of their membership in legis-

lative bodies, nor of their right to represent Prussia in its dealings with the *Reich* or any state thereof. Save on the administrative side they are still the Prussian government, and their criticism of the *Reich* is not a breach of their duty toward it. But the Court declined to construe Art. 48 beyond holding that it did not justify barring a state's representative in the Federal Diet. The proposed new constitution would effect changes in the executive by making him President of Prussia as well as of the *Reich*—a step toward merging the former in the latter; a new legislative chamber would be created whose acts could be defeated only by a two-thirds vote of the Reichstag; and the voting age would be raised to twenty-five.

*Mexico.* On October 4, the Congress ratified the treaty for reconstituting the United States-Mexican Claims Commission which had functioned from 1926 to 1931 and broke up in the latter year by the refusal of both neutral and Mexican Commissioners to sit longer with the American Commissioner (Nielson). The latter's dissenting opinion in *International Fisheries Company case* (Ops. 1930-1931, pp. 207-286), in which he bitterly arraigned his colleagues, is said to have precipitated the result. The new treaty has yet to be ratified by the United States Senate and an appropriation must also be made for expenses. On November 9 the Mexican Senate Foreign Relations Committee took the first step toward amending the Federal Constitution so as to permit alienation of territory, the occasion being the Committee's tardy acquiescence in an award by the King of Italy terminating a dispute between France and Mexico as to the sovereignty of the Pacific isle of Clipperton, 4½ by 3 miles in area, situated over 500 miles west of Acapulco, on the direct route between the Panama Canal and Hawaii. Discovered by Spaniards in 1587, and naturally falling to Mexico upon its attainment of independence, the islet was visited by a French merchantman in 1858 and the French flag was hoisted. In 1890 De Lesseps also claimed it for France, although it was then inhabited by other foreigners. The following year saw the Mexican flag raised, France protested, and in 1909 President Diaz asked for arbitration; but it was not until Jan. 28, 1931, that the King awarded the isle to France. Although Foreign Minister Tellez urged that the national honor required approval of the Committee's recommendation, the Senate postponed action indefinitely. But on December 14 it approved the committee's recommendation to accept the award and on December 17 voted to purchase the islet from France.

*Spain.* Statutes of major importance were enacted by the Cortes in September, under the Republican leadership of Premier Azana: (1) the Agrarian Law providing for the expropriation of large feudal, landed estates, especially of those participating in the recent monarchical uprising, and their distribution among the peasants; (2) the Catalan Autonomy Law, by which that region is given its own legislature while peninsular and foreign affairs are still handled by the central government; and (3) in October, the Religious Congregations Law, which vests in the state the title to all Roman Catholic Church property, leaving the latter the privilege of administration only, effects state control of all religious orders, which are forbidden to engage in industry, or to teach any subjects but religion,

and that only in their own schools, which are subject to state inspection, and prohibits the conduct of worship outside the churches. Appointment of ecclesiastical dignitaries, including heads of orders, all of whom must be Spaniards, is subject to the state's approval. Secular education is placed exclusively under the Ministry of Education. At last advices the Papal Nuncio seemed disposed to accept the situation rather than to aggravate it by lodging a formal protest. On November 1, Republican leaders issued a statement reciting that "the visit of Premier Herriot undoubtedly strengthens the ties between the oldest and newest European republics." The Premier conferred upon President Zamora the Grand Cross of the Legion of Honor, and it was reported that the Order of the Republic would be conferred upon President Le Brun.

*United States. Executive Power.* As predicted (1931 YEAR BOOK), the case of *U. S. v. Smith* did reach the Federal Supreme Court which unanimously affirmed the ruling of two inferior courts that the respondent was not subject to ouster after the President had been notified of confirmation, even though the notice had been sent before the period for Senatorial reconsideration had expired (285 U. S.). The decision in *Edwards v. U. S.*, 286 U. S., 482, that the President has ten full days to approve measures passed by Congress, though it has meanwhile adjourned, is the complement of the earlier decision in the *Pocket Veto Case*, 279 U. S., 655, that his failure to approve within the ten days amounts to a veto. Both decisions interpret Const. i, 7 and settle points which had occasioned doubt from the foundation of the government.

*Immigration.* On December 5, the Federal Supreme Court rendered some notable decisions, all unanimous, affecting alien entry and deportation. *Elting v. North German Lloyd*, 287 U. S.—and *Lloyd Sabado Societa Anonima, v. Elting*, 287 U. S.—reviewed fines imposed by the Secretary of Labor upon carriers of non-quota passengers. The court applied its previously established doctrine that the Secretary's findings would not be disturbed unless an abuse of discretion (which is a very broad one) is proved and announced the new principle that possession of a non-quota, consular *visa* did not relieve the carrier if, with reasonable diligence, it might have ascertained that the passenger was in fact a quota immigrant. In *Costanzo v. Tillinghast*, 287 U. S.—the petitioner was ordered deported for operating a brothel, a ground enumerated among many others in the Immigration Act of 1917. A limitation to five years for some of these grounds was held inapplicable to that in question, which, the Court decided, could be invoked at any time. On December 19, three Federal judges at Detroit, Mich., enjoined the enforcement of the Michigan Alien Registration Act of 1931.

*Impairment of Obligation.* The repeal of a State constitutional clause, making corporate directors liable for corporate funds misappropriated by corporate officers, impairs the obligation of an existing corporate contract; notwithstanding the same constitution reserves the power to repeal laws concerning corporations. *Coombes v. Getz*, 285 U. S. 434 (Cardozo, Brandeis, and Stone, dissenting). But a corporation which enjoys constitutional tax exemption may, by a later change in the constitution conferring it, be taxed on its corporate franchise, measured by the tax exempt income. *Pacific Co. v. Johnson*, 285

U. S. 48 (Sutherland, Butler, and Vandevanter, dissenting).

*Interstate Commerce.* In *La. Pub. Serv. Com. v. Tex. & N. O. R. Co.*, 284 U. S., 125, the Supreme Court upheld the power of the Interstate Commerce Commission to prescribe new intrastate railway rates where those already fixed by a State operated unfavorably to interstate commerce. This was held not to infringe Const. i, 8. But in *Chicago etc. R. Co. v. U. S.*, 284 U. S., 80, the court set aside, as arbitrary and unreasonable, an order of the same Commission favoring short lines by allowing them two days' free time for interchanged loaded cars and relieving them from charges on coal cars received for return loading with coal from mines normally dependent upon connecting carriers for car supply. Justice Stone dissented in an elaborate opinion in which Justices Holmes and Brandeis concurred.

*New York Charter.* The resignation on September 1 of Mayor Walker left as Acting Mayor the President of the Board of Aldermen, and as the former's term would have lasted until 1934, the question at once arose whether the special election of a successor was necessary. The Greater New York Charter contains no specific provision on the subject and Judge McGeehan of the Supreme Court issued an order preventing the Board of Elections from proceeding to that end. A majority of the Appellate Division, to which the case was then taken, held a special election necessary, relying on *O'Connell v. Corcoran*, 243 N. Y., 86, which Justice Martin, dissenting, said had "no application to the case." Justice O'Malley considered the question "certainly not free from doubt" but concurred (see *New York Times*, Sept. 30, 1932). The Court of Appeals affirmed the majority ruling, but without writing an opinion. On December 1, ex-Governor Smith formally presented his comprehensive plan to reorganize the city government, discarding the borough system.

*Police Power.* An Oklahoma statute, requiring a license to engage in the ice business and proof of the necessity of conducting such a business at the designated place, was declared inimical to the 14th Amendment in *New State Ice Co. v. Liebmann*, 285 U. S., 262. Justice Cardozo did not participate but Justice Brandeis, with whom Justice Stone concurred, wrote an exhaustive opinion, with abundant citation of economic authority, arguing that the requirement in question was not new but had long been applied to other lines; that the legislature had declared the business a "public" one and that its determination was, at least presumably, valid; that climatic and other conditions in the State rendered ice a necessity like water, gas, and electricity; and that the field was a proper one for experimental legislation which the court should not interfere with "lest we erect our prejudices into legal principles."

In *Bandini Petroleum Co. v. Superior Court*, 284 U. S. 8, and *Champlin Refining Co. v. Oklahoma Corp. Commission*, 286 U. S. 210, the same court upheld State statutes for the conservation of oil and gas, even though the effect was to limit the surface owners to much less than potential production. But in *Sterling v. Constantin*, 287 U. S., the court denied the power of a State Governor "to regulate by executive order the lawful use of complainants' properties in the production of oil"; for "in the place of the judicial procedure available in the courts, which

were open and functioning, he set up his executive commands, which brooked neither delay nor appeal." In *U. S. v. Swift & Co.*, 286 U. S. 108, the court, by a bare majority, declined to modify a decree dissolving, under the Sherman Act, a combination of meat packers; holding that conditions had not sufficiently changed to justify it.

On November 8 the voters of eleven States expressed their disapproval of prohibition, mainly by voting to repeal enforcement laws; those of Massachusetts defeated an initiated petition to legalize chiropractors, and those of Nebraska rejected a proposal to establish a highway police patrol under a commissioner for the whole State. The Supreme Court of the last named, on November 10, declared the Nebraska Bank Guaranty Law of 1909 inimical to both Federal and State Constitutions (*Hubbell Bank v. Bryan*, U. S. Daily, Nov. 16, 1932).

*Proposed Twentieth Amendment.* On March 2, what is popularly known as the "Lame Duck Amendment" (though that phrase indicates but one of its features), was finally submitted to the State legislatures, thus culminating a long and bitter struggle both in and out of Congress, the principal change having been urged in 1916 before the American Bar Association, which has since maintained a committee to promote it. In 1923 the proposed amendment was placed before Congress where its leading advocate was Senator Norris of Nebraska. As now submitted the proposal comprises six sections, the first of which fixes January 3 as the end of congressional terms and January 20 for those of the President and Vice President. As each new congress will assemble on January 3, no member will serve, regularly, after the election at which his successor is chosen. The Amendment also provides for contingencies not heretofore met, in case of the death or failure to qualify of a President or Vice President elect. Only once before has a proposed constitutional amendment met such a prompt and cordial response from the legislatures. On March 5, before the State Department had officially notified it thereof, the Virginia legislature ratified the proposal; that of New York followed less than a week later; and at the end of 1932 ratifications by one-half of the necessary two-thirds had taken place. In Massachusetts the General Court (legislature) deferred action, pursuant to a previously declared policy, "until the opinion of the voters of the commonwealth has been taken," which was done on November 8, the vote being in favor of the amendment.

*Racial Discrimination.* In *Nixon v. Condon*, 286 U. S., 73, the Supreme Court, by a bare majority of its members, construed a Texas statute authorizing the State Executive Committee of a political party "to prescribe the qualifications of its own members," as constituting the Committee an organ of the State, and held that its exclusion of negroes from the party primary was an act of the State infringing the 14th Amendment which "lays a duty upon the court to level by its judgment these barriers of color." There was a dissenting opinion by Justice McReynolds in which Justices Butler, Vandevanter, and Sutherland concurred. The annulled statute had been enacted as a substitute for that declared unconstitutional in *Nixon v. Herndon*, 273 U. S., 530, and which expressly denied the eligibility of any negro to vote in a Democratic primary. The later decision seems to leave open the question whether

a party convention, acting on its own initiative, could exclude negroes. Meanwhile it was reported that negro votes were actively solicited at the recent Texas primary election. The "Scottsboro Case" is discussed above.

*Radio Law.* On May 5 a broadcasting agreement was entered into between the acting Secretary of State and the Canadian Minister, purporting to grant Canada the use of twenty additional frequencies besides continuing the use of those already enjoyed. The validity of the proposed grant has been questioned on the ground that it is really a treaty requiring Senatorial approval, and it has been criticized as unfair to American broadcasters and ill advised for not including other North American countries. Three weeks after it was entered into the Canadian Senate approved the Radio Broadcasting Act, previously passed by the Lower House, providing a system on the European model under a commission of three with a maximum of nine assistants. No provision was made for compensating owners of existing stations and it is expected that the adjustment of their rights and the lack of funds will delay putting the act into effect. In July, under an Executive Order authorized by the congressional appropriation act, the Department of Commerce Radio Division was merged with the Federal Radio Commission. An outstanding decision of the year in this field was *Sorensen v. Wood* (Neb.), 243 N. W., 82, holding that utterances broadcast from writing "constitute libel rather than slander," that the broadcaster as well as the author is liable therefor, and that the former is not relieved by the provision of sec. 18 of the Radio Act of 1927 (44 Stats. at Large, 1170), that the "licensee shall have no power of censorship over the material broadcast." This, the court thought, "merely prevents the licensee from censoring the words as to their political and partisan trend." It "does not give any privilege to join and assist in the publication of libel." The Report of the American Bar Association's Committee on Communications criticizes the doctrine of the broadcaster's liability as requiring the "announcer or other employee" to be "an expert in the law of defamation and able to pass in the twinkling of an eye on such questions." On the other hand the Full Court of Victoria, Australia, dismissed an appeal by Max Meldrum, artist, who had sued the Australian Broadcasting Company for \$10,000. The court held that there could be no libel by radio. A consent decree dissolving the connection between the Radio Corporation of America and its nine associates was signed in November.

*Reapportionment.* The confusion arising from the Act of Congress, changing the distribution of representatives (1931 YEAR BOOK), was resolved by decisions on April 11 in cases from Minnesota (*Smiley v. Holm*, 285 U. S., 355), Missouri (*Carroll v. Becker*, *id.* 380), and New York (*Koenig v. Flynn*, *id.* 375). The gist of each is that apportionment constitutes legislation for which executive approval is as necessary as for any other; and that in States like Minnesota and Missouri, where representation had been reduced, and redistricting acts had been vetoed, all representatives would need to be elected at large. In other States, like Mississippi and Virginia, "gerrymandering" acts were held by the State courts to infringe the apportionment act of 1911 (sec. 3), requiring congressional districts to be "comprised of contiguous and compact ter-

ritory." These decisions were reversed by the Federal Supreme Court on the ground, not, as reported in the press, that the provision had been repealed, but that it was of a temporary character, limited to the 1911 apportionment and hence no longer in force (*Wood v. Broom*, 287 U. S.). A bill has now been introduced to restore the provision.

**Referenda.** The initiative and referendum are now in vogue in 20 States and in all of the others constitutional changes are effected by popular vote. The year has been noteworthy for the exercise of this privilege. In May the California voters rejected an act passed by the preceding legislature for oil conservation, and on November 8 they rejected eight proposed Constitutional amendments and two initiated measures and adopted nine of the former and one of the latter. Among the amendments adopted was one requiring initiative petitions to be submitted to the Attorney General for preparation of title and summary. Among the rejected ones was a proportional representation proposal. Illinois voters rejected a proposal to permit amendment, at the same time, of as many as three articles of the Constitution. Minnesota voters rejected three of four submitted proposals while those of Oregon rejected eight and adopted four. The Arizona voters adopted a constitutional amendment reducing the pay of legislators and membership of the State House of Representatives from 64 to 39; and those of Georgia, one changing the date of the governor's inauguration from June to January; those of Massachusetts voted for a pre-primary convention plan; and those of Ohio defeated a proposal for a constitutional convention. Other changes by popular vote are noticed under special topics. On December 16, District Judge Roberts at Shreveport, La., declared invalid the act under which the referendum on Prohibition repeal had been taken on November 8, since the State Constitution nowhere authorized a referendum.

**Relief.** Much of the year's legislation of both kinds was inspired by the depression with its resulting financial stringency and unemployment. Hence much of it is of a local and, let us hope, temporary character. Congress enacted several notable measures of this class, among them Public Act 55 (46 Stats. at Large, 1030), appropriating \$80,000,000 for grants to States to pay the quota required for Federal road funds. The Reconstruction Finance Corporation Act (47 Stats. at Large, c. 5) created a corporation with \$500,000,000 which is appropriated from the Federal treasury for loans to State institutions, private corporations, etc. Illinois voters on November 8 approved a bond issue of \$2,000,000 for relief. In Chile the importation and distribution of petroleum and its products have been made a state monopoly and 90 per cent of the labor employed, as well as 75 per cent of the capital, is required to be Chilean. The new labor law of Mexico requires the same percentage of the employees of any organization to be Mexican. Another new Chilean law requires rotation of all ships' crews.

**Taxation.** Judging from both legislation and litigation, this topic holds more of interest than any other save possibly that of relief, to which it is closely related, and prohibition. Governor Murray's initiated measure to increase tax levies upon large incomes in Oklahoma, was defeated on November 8 by about 100,000, and income tax proposals were rejected by the voters of Cali-

fornia, Minnesota, and Oregon, although the voters of the latter approved a motor vehicle tax but rejected various educational proposals calling for increased taxes. The Illinois Supreme Court pronounced unconstitutional the income tax act passed by the legislature at a special session in February. In *Burnet v. Chicago Portrait Co.*, 285 U. S., 1, the United States Supreme Court held New South Wales a "foreign country" within the meaning of the 1921 Revenue Act, allowing a credit to an American taxpayer for income tax paid to such a country. In Ceylon a 5 per cent tax upon incomes was levied for the first time and was estimated to yield the equivalent of \$1,750,000. An inheritance tax on shares in a corporation of another State and taxed there was declared invalid in *First National Bank v. Maine*, 284 U. S. 312.

**Waters.** In *Wyoming v. Colorado*, 286 U. S., 494, the Supreme Court refused to dismiss a bill by the complainant to enforce a previous decree (219 U. S., 419), limiting the use for irrigation of the Laramie River, an interstate stream. The opinion proceeds on the theory that acts of diversion by private persons permitted by a State, are proper grounds of complaint in such a proceeding, and that such persons need not be made formal parties thereto. On July 18 a proposed treaty was signed by representatives of the United States and Canada, for the joint improvement of the St. Lawrence and its western connections, providing a continuous waterway from Duluth to the Atlantic. The United States undertakes "to construct, operate, and maintain a side canal with locks opposite Barnhard Island; to construct the works required for rehabilitation on the United States side of the international boundary." Canadian ratification has been made contingent upon that of the United States and on November 14 the latter's Senate Foreign Relations subcommittee opened hearings thereon. Opposition has developed in both countries—from the New York City and Buffalo Chambers of Commerce, the New York State Waterways Association, railway executives, and security holders, the Great Lakes Carriers' Association, and Montreal interests. The Canadian Deep Waterways Association, the Toledo Chamber of Commerce, and western interests generally, favor it; but early consideration by the whole Senate is not expected.

**Miscellaneous.** On March 9 the Virginia House of Delegates passed, with minor amendments, the Senate bill authorizing any county to adopt the County Manager form of government. It was in Virginia that a similar system for cities was first adopted which now prevails in over 450 American cities, including 40 of over 50,000, 18 of over 100,000, and 1 (Cincinnati), of nearly 500,000. On March 1 Dumont, N. J., voted on adopting the plan for that municipality and on November 8 Paducah, Ky., adopted it by a 2 to 1 majority. It is not included, however, in ex-Governor Smith's plan mentioned above, which centres power in an elective mayor. On December 28, Justice Dowling declared invalid the 1931 referendum which resulted in a majority of 1600 for the city manager plan at Utica, N. Y.

Among the members elected to the Hawaiian Legislature on November 8 were four of Japanese, and three of Chinese descent. Two Communists were elected to the Danish Folketing.

**PRIVATE LAW.** The new Civil Code of the Fed-

eral District and territories of Mexico, which has been pending promulgation since 1928, came into force finally on October 1. It comprises 3045 articles as against 3823 in the former code, distributed among four books.

**Equity Jurisdiction.** On March 23 the President signed the act "to define and limit the jurisdiction of courts sitting in equity," etc. (known popularly as "the Anti-injunction Bill"), which Congress had finally approved five days earlier after years of effort on the part of labor leaders and others. Injunctions are largely limited to acts of fraud or violence, and then only where complainant shows greater injury than defendant will suffer by prevention; complainant must first endeavor to settle and show that public officials fail to provide adequate protection; no restraining order continues in force more than five days; and jury trials may be claimed in contempt cases, civil or criminal. In its final stage the bill was opposed by Paul Howland, of Cleveland, chairman of the American Bar Association's Committee on Jurisprudence and Law Reform, and by Representative Beck of Pennsylvania, former Solicitor General of the United States, who declared that it "offends the spirit, if not the letter, of the Constitution, making possible the deprivation of property without due process of law." The Attorney General, to whom the measure was referred by the President for comment, acknowledged the objections but advised approval, shifting the responsibility to the courts.

**Marital Status.** The District of Columbia Supreme Court (*Hoage v. Construction Co.*, 60 App. D. C., 218), having upheld the so-called "common law" marriage (resulting from mere agreement without formal ceremony), although this is opposed to the general American doctrine (Koegel, *Common Law Marriage*, 1922, 10), and especially that of Maryland (*Denison v. Denison*, 35 Md., 361), from which the District was formed, the Washington Police Court ruled in May (*U. S. v. Smith*), that the "wife" of such a marriage could not testify against her "husband"; and as she was the chief available witness, the charge against him had to be dismissed.

**Divorce.** On April 13, the Bolivian Senate, by a vote of 9 to 7, approved the bill previously passed by the Chamber of Deputies (1931 YEAR BOOK), providing for absolute divorce with freedom to remarry, and two days later it was signed by President Salamanca. Under the Trinidad Act (*id.*), divorce courts begin to function Jan. 1, 1934, and rules have been framed by the judges fixing the fees for hearings at \$10 for the first hour and \$2.50 for each additional one. This was criticized in the legislature but the rule was finally approved. A bill putting into force the divorce provisions of the new Spanish Constitution (1931 YEAR BOOK), was enacted by the Cortes on February 24. It provides as grounds infidelity, physical cruelty, desertion, non-support, and imprisonment of either spouse for more than 10 years; as well as mutual consent. The maximum cost bill is fixed at a sum then equivalent to \$38.50. Under the new Religious Congregations Law, orders which teach against divorce, as sanctioned by the state, are subject to suspension. The new Mexican Civil Code provides no less than 17 divorce grounds, of which the last, as in the former code, is mutual consent. Among the new grounds are judicial declaration of ab-

sence, or presumption of death, unjustified refusal of support, and incurable insanity. Under the Yucatan law divorce by mutual consent may be obtained without the personal attendance of the parties, and in Cuba foreigners are not required to establish a residence before seeking a divorce. In both, from the standpoint of private international law, the courts would seem to lack jurisdiction of the alien. The French law of Jan. 4, 1930, removes the prohibition of remarriage after a second divorce and permits the parties to acquire a new matrimonial domicile. From Denmark, where marriage is likewise dissoluble by mutual consent, comes the report of one divorce for every twelve marriages, in contrast to the United States which confesses to one for less than six. The depression, however, seems to be affecting the number. Thus the courts at Reno, Nev., granted 3105 divorces during the year ending in August, as against 4248 in 1931. However, in one day recently Justice Lawrence of London granted 95 divorces.

**Birth Control.** On November 1 a new birth control law, enacted in spite of a contrary opinion by a Mexican Congress of *Médicos*, came into force in the state of Vera Cruz. Proof of physical fitness is made a prerequisite to marriage and the procreation of children by those unable to support them or unfit for marriage is discouraged. In Puerto Rico, which has long suffered from overpopulation, Governor Beverley's pronouncement in favor of birth control was vigorously assailed by Roman Catholics of the United States, and in the Irish Free State the government censor has excluded a work by Sir Arbuthnot Lane, the eminent surgeon, because it advocates birth control.

**Intellectual Property.** An excellent example of law aiding applied science is found in the Act of Congress of May 23, 1930 (46 Stats. at Large, 376), amending the Patent Law so as to permit new plants to be patented. Although in force for less than three years about 40 or such patents have already been obtained, a majority being for plants with new types of flowers, but about one-third for new fruits. The Estate of Luther Burbank has received six of such patents, and some 50 applications for others are now pending. Evidently the act has encouraged plant experimentation.

**Copyright.** a much older subject, has received less help from Congress. The failure of the Vestal Copyright Bill (1931 YEAR BOOK) led the veteran copyright expert, Thorvald Solberg, 54 years with the Library of Congress, to declare our laws on that subject "barbaric and stupid . . . filled with special privilege, buried under inscrutable technicalities and smoke screens." This condition he ascribes to the printers and he advocates entry into the International Copyright Union and the rewriting of our laws in one-third their present space.

**Moratoria.** The measure initiated in North Dakota for a three-year, partial moratorium on private debts was adopted on November 8. A similar end was temporarily effected in Nevada, as regards bank deposits, by the gubernatorial proclamation of a bank holiday on November 1, for three weeks; extended later for a like period, and again to December 18. On November 25 President Herrera, of Colombia, signed the private debts moratorium law, giving foreign banks the option of accepting it or taking 70 per cent of all debts in full payment, or 40 per cent in money

and 60 per cent in Colombian government bonds at par.

**LAWN BOWLING.** See BOWLING.

**LAWN TENNIS.** See TENNIS.

**LAWRENCE COLLEGE.** A coeducational institution, comprising a college of liberal arts and a conservatory of music in Appleton, Wis., founded in 1846. For the 1932 autumn term 758 students were enrolled in the college and 290 in the conservatory. There were 37 students enrolled in the Institute of Paper Chemistry, a graduate school affiliated with Lawrence College. There were 58 members on the faculty of the college and 20 on the faculty of the conservatory. The endowment, exclusive of buildings and equipment, amounted to \$1,815,214; the income from endowment for 1932 was \$80,150. There were 59,425 volumes in the library, exclusive of government documents. President, Henry Merritt Wriston, Ph.D., LL.D.

**LEAD.** Production of lead in 1932 throughout the world was about 1,292,000 short tons, compared with 1,512,155 short tons in 1930, or a decline of 14.5 per cent, according to the American Bureau of Metal Statistics.

In the United States the output of refined primary lead from domestic ores in 1932 was 35 per cent lower than in 1931, according to the preliminary figures of the U. S. Bureau of Mines, and was the smallest recorded since 1899. Foreign primary output was 37 per cent lower than in 1931, and was the smallest recorded since 1916. The output of primary domestic desilverized lead in 1932 was about 150,000 tons; of soft lead about 69,000 tons, and of desilverized soft lead about 35,000 tons, making a total output from domestic ores of about 254,000 tons of refined lead. Corresponding figures in 1931 were 211,415 tons of desilverized lead, 138,389 tons of soft lead, and 40,456 tons of desilverized soft lead, making a total of 390,260 tons. The output of lead smelted and refined from foreign ore and bullion was about 33,000 tons, as compared with 52,504 tons in 1931. The total primary lead smelted or refined in the United States in 1932 was thus about 287,000 tons, a decrease of about 35 per cent as compared with the total of 442,764 tons in 1931. The total output of antimonial lead at primary refineries in 1932 was about 22,000 tons, as compared with 21,842 tons in 1931.

The highest average monthly price for lead at New York (outside market) during the year was 3.75 cents a pound in January. It dropped steadily to 2.73 cents, the low for the year, in July, rose to 3.46 cents in September, and dropped steadily again to 3.00 cents in December. In 1931, the average quotation for January was the highest for the year and the lowest monthly quotation prevailed in December.

**LEAGUE OF NATIONS. LYTTON REPORT.** The most significant event in Far Eastern relations within the year was the publication on October 2 of the report of the commission appointed Dec. 10, 1931, by the League of Nations to "study on the spot and to report to the Council on any circumstances which, affecting international relations, threatens to disturb peace between China and Japan, or the good understanding between them upon which peace depends." This commission consisted of: H. E. Count Aldrovandi (Italian), Gen. Henri Claudel (French), the Earl of Lytton (British), Maj.-Gen. Frank Ross McCoy (American), H. E. Dr. Heinrich Schnee (German), Lord Lytton

was elected chairman. Japan and China appointed as their assessors to assist the commission Isaburo Yoshida, Ambassador of Japan in Turkey, and Dr. Wellington Koo, a former Prime Minister of China. The commission spent about six weeks in Manchuria and visited both China and Japan. Their report presents a historical background and "some suggestions on the lines on which it seemed . . . possible to effect a durable solution of the conflict and the reestablishment of a good understanding between China and Japan."

The League of Nations Association published a summary of the report, from which the following findings and recommendations of the Lytton Commission were abstracted:

The military operations of the Japanese troops on the night of Sept. 18-19, 1932 (see 1931 YEAR BOOK UNDER JAPAN, *History*) cannot be regarded as measures of legitimate self defense. In saying this the Commission does not exclude the hypothesis that the officers on the spot may have thought they were acting in self defense.

While there were a number of factors which contributed to the creation of Manchoukuo the two which in combination were most effective and without which in our judgment the new state could not have been formed were the presence of Japanese troops and the activities of Japanese officials, both civil and military. For this reason the present régime cannot be considered to have been called into existence by a genuine and spontaneous independence movement.

The Commission finds further that there is no indication that the "Government" of "Manchoukuo" will be able to carry out many of the reforms which it has announced.

The Commission also states that "After careful study of the evidence presented to us in public and private interviews, in letters and written statements, we have come to the conclusion that there is no general Chinese support for the 'Manchoukuo Government' which is regarded by the local Chinese as an instrument of the Japanese."

In regard to the Chinese boycott of Japanese goods, the Commission points out that the boycott was coordinated and stimulated by the Kuomintang, and that the whole subject of the organized application of the boycott is a problem of international law which in the interest of all States should be considered at an early date and registered by international agreement.

The Commission states that the immediate problem was the establishment of an administration acceptable to the population and capable of supplying the maintenances of law and order. Parallel to this the Commission finds it essential that the principle of the Open Door should be maintained "not only from the legal point of view, but also, in the actual practice of trade, industry and banking."

The Commission dismisses as unsatisfactory suggestions of settlement (1) restoration of the *status quo ante*, and (2) the maintenance and recognition of the present régime of "Manchoukuo."

It lays down ten principles to which any satisfactory solution should conform. These are: 1. Compatibility with the interests of both China and Japan; 2. Consideration for the interests of the U.S.S.R.; 3. Conformity with existing multilateral treaties; 4. Recognition of Japan's interests in Manchuria; 5. The establishment of new treaty relations between China and Japan; 6. Effective provision for the settlement of future disputes; 7. Manchurian autonomy, consistent with the sovereignty and administrative integrity of China; 8. Internal order and security against external aggression, through "an effective local gendarmerie force, the withdrawal of all armed forces other than gendarmerie, and the conclusion of a treaty of nonaggression between the countries interested"; 9. Encouragement of an economic rapprochement between China and Japan; 10. International cooperation in Chinese reconstruction.

The Commission's broad recommendations are:

1. "That the Council of the League should invite the Governments of China and Japan to discuss a solution of their dispute on the lines indicated in the last chapter."

2. "If the invitation is accepted, the next step would be the summoning as soon as possible of an Advisory Conference, to discuss and to recommend detailed proposals for the constitution of a special régime for the administration of the Three Eastern Provinces (Manchuria)."

3. "Simultaneously with the sitting of the Advisory Conference, the matters at issue between Japan and China relating to respective rights and interests should be discussed separately, in this case also, if so agreed, with the help of neutral observers."

4. "Finally, we suggest that the results of these dis-



cussions and negotiations should be embodied in four separate instruments":

A. A declaration by the Government of China constituting a special administration for the Three Eastern Provinces, in terms recommended by the Advisory Conference.

B. A Sino-Japanese treaty dealing with Japanese interests.

C. A Sino-Japanese treaty of conciliation and arbitration, non-aggression and mutual assistance.

D. A Sino-Japanese commercial treaty.

Japan's reply to the Lytton Report, made public on November 21, constituted an uncompromising defense of Japanese activities in Manchuria. The findings of the Lytton Report were either denied *in toto* or completely brushed aside. To the conclusion reached by the Lytton commissioners that Japan's military activities "cannot be regarded as measures of legitimate self-defense," the Japanese statement replied that it "is entirely impossible to accept this gratuitous opinion." Japan's military operations, the statement declared, "had no relation to anything but self-defense, and the Japanese Government cannot allow either their necessity or their appropriateness to be the subject of discussion."

Contradicting the Lytton Commission's finding that the new Manchurian state was not called into existence by "a genuine and spontaneous independence movement," Japan repeated "confidently that the movement was a genuine, spontaneous, popular and natural one." This Japanese statement further argued that the instructions of the Tokyo Government forbade participation by Japanese subjects in the attempts to establish a new political authority in Manchuria, and declared that "in conformity with these instructions the Japanese, civil as well as military, uniformly abstained from interference."

Suggestions looking toward a solution of the controversy offered in the Lytton Report were brushed aside by the Japanese statement as merely "an illustration of one way in which the general principles advanced might be applied," and as materially diminished in importance by Japan's recognition of Manchoukuo. In any case, these suggestions were held to be "too refined and intricate, and not adapted to the realities of the Far East," since they would result in a "disguised international control of Manchuria" which Japan could not accept; since the maintenance of peace and order in Manchuria by an international gendarmerie was not "practical"; and since the prime requisite for the success of the recommendations, a strong and stable central government in China, was lacking. The opening address of M. Matsuoka, Japanese delegate, before the League Council on November 21 was even more intransigent than the Japanese written defense. See MILITARY PROGRESS.

**LEAGUE ACTION ON MANCHURIA AND SHANGHAI.** The Far Eastern situation remained the most important and difficult problem before the League of Nations throughout 1932. With the commencement of the Japanese attack upon Shanghai (see CHINA under *History*), the League Council on January 29 ordered the Secretary-General to investigate the appeal of China for League action under Articles X and XV of the Covenant. A special commission was appointed to investigate the situation at Shanghai, which reported on February 14. On February 16, the Council reminded Japan of its obligations under Article X of the League Covenant, and with the

continuation of the armed struggle at Shanghai the Council (February 20) called a special meeting of the Assembly for March 3. On March 4, the Assembly unanimously voted that Japan must withdraw from Shanghai and that both nations must end hostilities.

The extraordinary session of the League Assembly adjourned on March 11, after adopting a resolution in three parts. The first part of the resolution affirmed the binding nature of the principles and provisions of the League Covenant and the Anti-War Pact, and declared it "incumbent upon members of the League of Nations not to recognize any situation, treaty, or agreement" brought about by means contrary to the Covenant. The second part recalled the Assembly's resolution of March 4 and requested the co-operation of the powers in maintaining order in the evacuated zone upon cessation of hostilities and withdrawal of the Japanese forces. The third part declared that the whole of the Sino-Japanese dispute (i.e. including Manchuria) had been referred to the Assembly, and set up a committee of 19 members to act in the Assembly's behalf. The committee was composed of the President of the Assembly, 12 Council members, and six other elected members. The first report of the committee was to be submitted to the Assembly not later than May 1.

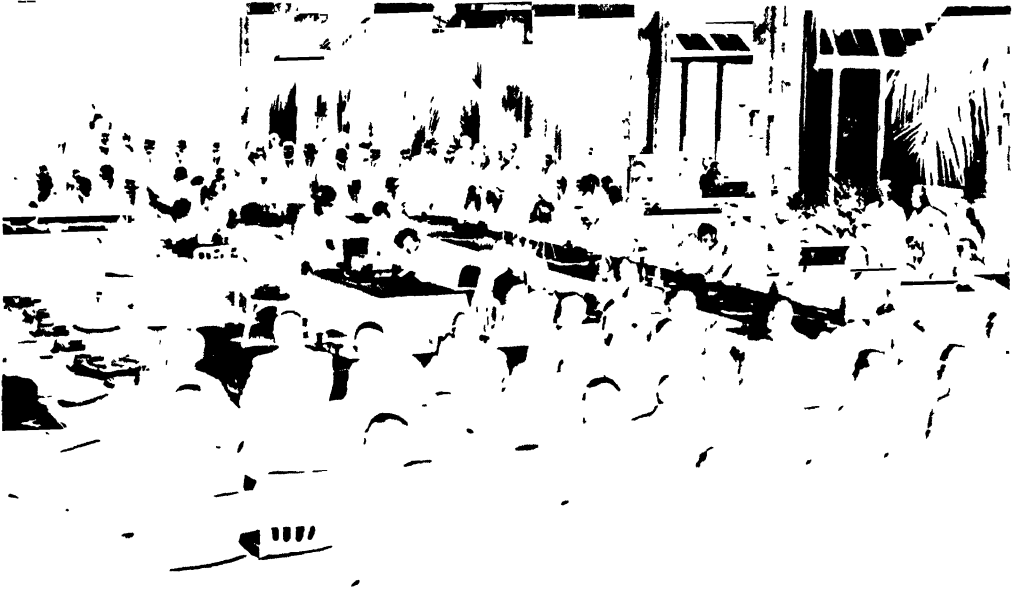
The six members elected to the committee on March 11 included Switzerland, Czechoslovakia, Colombia, Sweden, Portugal, and Hungary, the first four of which had been among the most outspoken opponents of Japan in the Assembly. Dr. Sato and Dr. W. W. Yen refrained from voting on the resolution, the former because of Japan's refusal to admit the Assembly's jurisdiction in the Manchurian question, and the latter because of failure to receive instructions from China. Both, however, participated in the voting for the six elected members of the committee.

Supported by the United States, the League on March 17 reaffirmed that Japan must withdraw from Shanghai without concessions from China. The Lytton Commission was to act as arbitrator. Meanwhile the Japanese had accepted League proposals for a peace conference at Shanghai. Having gained their announced military objectives they finally agreed to a truce (May 5), later withdrawing their troops.

The attention of the League was now shifted to the situation in Manchuria and to the forthcoming report of the Lytton Commission, which was awaited with intense interest and anxiety in most of the world's capitals. Despite warnings in a session of the Council that recognition of Manchoukuo previous to the issuance of the Lytton Report would prejudice her case before the League, Japan on September 15 signed a protocol of recognition with the Premier of Manchoukuo.

Action upon the Lytton Report was not forthcoming until December 7, when Czechoslovakia, the Irish Free State, Spain, and Sweden submitted a resolution to the Assembly calling upon it to seek the co-operation of the Soviet Union and the United States in settling the dispute on a basis involving the non-recognition of Manchoukuo, as a puppet régime set up by force of Japanese arms in violation of existing international obligations. The representatives of the major powers, however, submitted guarded statements avoiding any of the concrete issues stressed in

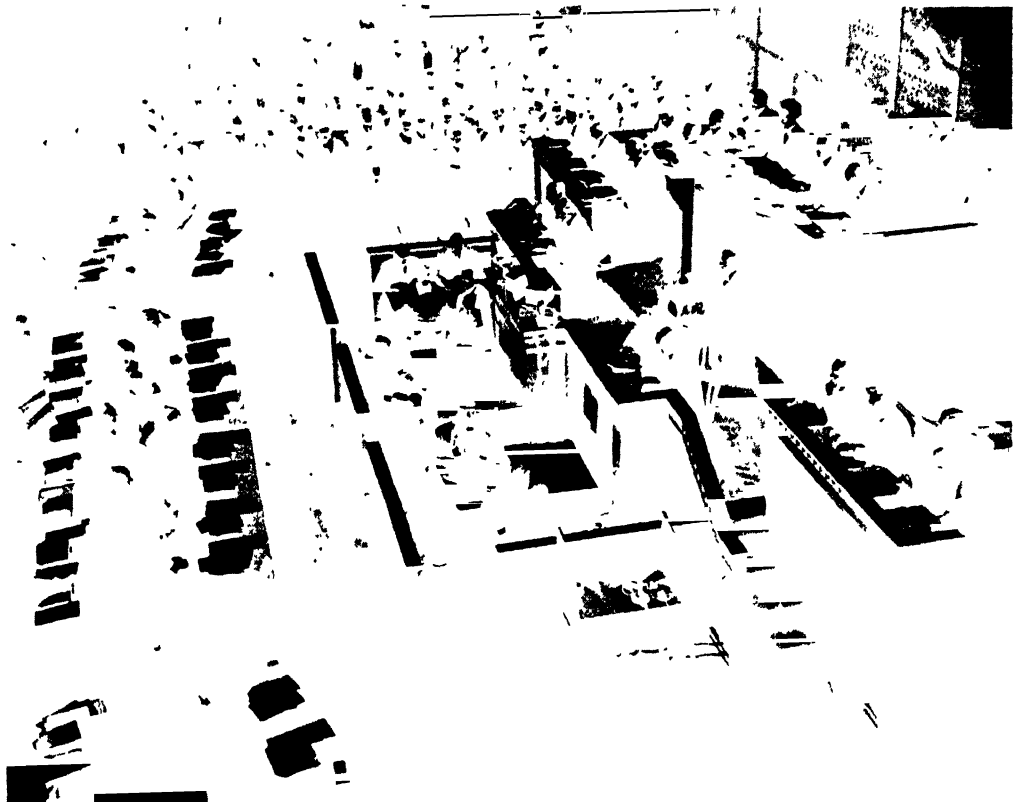




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#### THE TREATY OF LAUSANNE IS SIGNED

Prime Minister MacDonald Signing the Reparations Agreement



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#### INTERNATIONAL CONFERENCE ON DISARMAMENT

Representatives of All Nations Attend Opening at Geneva

#### LEAGUE OF NATIONS



#### LEAGUE OF NATIONS' INTERNATIONAL COMMISSION OF INQUIRY IN THE FAR EAST

Left to Right: Count Luigi Aldrovandi-Marescotti, Italy, Gen. Henri Edouard Claudel, France, the Earl of Lytton, Great Britain, Dr. Heinrich Schnee, Germany, and Major-General Frank R. McCoy, the United States, who was named by the League as an individual member of the Commission



*Wide World*

#### AT THE DISARMAMENT CONFERENCE

Left to Right: Premier Herriot of France, Foreign Minister Edouard Benes of Czechoslovakia, and Foreign Minister Grandi of Italy

this resolution. In a two-hour address Yosuke Matsuoka, the Japanese representative, declared that Japan was ready to undergo the severest sanctions of the Covenant. Under this bombardment, the Assembly merely referred the various documents, speeches, and resolutions to the Committee of Nineteen, directing that body to return proposals for a negotiation procedure at the earliest possible moment.

Virtually the same process was repeated in the Committee of Nineteen, where a sub-committee of five wrestled with the problem of devising a conciliation formula stiff enough to bring the United States to the conference table and yet weak enough to induce Japan to enter the negotiations. Strenuous objections by Japan to a draft resolution completed on December 15, calling for Soviet-American participation in negotiations to be guided by the "principles and recommendations" of the Lytton Report, eventually led to a deadlock. On December 20 it was reported that the Committee of Nineteen would adjourn until mid-January, leaving interim negotiations to be carried on through diplomatic channels.

**SIXTY-SIXTH COUNCIL SESSION.** The sixty-sixth session of the Council was the principal meeting in January, 1932. Other meetings were those of the Economic and Financial Committees, the Gold Delegation, the Committee of Coal Experts, the Permanent Central Opium Board, and the Supervisory Commission.

The Council session opened on January 25 at Geneva. Its agenda included between 30 and 40 questions dealing with all branches of the League's activity, the most important being that of the appeal of the Chinese Government under Article XI of the Covenant, with regard to the occupation of Manchuria by the Japanese. In the legal and constitutional field the Council constituted a Committee to study the present system of Council elections, made arrangements with regard to the date of convocation of a Committee on the harmonization of the Covenant and the Paris Pact, and considered the position as regards the ratification of League Conventions.

Important decisions were taken in connection with certain Mandates. The Council approved the opinion of the Permanent Mandates Commission with regard to the termination of the Mandate in Iraq, and set up a Committee to draft the declarations which Iraq would be required to make before the Council. It also approved an agreement between the British and French Governments concerning the Syrian-Trans-Jordan frontier.

The minority questions before the Council concerned petitions from the Ukrainian minority in Poland, the German minority in Upper Silesia, and the descendants of the former Szekler Frontier Guard Regiment, in Rumania. As regards Danzig, the Council noted the opinion of the Permanent Court of International Justice concerning access to the port of Danzig and the anchorage of Polish war vessels, and referred a question concerning the use of the port to the Special Committee which had already made a study of certain matters in connection with Danzig (q.v.).

In addition to the Chinese appeal under Article XI, the political questions before the Council included the claim of the Finnish Government against the British Government regarding Finnish vessels used by the latter during the war,

the Liberian Government's request for assistance, Lithuania's application concerning traffic on the Landwaro-Kaisiadorys railway line, and the termination of the work of the Greco-Bulgarian Inter-Migration Commission. The Council also reviewed the work of the Economic and Financial Committees, the Health Committee, the Fourth General Transit Conference, and the International Educational Cinematographic Institute.

The presidency of the sixty-sixth session of the Council fell to France. As the French Prime Minister and Minister for Foreign Affairs was detained in Paris by public affairs, and as M. Briand was prevented for reasons of health from attending, M. Paul-Boncour took the Chair.

**ECONOMIC COMMITTEE.** The thirty-seventh session of the Economic Committee was held from January 14 to 19. The principal feature of this session was an exchange of views regarding the influence of the financial situation on the régime of international exchanges. The Committee also considered the question of economic rapprochements in Europe, the international situation in certain branches of production (in which connection it reviewed the work of the coal experts), agriculture, bribery and unfair commercial practices, and procedure for the friendly settlement of economic disputes between States. It held a joint meeting with the Financial Committee to consider certain questions touching the activity of both Committees.

The Council met in a special public session on April 2, under the presidency of Premier Tardieu of France, in order to consider the League financial committee's report on the need of helping Austria, Greece, Bulgaria, and Hungary.

**LIBERIA.** Speaking in the British House of Lords on March 16, Viscount Snowden of Ickornshaw disclosed that the League of Nations, and the British, French, and United States Governments had failed to put an end to slavery in Liberia. The recommendations of the League's financial commission to the Republic of Liberia in 1930, had brought a very unsatisfactory reply from the Liberian Government.

The Republic of Liberia was declared a "health menace" in a newly published report of experts of the League of Nations. Conditions there were "so chaotic" as to threaten disintegration. There were "12,000 citizens with 1,000,000 subjects." Yellow fever was rampant with mosquitoes, swarming rats, and practically no doctors. "Liberia's financial situation is tragic. She has no budget, no accounts, and no money." The Liberian Government still balked at plans of rehabilitation by the League. See **LIBERIA** under *History*.

**ASSEMBLY SESSIONS.** The Thirteenth Ordinary Session of the Assembly opened on September 26. Fifty-three of the 56 members of the League of Nations were represented. The session was opened by the President in office, Mr. de Valera of the Irish Free State.

"There is," he said, "on all sides complaint, criticism, and suspicion. People are complaining that the League is devoting its activity to matters of secondary or very minor importance, while the vital international problems of the day, problems which touch the very existence of our peoples, are being shelved or postponed or ignored."

M. Politis (Greece) was elected President of the Session by 44 votes out of 50 registered. The Assembly held in all 12 plenary meetings and

ended its work on October 17. The admission of Iraq to the League, the first country under mandate to be promoted to full independence, was its outstanding decision (see IRAQ under *History*).

The other principal events were the publication of the Lytton Commission Report and the appointment by the Council, approved by the Assembly in November, of M. Joseph Avenol of France to succeed Sir Eric Drummond, who on October 6 resigned as Secretary-General of the League. Dr. Ernst Trendelenburg was appointed the new Assistant Secretary-General of the League to take charge of the Economic and Financial Section. Dr. Trendelenburg, as Permanent Under-Secretary of State of the Ministry of Economics of the Reich for 10 years, exercised a marked influence on Germany's economic policy.

The general discussion on the work of the League, which included the dispute between Bolivia and Paraguay, was shorter than in preceding years. The explanation is that the grave problems at issue were being dealt with by other bodies; disarmament by the Conference for the Reduction and Limitation of Armaments, the Far Eastern dispute by the Council and the Special Assembly, the economic and financial crisis by the World Monetary and Economic Conference.

The Assembly attended to different legal and constitutional, economic and financial, social and humanitarian questions as well as to problems bearing on intellectual coöperation, communications and transit, mandates, the protection of minorities, etc. It elected three non-permanent members of the Council, decided in principle to set up an advisory committee of experts on slavery, and adopted certain measures to provide for the reorganization of the Secretariat.

In his closing speech, M. Politis, the President of the Assembly, pointed out that despite all difficulties the work of the League was proceeding regularly; in every sphere with which it was concerned its efforts were being pursued with unshaken continuity; while by the admission of three new Members during the past year (Iraq, Turkey, Mexico), and by the extension of its activities to every continent, it was steadily making good its claim to universality.

**TURKEY JOINS LEAGUE.** On July 18 the Special Session of the Assembly of the League of Nations unanimously admitted to membership the Turkish Republic, which thus automatically became a member of the International Labor Organization. This left the United States and Soviet Russia alone as non-members attending the sessions.

**THE LEAGUE BUDGET.** The question of the League budget was hard fought, both in the Fourth Committee and on the floor of the Assembly. It was found impossible to effect a proposed general 10 per cent reduction in salaries of members of the Secretariat because of existing contracts. However, some of the major officials accepted voluntary reductions. A 10 per cent reduction in all future contracts was decided upon, as were other budgetary reductions. As finally adopted, the budget total for 1933 was not materially different from that of 1932; this in spite of heavy expense for extraordinary sessions of Council and Assembly and for the World Economic Conference.

Much of the League's financial problem, it de-

veloped, lies in the fact that one-third of the amount apportioned for the 1932 budget has not been paid. Germany proposed to deposit her proportion of League expenses in the Reichsbank to be spent in Germany for material for the new League building.

**ADMINISTRATIVE REORGANIZATION.** After much discussion in the Fourth Committee, a reorganization plan for higher officers of the Secretariat was finally agreed upon. This problem has been before the Assembly for several years. One group of states has favored abolition of the three posts of under secretary-general, contending that three officers were always representatives of larger states and brought a nationalistic spirit to the Secretariat. Another group has insisted that these posts be retained, and even that their number be increased.

According to the plan agreed to, adopted by the November Assembly, there will be two deputy secretaries-general and three under secretaries-general. One of the deputy secretaries-general must be a citizen of one of the smaller powers. No nation will be allowed to have more than one directorship in the Secretariat.

Each year three non-permanent members of the Council are retired and three countries are elected to fill the vacancies. In 1932 Poland, Mexico, and Czechoslovakia were elected to non-permanent seats.

**NATIONALITY OF WOMEN.** Outside the realm of League organization the question which perhaps created the greatest interest was that of nationality of women. At the League's Conference on Codification of International Law, held at The Hague in 1930, a convention on this subject was drawn up. Various international women's organizations, representing it is said over 45,000,000 women, felt that this convention did not go far enough; that it did not call for real equality of sexes in the matter of nationality. They, therefore, petitioned the Assembly to seek to have The Hague convention amended before being sent to states for ratification. The real fight of the women's organizations was for a recognition by all nations that the nationality of a wife shall not be affected without her consent either by marriage or by any change in the nationality of her husband.

Because some of the nations indicated unwillingness to accept this principle, the Assembly decided to support The Hague convention in its original form, with the understanding that the decision was not to prejudice an effort to amend the convention to meet the women's demand when the time seemed ripe.

**THE LEAGUE AND THE PRESS.** Various complaints had been made to the League relative to the relationship of the press to the League and national governments. Some of these had to do with what was designated as false news, for which guilt was laid at the door of the press, and others with the press censorship. These questions were discussed in the Sixth Committee. The consensus seemed to be that a national censorship rather than a laxity of the press was chiefly responsible for false news. Sentiment in the Committee was decidedly against strict censorship, but it was realized that this was a domestic matter in which the League could not interfere. In a resolution adopted by the Assembly the fullest possible publicity for League meetings was asked. The Council was invited to consider the possibilities of affording to journalists

cheap facilities for communicating to their newspapers information through the League wireless station.

**WORLD COURT STATUTE.** Due to failure of a large number of states to ratify it, it had been impossible to put into effect the revised Statute of the World Court, which was drawn up in 1930. The United States had particular interest in this Statute, because it "stabilized" the procedure in regard to advisory opinions, in line with the Root Formula. At one time Cuba opposed the revised Statute, and so made its adoption impossible. However, the Cuban objection was withdrawn. The Assembly urged the nations to expedite ratification of the Statute so that it could be put into force.

**INTERNATIONAL LABOR OFFICE.** The International Labor Office appointed Harold Beresford Butler as its director in place of the late Mr. Albert Thomas. Mr. Butler was one of the three men who organized the Ministry of Labor in Great Britain. In 1920 M. Thomas invited him to become his Deputy at the International Labor Office, in the organization of which Mr. Butler played a prominent part.

**UNITED STATES AND THE LEAGUE.** The United States is represented, officially or unofficially, in the following special agencies of the League of Nations:—the Greek Refugee Settlement Commission, the General Conference on Communications and Transit, the Preparatory Commission for Disarmament Conference, the Economic Consultative Committee, the Hungarian Finance Reconstruction, the Counterfeit Currency and Double Taxation Committees of the Financial Committee, the Health Committee, the Committee on Intellectual Cooperation, the Educational Cinematographic Institute in Rome, the Committee for Progressive Codification of International Law, the Advisory Commission for Protection of Children and Young People, the Committees having to do with the traffic in women and children, and the Preparatory Committee for the International Relief Union. See **LAW** in 1932.

**LEATHER.** The production of leather of all kinds in the United States showed further declines from the year 1931, according to the statistics of the Trade Survey Bureau of the Tanners' Council of America. The greatest decline was in the production of goat and kid leathers which dropped from 48,639,000 skins in 1931 to 37,010,000 skins in 1932, a decline of 24 per cent. While the drop in the production of cattle hide leathers for the year was not so marked—a decline from 16,238,000 hides in 1931 to 14,564,000 hides in 1932—the decrease from the 3-year average of 1925–27 is more significant and shows a lowered output of almost exactly 33½ per cent. Sheep and lamb leathers dropped to a total production of 27,323,000 skins from 32,458,000 skins in 1931. The production of calf and kip leathers, although reduced, was the least affected during the year and has shown less relative change from previous years; a drop to 11,579,000 skins in 1932, from 12,439,000 in 1931, and from 14,173,000 in 1930.

In 1932 the imports of raw hides and skins, except furs, into the United States showed a further decline, dropping to a total of 190,229,272 pounds valued at \$22,492,038 as against 271,082,934 pounds in 1931 valued at \$50,302,286. Declines were registered in all kinds of hides and skins except dry cattle hides and horse, colt, and ass skins. The imports of leather into the United

States in 1932 were valued at \$6,846,578 as against \$10,595,469 in 1931. Imports of leather boots and shoes amounted to 1,441,959 pairs valued at \$2,099,534 as against 3,391,742 pairs in 1931 valued at \$6,228,257; imports of leather slippers and moccasins dropped to 38,586 pairs valued at \$12,934 as against 299,636 pairs in 1931 valued at \$296,744; of leather footwear, fabric uppers, 1,862,652 pairs valued at \$643,815 as against 2,233,662 pairs in 1931 valued at \$492,952.

Exports of hides and skins from the United States increased for the year, though not in value, and amounted to 42,405,505 pounds valued at \$2,240,161 as against 35,593,201 pounds in 1931 valued at \$3,068,678; the increases were practically evenly distributed among the various hides and skins. Exports of leather in all grades, except horse and colt, declined markedly, the total value for the year being \$3,181,307 as against \$7,011,795 in 1931. Exports of men's and boys' shoes dropped to 288,169 pairs valued at \$638,166 as against 568,465 pairs at \$1,493,172 in 1931; women's shoes 426,826 pairs at \$798,372 against 977,502 pairs in 1931 at \$2,199,124; children's shoes 131,633 pairs at \$115,522 against 234,347 pairs in 1931 at \$241,801; slippers, athletic shoes, sandals, etc., dropped to 253,175 pairs valued at \$158,948 as against 540,704 pairs in 1931 valued at \$417,922. The total value of leather exports, according to *Commerce Reports*, although valued at less than in any other year since 1900, amounted to \$13,160,109, or almost twice that of the imports, \$7,137,537. See **BOOTS** and **SHOES**.

**LEBANON REPUBLIC.** See **SYRIA**.

**LEDYARD, LEWIS CARR.** An American lawyer and capitalist, died in New York City, Jan. 27, 1932. He was born in Detroit, Mich., Apr. 4, 1851, and attended Columbia and Harvard Universities, being graduated from the latter with the A.B. degree in 1872 and the LL.B. degree in 1875. Establishing himself as a corporation lawyer in New York City, he was associated after 1880 with James C. Carter in the firms of Scudder & Carter, Carter & Ledyard, and Carter, Ledyard & Milburn. He represented the United States Steel Corp. and other so-called trusts in important litigation, gaining special fame for the skill with which he handled the dissolution of the American Tobacco Co., which had been ordered by the U. S. Supreme Court in 1911. The plan which he evolved enabled the dissolution to proceed by gradual stages, while meeting statutory requirements and the approval of the court. He was also counsel for 30 years for the New York Stock Exchange, president of the Northern Finance Corp. and the Franklin Building Co., and director of many important banks, corporations, and railroads, among the latter being the Northern Pacific, New York Central, Lake Shore & Michigan Southern, Michigan Central, Pittsburgh, Fort Wayne & Chicago, Boston & Maine, Maine Central, and New York, New Haven & Hartford. After 1917 he was president of the New York Public Library, which he had previously taken an active part in forming, as a trustee of the Tilden Trust created under the provisions of the will of Samuel J. Tilden, through the merger of the Astor, Lenox, and Tilden libraries. He was also a past president of the Bar Association of the City of New York.

**LEEWARD ISLANDS, BRITISH.** The most northerly of the British Lesser Antilles, lying to the north of the Windward group and south-

east of Puerto Rico, comprising Antigua (with Barbuda and Redonda), Dominica, Montserrat, St. Christopher or St. Kitts (with Nevis and Anguilla), and the British Virgin Islands. Total area, 715 square miles; population at the census of 1921, 122,242, as compared with 127,193 in 1911. The estimated population in 1929 was 124,901. The chief towns are Roseau (Dominica), 7042 inhabitants; St. John (Antigua), 6997 inhabitants; and Basseterre (St. Christopher), 7736. The chief products are sugar, molasses, cotton, limes, tomatoes, onions, coconuts, tobacco, and salt. Revenue for 1930-31 was \$258,663; expenditure was \$296,024. In 1930 imports were valued at £917,056, and exports at £612,199.

The islands are divided into five presidencies under a central government, at the head of which is a governor, who is also commander-in-chief, assisted by a Federal executive council, and a Federal legislative council. Governor in 1932, Lieut.-Col. T. R. St. Johnston, appointed in 1929.

**LEEWARD ISLANDS, FRENCH.** See OCEANIA, FRENCH ESTABLISHMENTS IN.

**LEGION, AMERICAN.** See AMERICAN LEGION.

**LEGISLATION.** See CHILD LABOR; LAW IN 1932; UNITED STATES, and the articles on the separate States.

**LE GOFFIC, le gôfêk', CHARLES HENRI.** A French poet, novelist, and critic, died Feb. 12, 1932, in Lannion where he was born July 14, 1863. He attended the college there and *lycées* in Rennes, Nantes, and Paris. During 1884-92 he taught in Gap, Nevers, Evreux, and Le Havre. His literary career opened with a volume of verse, *Amour breton* (1889). With the crowning of *Le Crucifié de Kéraliès* (1892) by the French Academy he abandoned pedagogy for literature. In his works the traditions and customs of Brittany were depicted in a striking manner, on much the same lines as his contemporary Le Braz. His poetry includes *Le Bois dormant* (1900) and *Le Pardon de la reine Anne* (1902). Among his novels are: *Passé l'Amour* (1895); *La Payse* (1897); *Morgane* (1898); *L'Erreur de Florence* (1904); *Les Bonnets rouges* (1906); *Le Cigarière* (1907); *Passion celtic* (1908); *La double Confession* (1909); *Ventôse* (1910); *Le Pirate de l'île Ieru* (1913); *L'Abbesse de Guérande* (1921); *Chez les Jean Gouin* (1921); *L'Odyssée de Jean Chevanton* (1921); *L'illustre Bobinet* (1922). In collaboration with Gabriel Vicaire he wrote the drama *Le Sortilège* (1899). His other plays are: *Le Pays* (1913), a comic opera, with music by Guy Ropartz; and *Sans Nouvelles*, in collaboration with André Dumas which was performed at the Comédie Française in 1916. His impressions of the War are recorded in *Diamude, Steenstraete, Saint-Georges et Nieuport* (1915-18, a three-volume history of the marines on the Yser); *Bourguignottes et Pompons rouges* (1916); *Les Marais de Saint-Gond* (1917); *La Guerre qui passe* (1918); *Les trois Maréchaux* (1919); and *La Marne en feu* (1921). His critical writing is found in *Les Romanciers d'aujourd'hui* (1889); *Nouveau Traité de versification française* (1890); *Sur la Côte* (1897, crowned by the Academy); *L'Ame bretonne* (1st series, 1902; 2d series, 1908; 3d and 4th series, 1912-22); *Les Métiers pittoresques* (1903); *Fêtes et coutumes populaires* (1911); *Racine* (2 vols., 1912); and *La Littérature française aux XIX<sup>e</sup> et XX<sup>e</sup> siècles* (2 vols., 1913). In addition to being a member of the French Academy and an officer of the Legion of Honor he was president of the Society of Au-

thors, vice-president of the Society of French Poets and of the Syndicate of Literary Critics, and former president of the Breton Federation. He occasionally wrote under the pseudonym Tiburce.

**LEGRANDITE.** See MINERALOGY.

**LEGUIA, lá-gō'yá, AUGUSTO B. A** Peruvian statesman, died in Lima Feb. 6, 1932. He was born in Lambayeque Feb. 19, 1863, and received his education in Valparaíso, Chile. Later he served with distinction in the Chilean-Peruvian War of 1879-83. In 1886 he became a salesman for the New York Life Insurance Co., being made general manager for Peru, Ecuador, and Bolivia. He likewise organized and directed the Peruvian department of *La Sud América*, which although a Brazilian company was in reality an offspring of the New York Life Insurance Co. In 1903 he entered politics, accepting the office of Minister of Finance in the cabinets of Presidents Manuel Candamo (1903-04), and José Pardo (1904-08). The many fiscal improvements which he introduced, especially that of the collection of taxes through a private corporation, greatly increased the public revenues from 12,000,000 soles per annum to 30,000,000 soles.

Leguia was elected president of Peru in 1908 by an alliance of the Civil and Constitutional parties. During his term he maintained a firm control of the situation, although much criticized by the opposition, the Democrats, who attempted a revolution in May, 1909. His administration was marked by the encouragement of education, the settlement of boundary disputes with Brazil and Bolivia, improvement of the national defense, establishment of wireless communication between Lima and Iquitos, canalization of the River Rimac, and construction of a railroad from Lima to Huacho. On the election of Guillermo Billinghurst as president in 1912 Leguia went to London where he resided for seven years, serving as president of the Latin American Chamber of Commerce.

In May, 1919, Leguia returned to Lima, and with the aid of the army, seized power, expelled President Pardo, and was proclaimed interim president. His *coup d'état* was legalized by a Constituent Assembly which promulgated a new Constitution in January, 1920. In 1923, previous to the new elections, Congress ratified a constitutional amendment enabling the President to succeed himself for a second term but for only one immediate election. In 1927 another amendment permitted his reelection without restriction.

During Leguia's second and third administrations, as during his first, his conception of statesmanship remained that of the financier and industrialist. He encouraged the exploitation of Peru's resources, expending great sums in the development of railroads, motor roads, harbors, sanitation, and irrigation projects, schools, and other public works. When revenues proved insufficient to meet his ambitious demands, he floated large loans in the United States, Great Britain, Italy, and Germany.

The smoldering resentment of Leguia's iron-hand methods was fanned into flame by his refusal to withdraw at the end of his term in 1929. His régime had at first assumed the aspect of a benevolent dictatorship, but it had gradually become more severe so as to assure his continuance in office. There was instituted a rigid censorship of the press and a firm check on student and peasant agitations. Hundreds of his

political opponents were deported. The crowning act was the adoption in September, 1928, of a law which designated as a capital offense any act committed by Peruvians, either at home or abroad, which the government judged contrary to the social order and public welfare of Peru. His downfall dated from his "reinauguration" in October, 1929. Following the Wall Street crash, the Peruvian pound steadily declined until on Aug. 21, 1930, it reached the lowest point in history. Unable to float new loans, Leguia had also been forced to curtail his public-works programme and thousands had been thrown out of work. As in several other South American countries, the President was blamed for the increasing depression which had imposed hardships upon all classes. He narrowly escaped assassination in the Lima Cathedral on Good Friday, 1930.

Leguia's enemies were encouraged by the Bolivian revolt of June, 1930, against President Siles. The climax came in August, when Col. Luis M. Sánchez Cerro headed a military junta which forced him to resign. He left for Panama but was brought back and imprisoned first on the island of San Lorenzo in Callao harbor and then in the Lima penitentiary. The gravest charge brought against him was speculation and misuse of government funds during his terms of office. In August, 1931, the Supreme Court decided that the only body competent to prefer charges against him was Congress. However, as his unhappy condition had excited pity even among his political opponents, it is doubtful that the charges would have been pushed to this extreme.

**LEHIGH UNIVERSITY.** A nonsectarian institution for the higher education of men in Bethlehem, Pa., founded in 1866. The enrollment for the autumn of 1932 was 1473, distributed as follows: arts and science, 214; business administration, 333; engineering, 800; graduate students, 126. The enrollment for the summer session of 1932 was 436. The faculty numbered 179, including 23 persons on the administration staff. The endowment amounted to \$5,326,779, while the total income for the year was \$1,249,921. There were 196,000 volumes in the library. The department of philosophy and education was divided during 1932, separate departments being set up as part of a programme of expansion in the field of preparation for the profession of teaching. President, Charles Russ Richards, Eng.D., LL.D.

**LEHMAN, COL. HERBERT H.** See NEW YORK under *Political and Other Events*.

**LEHMANN, LOTTE.** See MUSIC.

**LEITER, JOSEPH.** An American capitalist, died Apr. 11, 1932, in Chicago where he was born Dec. 4, 1868. He was graduated from Harvard University in 1891 and then was an agent for his father, Levi Zeigler Leiter, Chicago merchant, until 1898. In the autumn of 1897 he bought an immense quantity of wheat on the Chicago Board of Trade, causing the price of that commodity to double and affecting grain traders throughout the world. At the beginning of 1898 he was the largest individual holder of wheat in the history of the grain trade, but unable to maintain his corner he ultimately lost more than \$10,000,000. He was president of the Zeigler Coal Co. and of the Chicago, Zeigler & Gulf Railway Co. and director of the American Security & Trust Co., of Washington, D. C., and other banks and corporations.

**LELAND, HENRY MARTYN.** An American manufacturer, died in Detroit, Mich., Mar. 26, 1932. He was born in Danville, Vt., Feb. 16, 1843, and attended the public schools of Millbury, Mass. Having learned the machinist's trade, he served as a toolmaker in the United States arsenal in Springfield during the Civil War. After the war he became associated with Brown & Sharp Manufacturing Co. of Providence, R. I., as superintendent of their sewing machine department and also invented the hair clipper and grinding machine which they manufactured. In 1890 he removed to Detroit where he organized the Leland-Faulconer Manufacturing Co., toolmakers. On the advent of the motor launch and automobile this company began the manufacture of internal combustion engines and transmission gears. In 1904 he founded the Cadillac Motor Car Co., of which he was general manager until 1909 and president and advisory manager until 1917. This company developed an electrical starting device and a V-type engine invented by his son, Wilfred C. Leland. In 1917, with his son, he founded the Lincoln Motor Co., which obtained the first contract for the manufacture of Liberty aviation motors used in U. S. Army airplanes during the World War. He acted as president of this company until 1922. He was also founder and president during 1911-25 of the Detroit Citizens' League.

**LELAND STANFORD JUNIOR UNIVERSITY.** See STANFORD UNIVERSITY.

**LEMONS.** See HORTICULTURE.

**LENZ, MAX.** A German historian, died in Berlin, Apr. 7, 1932. He was born in Griefswald, June 13, 1850, and attended Bonn, Greifswald, and Berlin Universities. In 1881 he was made professor medieval and modern history at the University of Marburg, and seven years later was called to the University of Breslau. In 1890 he joined the history faculty of the University of Berlin, and during 1911-12 was also rector of that institution. He then became lecturer in modern history at the University of Hamburg, where he remained until 1922. Among his works may be mentioned: *Drei Traktate aus dem Schrötenzyklus des Konstanzer Konzils untersucht* (1870); *Die Schlacht bei Muhlberg* (1879); *Briefwechsel Landgraf Philipps des Grossmütigen von Hessen mit Bucer* (3 vols., 1880-91); *Martin Luther* (1883); *Zur Kritik der Gedanken und Erinnerungen des Fürsten Bismarck* (1899); *Die grossen Mächte, Rückblick auf unser Jahrhundert* (1900); *Geschichte Bismarcks* (1902); *Napoleon* (1905); *Geschichte der Universität Berlin* (4 vols., 1910-18); and *Kleine Historische Schriften* (3 vols., 1910-24).

**LEWIS CARROLL CENTENARY.** See CELEBRATIONS.

**LEXICOGRAPHY.** See PHILOLOGY, MODERN.

**LIBERIA.** A Negro republic on the west coast of Africa, extending from the British colony of Sierra Leone on the west to the French Ivory Coast on the east, with about 350 miles of coast line. Area, about 43,000 square miles; population, estimated at 1,000,000, most of whom live in the interior. They belong to about 40 tribes and speak as many languages. The civilized inhabitants, reported at about 60,000, live along the coast and speak English. Whites in the country number about 150. Capital, Monrovia, with 10,000 inhabitants (including Krutown). In 1930, there were 7588 pupils in 169 schools (51 Government and 118 mission schools).

**PRODUCTION AND TRADE.** Agriculture, mining, and industry are comparatively undeveloped. Cocoa and cotton are produced in small quantities, but the staple product is native coffee. Other products are piassava fibre, palm oil, palm kernels, chillies, and beniseed. In 1930 over 30,000 acres of the 1,000,000-acre Firestone rubber concession, granted in 1926, had been planted to rubber trees. About 10,000 laborers were employed on the concession (1931). Imports in 1930 were valued at \$1,228,102; exports at \$838,738.

**FINANCE.** Government revenues declined from \$1,276,438 in 1928 to \$551,306 in 1931, while the deficit increased from \$61,648 in 1927-28 to \$220,000 in 1930-31. A \$5,000,000 loan was floated in the United States in 1927, of which \$2,027,700 was expended by 1931. Under the loan agreement, there was an annual burden of \$269,284 on the treasury, representing interest charges and salaries of American loan officials. These charges absorbed 20 per cent of the revenues in 1928 and 54.9 per cent in 1931.

**COMMUNICATIONS.** Means of transport and communication are severely limited, there being no railway, telephone, or telegraph service. Along the coast are 150 miles of roads passable for light motor traffic but native porters carry all goods in the interior.

**GOVERNMENT.** The Constitution, modeled on that of the United States, vests executive power in a president, assisted by a cabinet of eight, and legislative power in a legislature of two houses. Suffrage is restricted to Negroes owning land. English is the official language. President in 1932, Edwin Barclay.

**HISTORY.** The League of Nations during 1932, in collaboration with the United States and Liberia, carried forward negotiations looking toward the complete reorganization of chaotic conditions in the Negro republic. The Brunot commission appointed by the League, which visited Liberia in 1931 at the request of the Liberian government, completed its report on Sept. 25, 1931. The report, recommending an extensive reconstruction programme to be carried out by 20 foreign advisers and officers, was submitted to the Liberian government in November and made public in May, 1932.

When the League's committee on Liberia met in Geneva on Jan. 26, 1932, with an American representative in attendance, the Liberian government asked for a delay in consideration of the Brunot commission's report. Agreeing that no decision should be taken until the following April, the League committee nevertheless proceeded with a preliminary examination of the report. The report revealed conditions of slavery, accompanied by much brutality. The Liberian government's formal reply to the Brunot report was made on Apr. 27, 1932. Virtually all the recommendations of the commission were rejected, Liberia offering only to appoint for five years three provincial commissioners recommended by the League.

On the basis of the Brunot report and Liberia's counter-proposals, the League committee now framed a far-reaching plan of reconstruction, which was approved by the Council of the League on May 20. It was based on the belief that forced labor in Liberia, revealed in the report of the Christy commission of January, 1931, could be eradicated only by a fundamental reorganization of the country. Rejecting proposals

for a League reconstruction loan, the League committee recommended a moratorium on the service of the 1925 loan until the annual revenues of the government reached \$650,000. It recommended that the size of the Firestone rubber concession be reduced and the rental increased from 6 to about 50 cents an acre. The administrative reorganization suggested called for the division of Liberia into three Provinces, each administered by a Provincial and Deputy Commissioner nominated by the League but responsible to the Liberian President. The engagement of a foreign chief adviser to the Liberian President and of two medical officers and continuance of the five financial officials under the 1926 loan contract was also urged.

In a memorandum to League officials, released at Geneva, May 18, 1932, the United States government waived its special position in Liberia in favor of "sustained international coöperation." It warned, however, that "conditions in Liberia have now grown so chaotic, and adequate authority has become so demoralized that it is doubtful whether an effective government exists in the country." In the event that no solution of the Liberian problem was reached by the autumn, the United States reserved full liberty of action, a phrase interpreted as a threat to intervene. The United States and Great Britain persisted in refusing to recognize the presidency of Mr. Edward Barclay, a member of the administration responsible for the forced labor régime, who had been elected President in May, 1931. Faced by the threat of intervention and of a new outbreak among the tribes of the interior, the Liberian government in August announced that it accepted in principle the reforms recommended by the League committee.

Early in the year (January 30), representatives of the American, British, and French governments informed the Liberia committee at Geneva that the Liberian government had taken repressive measures against the Krus. The same governments protested on March 7 against an alleged massacre of unarmed Krus on Dec. 11, 1931. On March 14, the three governments sent the British Vice Consul at Monrovia to investigate the situation and a week later the Liberian government sent a commission of three—two Liberians and Mr. Travell, an American loan official—to the Kru coast. The three reports submitted by the British Vice Consul, Mr. Travell, and the two Liberians, respectively, indicated that the government employed force to suppress a revolution which was caused in part by the hope of relief from the government's oppression aroused by the visit of the Christy commission. The investigators found that the Liberian Frontier Force had burned about 40 native villages and that between 12,000 and 15,000 natives had fled to the bush and continued to defy the government. The League Council accordingly dispatched a representative to the Kru coast in May, 1932, to persuade the rebellious tribesmen to return to their homes.

See **LEAGUE OF NATIONS.**

Consult Raymond Leslie Buell, "The Reconstruction of Liberia," *Foreign Policy Reports*, Aug. 3, 1932, vol. viii, no. 11.

**LIBIA, lib'ī-a.** An Italian African possession bounded on the north by the Mediterranean, east by Egypt, west by Tunis and Algeria, south by the Anglo-Egyptian Sudan and French West Africa. It was transferred from Turkey to Italy



by the treaty of Oct. 18, 1912 and is divided into the administrative districts of Tripolitania and Cyrenaica. See CYRENAICA; TRIPOLITANIA.

**LIBRARY ASSOCIATION, AMERICAN.** The official organization of librarians in the United States and Canada, founded for the purpose of promoting library service and librarianship. In 1876 its membership was 103; in 1933 it was more than 13,000. The activities of the association are carried on by its officers; by more than 60 voluntary committees and boards, engaged in studying such problems as book buying, book selection, cataloguing, and library work with the blind and with the foreign born; by hundreds of voluntary workers; and by the members of the headquarters staff, which numbered more than 50 in 1932.

The association issues various books and pamphlets for libraries and in the interest of library progress. Important publications of the year included: Leal A. Headley, *Making the Most of Books*; A. L. A. *Catalog, 1926-1931*; William M. Randall, *The College Library* (published jointly with the University of Chicago Press); Ermine Stone, *The Junior College Library*; *The Prison Library Handbook*; *Children's Library Yearbook, No. 4*; and *School Library Yearbook, No. 5. Reading with a Purpose* courses, published by the association during 1932, were: Aaron Director, *Unemployment*; Philip N. Youtz, *American Life in Architecture*; and Dudley Crafts Watson, *Interior Decoration*. Forthcoming courses include: Robert C. Brooks, *Russia, the Soviet Way*; and Alain L. Locke, *The Negro*.

The association issues three periodicals: *Bulletin of the American Library Association*, a monthly which includes the annual reports, the conference proceedings, and the yearly handbook, and which in 1932 included also a number devoted to library salary statistics; *The Booklist*, published monthly as a guide to the selection and purchase of current books; and *Subscription Books Bulletin*, a quarterly which presents critical estimates of subscription books and sets sold currently by canvassing agents.

The fifty-fourth annual conference was held April 25-30, in New Orleans, La., with 1300 librarians present. On this occasion, the John Newberry Medal, given annually by the section for library work with children, for the most distinguished children's book of the year, was awarded to Mrs. Laura Adams Armer for her book, *Waterless Mountain*.

The council approved the establishment, at association headquarters, both of an information and advisory service for college libraries and of an advisory service on library work with children in public libraries and schools. Council authorization was given to create an advisory board for the study of special projects.

A resolution adopted by the council urged that, while librarians and library authorities should "meet sympathetically the demands of appropriate bodies for the utmost efficiency and economy," they should also "stand unflinchingly for the maintenance of those library services which help to sustain morale and to increase understanding of the many difficult problems now confronting the American people." A second resolution which received council approval urged library trustees, librarians, and directors of library schools to do all in their power to maintain salary scales commensurate with those in other professions. The council voted to adopt princi-

ples for school and public library development and indorsed in principle the consolidation of counties.

The fifty-fifth annual conference is scheduled to be held in Chicago Oct. 16-21, 1933.

At the annual midwinter meeting of the association, held in Chicago Dec. 28-31, 1932, the executive board, acting on the authorization of the council and the recommendation of the committee on annuities and pensions, adopted a retirement plan for members of the association, under which 30,000 librarians are, or may become, eligible for annuities.

On the recommendation of the trustees' section of the association, the council passed a resolution adopting statements on "Reduction of Public Expenditures" and "Increased Demand for Library Service," which declared that the elimination of waste in public expenditures should precede any curtailment of socially useful service, and that, in the interest of an intelligent, understanding citizenship, the essential services of the public library must be maintained. The council voted to request the officers of the association to solicit the cooperation of other national and regional educational, cultural, and social agencies and organizations for good government in developing, adopting, and promulgating a citizens' platform in consonance with the adopted statement on governmental expenditures.

A grant of \$500,000, to be added to the permanent fund of the American Library Association, has been made by the Carnegie Corporation of New York, and the first half of that sum was paid in October, 1932, in accordance with the announcement made some months ago that the corporation would give \$500,000 in 1932-33 and a similar amount in 1933-34. A final annual grant of \$13,500 was made by the corporation to the association, for library extension service in the south.

The General Education Board in 1932 granted \$45,000, payable over a period of four years, to the American Library Association for a cooperative cataloguing enterprise to be carried on under the direction of the association's committee on cooperative cataloguing. Headquarters for the enterprise have been established at the Library of Congress.

The officers elected for 1932-33 are: President, Harry Miller Lydenberg, assistant director, New York Public Library, New York City; first vice-president, Julia Ideson, librarian, Public Library, Houston, Texas; second vice-president, Joseph L. Wheeler, librarian, Enoch Pratt Free Library, Baltimore, Md.; treasurer, Matthew S. Dudgeon, librarian, Public Library, Milwaukee, Wis. The headquarters of the association are at 520 North Michigan Avenue, Chicago.

**LIBRARY ASSOCIATION, THE.** An organization of libraries and librarians throughout the British commonwealth of nations, founded in 1877 and incorporated by Royal charter in 1898. Its primary objects are: to unite all persons engaged or interested in library work by holding conferences and meetings for the discussion of bibliographical questions and matters affecting libraries; to promote the better administration of libraries; to promote whatever may tend to the improvement of the position and qualifications of librarians; to watch legislation affecting public libraries, and to assist in the promotion of such further legislation as may be considered necessary for the regulation and management or

extension of public libraries; to promote and encourage bibliographical study and research; and to hold examinations in librarianship, and to issue certificates of efficiency. Membership in the association is also open to institutions and individuals interested or engaged in library work, whether national, governmental, public, university, special, or private in character. It maintains a professional register of more than 800 qualified persons, classified as Fellows (F.L.A.) and Associates (A.L.A.); candidates for senior positions in libraries are selected from amongst those who have been elected to fellowship or associateship. The school of librarianship at the University of London is conducted under the joint auspices of the university and of the association. Among the association's publications are: *The Library Association Record*; *The Library Assistant*; *The Library Association Year Book*; *The Year's Work in Librarianship*; and *The Subject Index to Periodicals*. The president in 1932 was Sir Henry Miers, M.A., D.Sc., LL.D., F.R.S.; the secretary, P. S. J. Welsford, F.I.S.A. Headquarters are at 26-27 Bedford Square, W. C. 1, London.

**LIBRARY PROGRESS.** In 1932 libraries in all parts of the United States reported record-breaking use, as economic and social insecurity led men and women in increasing numbers to attempt to understand through reading the fundamental and current problems which confront them as citizens. Books on the business of earning a living were in great demand. So also were the books of many kinds which contribute to the maintenance of a spirit of hope.

Growing realization of the need for maintaining the library's essential services in the communities which now have libraries and for extending those services to communities still without libraries has been manifest in 1932 in the organization of the Association for Progress through Libraries and in the formation of State citizens' library committees in Louisiana and New York. Several other States either had already formed citizens' committees or are now taking steps in that direction. Officers of the New York citizens' committee include Elihu Root, honorary chairman; John H. Finley, chairman; George J. Ryan, Claude G. Bowers, and Owen D. Young, vice chairman.

Various national organizations are continuing their programmes for library extension. The General Federation of Women's Clubs and the National Congress of Parents and Teachers again indorsed the county library at their annual conventions. The federation issued a library extension leaflet, *Library Service for Everybody*. Rotary International discussed libraries at its meeting in Seattle, Wash., while the Lions Club and other service clubs throughout the United States reported many activities in support of library service. State conferences held to follow up the White House Conference on Child Health and Protection have called attention to rural library needs.

Rural library service has been furthered in a number of States during the year. In Maine a book automobile, presented to the State library by the State Federation of Business and Professional Women's Clubs, visited all parts of the State, offering direct book service to individuals without access to local libraries and establishing traveling library stations at many points. During the latter part of the year, the automobile was

used for an experiment in intensive book service to a single district. In the South the Rosenwald demonstration libraries have made heroic efforts, successful in most cases, to maintain the local financial support which qualifies them for Rosenwald grants. The records of book circulation in these counties show beyond doubt that rural people will read if they have the opportunity. Library development in the South was stimulated by a meeting of Southern library extension workers, held in New Orleans in April, 1932, to discuss common aims and to coördinate programmes for State, school, and county library development. Intensive regional field work in the South was continued under the library extension board of the American Library Association.

**CIRCULATION.** More people used libraries, more books were borrowed from libraries, and more books were used in library reading rooms in 1932 than ever before. Sample reports from 33 cities, representing only one-tenth of the total population of the United States, show that the number of books borrowed from their libraries in 1932 was 81,591,423, an increase of more than 37 per cent since 1929. The highest percentage of increase shown by any of the 33 cities was 173 per cent in Hammond, Ind. Akron, Ohio, and Dallas Texas, stood next, each showing an increase of 116 per cent.

In the face of such increases, widespread economy programmes threatened the curtailment of library service. Some cities, however, exempted their libraries from cuts imposed on other departments. In Oakland, Calif., for instance, the library budget was increased \$8000 for 1932-33, although the assessed valuation of the city dropped \$15,000,000 and the tax rate was reduced four cents. In Duluth, Minn., the branch libraries, which it had first been decided to close for the sake of economy, were kept open on account of their services to the unemployed.

**ADULT EDUCATION.** The adult education service given by public libraries was greatly extended, principally because of the increased demands of the general public for information on social and economic questions. In 1932 eight libraries inaugurated advisory service to readers, bringing the total number of libraries offering such assistance to 50.

"Adult Education and Rural Life" was the theme of the American Country Life Conference, held at Oglebay Park, Wheeling, W. Va., Oct. 14-16, 1932. Book needs of country residents and means of developing adequate rural library service were discussed at a forum on "The Extension of Library Service." A statement, prepared by the library extension board of the American Library Association, on coöperation between State library extension agencies and State agricultural extension services in stimulating reading interests among rural people and in providing the necessary books, showed a great variety of ways in which the two types of organization could work together to bring books to the rural population.

The American Library Association and individual libraries coöperated with the National advisory Council on Radio in Education and the University of Chicago Press in the preparation and distribution of reading lists for those interested in educational radio programmes, broadcast over a nation-wide network, on economics, labor, vocational guidance, government, psychology, and child training. Announcement of the

programmes and distribution of the book lists in advance enabled librarians to prepare to meet demands for the recommended books.

As a result of the passage of the Pratt-Smoot Bill, appropriating \$100,000 yearly for books for the adult blind, more than 150 books have been embossed for the first time, and more than 6400 copies have been distributed to libraries serving the blind. The *Reading with a Purpose* courses, published by the American Library Association, together with one book recommended in each course, are being embossed. Dr. Herman H. B. Meyer, as the director of the project, Books for the Blind, is in charge of the work, with headquarters at the Library of Congress.

**CHILDREN'S READING.** *Children's Reading*, the report of a study of voluntary reading by boys and girls in the United States, made by a subcommittee on reading of the White House Conference on Child Health and Protection, was published in 1932. Carl H. Milam, secretary of the American Library Association, was chairman of the subcommittee.

**LIBRARY SCHOOLS.** The fall of 1932 saw the discontinuance of the library school of the Los Angeles Public Library and the suspension of the library school of the St. Louis (Mo.) Public Library. In each case economic conditions and a general oversupply of professionally trained librarians contributed to the decision of the responsible authorities to close a well established and successful school. The same considerations led several other library schools voluntarily to reduce their enrollments.

In 1931-32 the library schools had larger enrollments than ever before, 35 schools having reported 1636 students in November, 1931. Enrollment figures for 1932-33 showed a decrease of approximately 300, of which slightly more than 200 occurred in the 26 library schools accredited (23 fully and 3 provisionally) by the board of education for librarianship of the American Library Association.

**SALARY AND EMPLOYMENT CONDITIONS** Salary and employment conditions among librarians received attention at various meetings of the board of education for librarianship and the salaries committee of the American Library Association and the committee on supply and demand of the Association of American Library Schools. Early in 1932 the board recommended that library schools reduce the size of their classes through a more rigid scrutiny of applicants; that, in general, the establishment of new training agencies be given the most careful consideration; that employers of librarians raise the professional requirements for library positions and discriminate more accurately among various types of credentials offered; and that library school faculties and librarians generally take the opportunity afforded by the present situation to discover those few young people who show marked personal qualifications and promise and to encourage them to prepare adequately for librarianship.

In December, 1932, a resolution submitted by the board and the committee on salaries and adopted by the council of the American Library Association provided for annual collection of data on unemployment among librarians, requested the cooperation of junior members in the effort to find a solution for the unemployment problem, recommended to the association's executive board the appointment of a committee on unemployment and methods of relief for unem-

ployed librarians or the delegation of the duties of such a committee to an existing committee, and put the council on record as favoring radical reduction of enrollment in library training agencies by the placing of greater emphasis on personal qualifications and experience before admittance.

**INTERNATIONAL COÖPERATION.** At a meeting of the international committee of the International Federation of Library Associations, held in Berne, Switzerland, in June, 1932, a resolution was passed urgently requesting that, to meet the needs of intellectual workers, governments maintain undiminished the financial provisions for national education and especially those appropriations voted for libraries. Representatives of 29 countries attended the meeting, and copies of the resolution have been sent to all national governments. The committee is planning to meet in Chicago in 1933.

**BIBLIOGRAPHICAL PROJECTS.** In the field of bibliography, "Project B," financed by a Rockefeller five-year annual grant of \$50,000, was completed Aug. 31, 1932. This project includes a group of operations undertaken to increase the bibliographical apparatus of the Library of Congress in aid of research.

"Project C," undertaken under the supervision of the Library of Congress and financed by a grant obtained by the American Council of Learned Societies, is the first attempt to list the medieval and Renaissance manuscripts and documents existing in public and private ownership in the United States and Canada. With the assistance of Dr. W. J. Wilson and the cooperation of many librarians and collectors, M. Seymour de Ricci, of Paris, has succeeded, in the last four years in describing some 5000 manuscripts in several hundred collections.

The *List of Serial Publications of Foreign Governments* has been published by the H. W. Wilson Co.

**FUNDS AND ENDOWMENTS.** A total of \$873,000 was granted during 1931-32 by the Carnegie Corporation of New York in support of library interests in the United States and abroad. An active campaign for the enrichment of undergraduate college libraries has resulted in the survey of 108 institutions and the voting by the corporation of appropriations totaling more than \$1,500,000, to be divided among 85 colleges. A study of academic libraries in Canada was completed, and the recommendations of the advisory group are ready for consideration. Steps have been taken toward the improvement of college libraries in New Zealand. In addition, support has been given to certain experimental programmes in the United States designed to throw light upon new possibilities of service by the librarian to both the teacher and the research worker.

Other gifts made during the year for library purposes include: a legacy to the New York Public Library of \$2,000,000, and to the J. Pierpont Morgan Library of New York City of \$250,000, from the estate of Lewis Cass Ledyard; a trust fund of \$1,000,000, established by Willis Edward Hall, the income from which will go to the Public Library of Burlington, N. J.; the Andrew Preston Peabody Fund of \$100,000, given to Harvard University by Caroline E. Peabody; \$35,000, given to the Las Cruces, N. M., Library by Mrs. Alice M. Branigan; \$25,000, given to the Wolcott and Litchfield Circulating Library, Wolcott, Conn., by William Colgate; and \$25,000,

given to the Cincinnati Public Library by George W. Armstrong, Jr.

Trust funds for libraries in the United States are now known to total at least \$105,000,000.

**NEW BUILDINGS.** The Folger Shakespeare Library, Washington, D. C., having an endowment of \$10,000,000 and erected at a cost of \$2,000,000, is outstanding among the new library buildings of the year. Others completed or in the course of construction include the Edward L. Doheny, Jr. Memorial Library at the University of Southern California, costing \$1,100,000; the Indiana State Library, costing approximately \$1,000,000; the

Putnam, stated that in the fiscal year ending June 30, 1932, there were 21,294 marine aids to navigation maintained by the service, a net increase over the previous year of 1021. During the year various improvements were made in the aids—70 lights were changed from fixed to flashing or occulting, and the illuminant of lights was changed as follows: 68 to electric, 72 to acetylene, and 29 to incandescent oil vapor. Eleven radio-beacons were established, and signals were synchronized for distance finding at 15 stations. The number of aids discontinued was 754. See the accompanying table.

SUMMARY OF AIDS TO NAVIGATION AND CHANGES DURING THE FISCAL YEAR

Class	1932				Total, June 30—	
	Estab- lished	Discon- tinued	Increase	Decrease	1931*	1932
<b>Lighted aids:</b>						
Lights (other than minor) .....	121	61	60	...	2,436	2,496
Lighthouse stations .....	...	...	...	...	44	44
Lighted buoys .....	81	22	59	...	669	728
Lighted buoys, with whistles or bells .....	29	8	21	...	432	453
Minor lights .....	297	319	...	22	3,662	3,640
Float lights .....	35	18	17	...	137	154
<b>Total lighted aids</b> .....	<b>563</b>	<b>428</b>	<b>135</b>	<b>...</b>	<b>7,380</b>	<b>7,515</b>
<b>Fog signals:</b>						
Radiobeacons .....	11	...	11	...	90	101
Sound fog signals (in air) .....	20	9	11	...	565	576
Submarine fog signals .....	...	1	...	1	30	29
Lighted buoys, with whistles or bells .....	29	8	21	...	432	453
Whistle buoys, unlighted .....	...	...	...	...	71	71
Bell buoys, unlighted .....	7	11	...	4	275	271
<b>Total fog signals</b> .....	<b>67</b>	<b>29</b>	<b>38</b>	<b>...</b>	<b>1,463</b>	<b>1,501</b>
<b>Unlighted aids:</b>						
Buoys .....	463	182	281	...	8,253	8,534
Daymarks .....	707	123	584	...	3,613	4,197
<b>Total</b> .....	<b>1,170</b>	<b>305</b>	<b>865</b>	<b>...</b>	<b>11,866</b>	<b>12,731</b>
<b>Grand total</b> <sup>b</sup> .....	<b>1,771</b>	<b>754</b>	<b>1,017</b>	<b>...</b>	<b>20,277</b>	<b>21,294</b>

\* Differences from statistics published in 1931 report are due to minor discrepancies in previous count.

<sup>b</sup> Lighted buoys with whistles and bells are counted only once in the grand total.

NOTE.—In addition to the marine aids there are 2688 aids to air navigation maintained by the airways division, the corresponding figure for last year being 1853. There are also 10,296 boundary lights and 1913 obstruction lights.

Charles Deering Library at Northwestern University, Evanston, Ill., costing \$1,000,000; the library of the University of Texas, costing \$1,000,000; the Myrtle Reed Library at the University of Denver, Colo., costing \$350,000; the Mercantile Library, New York City, costing \$350,000; the library at Atlanta University, Georgia, costing \$300,000; the library at Murray State College, Kentucky, costing \$250,000; Harper Hall, Claremont Colleges, California, costing \$175,000; the library at Sul Ross State Teachers College, Texas, costing \$150,000; and the James Laughlin Memorial Library at the Pennsylvania College for Women, erected at a cost of \$100,000.

**LIBYA.** See LIBIA.

**LIECHTENSTEIN,** lit'ten-shtin. One of the smallest independent European states. Liechtenstein is a principality lying between the Austrian province of Vorarlberg and the Swiss cantons of St. Gallen and Graubünden. Area, 65 square miles; population (1930 census), 10,213, of whom 9492 were Roman Catholics. Capital, Vaduz (population, 1715). In 1931 revenue was estimated at 1,179,350 Swiss francs (Swiss franc averaged \$0.194 in 1931); expenditure at 1,314,349 francs. The public debt on Jan. 1, 1932 was 5,117,626 francs. Reigning Prince, Francis I.

**LIFE INSURANCE.** See INSURANCE.

**LIGHT, VELOCITY OF.** See CHEMISTRY.

**LIGHTHOUSES.** The annual report of the U. S. Commissioner of Lighthouses, George R.

Important construction projects during the year included the completion of primary light and fog signal stations at Detour Reef, Mich.; Cape Decision, Alaska; and Anacapa Island, Calif. Changes were made in the aids to navigation in the St. Mary's River, Mich.; the illuminating apparatus at Cape Flattery Light Station, Wash., was improved; numerous new aids were placed to mark the improved channels of the James River, Va., and in Rochester Harbor, N. Y. One of the twin lights at Cape Ann, Mass., was improved and the other discontinued.

At Cape Hinchinbrook, Alaska, the reconstruction of the light station upon a safer site was under way. In Alaskan waters 15 new aids were established, making a total of 870. In the Hawaiian Islands lights at Nawiliwili Harbor and at Cape Kumakahi were being established. Kauhola Point Light Station was electrified and a light established on Kaula Rock.

Radiotelephones were installed at a number of light stations with excellent results; for example, at the isolated light station at Dry Tortugas, Gulf of Mexico, which is distant 63 miles from the depot at Key West.

The synchronization of radiobeacons by groups in order to eliminate interference with each other was carried further. Tests were in progress with a mobile radiobeacon designed for the purpose of avoiding collision, and 13 vessels on the Great Lakes were equipped with these signals

for this test. A control panel governing the operation of the radiobeacon, the fog signal, and the light flasher was installed at several stations, placing all signals in a definite sequence.

Appropriations for the maintenance of the Lighthouse Service totaled \$10,212,410 for the fiscal year 1932, and for special works, \$1,870,000. There was also allotted \$8,675,140 for the airways division.

The new light at Detour Reef, Mich., was placed in commission Nov. 10, 1931. The structure stands in 24 ft. of water at the outer end of Detour Reef and marks the entrance to the St. Marys River from Lake Huron. It replaces the former Detour Light Station, which was located on the tip of Detour Point. The new station may be directly approached by vessels in safety. It eliminates the need for other markers on the shoal and on the point, as well as for a lightship off the entrance, which was several times proposed. The construction of the station was started in May, 1930, with the building of the timber crib at Detour. Operations were suspended during the winter of 1930-31, so that the actual construction at the site required about 14 months.

At Muskegon, Mich., a general rearrangement of aids was made necessary by the improvements to this harbor by the United States Engineers in 1931, in which two breakwater spurs extending into Lake Michigan about 3000 feet were constructed, and the outer ends of the old piers were shortened about 1000 ft. The light and fog signal at the outer end of the south pier and an acetylene light at the outer end of the north pier were discontinued. Muskegon Breakwater Front Range Light and Fog Signal Station was established. Muskegon Pierhead Rear Range was moved to the end of the shortened south pier, and at the north breakwater a flashing acetylene light was established on a skeleton steel tower. The project was started in 1928 and completed early in 1932 following completion of the north breakwater by the United States Engineers.

A station at Cape Decision, Alaska was located on a rocky point on the southern extremity of Kuiu Island, replacing an acetylene light. It serves to guide vessels entering southeastern Alaska from the Gulf of Alaska and interstrait traffic. The building is of reinforced concrete, the focal plane of the light being about 96 feet above mean high water. The fog signal consists of two tyfons mounted on the roof, and the radiobeacon is operated as an intermediate power station. Work was begun on this project in September, 1929, and the station was placed in commission Mar. 15, 1932.

At Anacapa Island, Calif., a station was established to mark more adequately the easterly end of the Santa Barbara Channel, a passage of major importance to navigational interests operating between San Diego, San Pedro, and San Francisco. The light was first displayed Mar. 25, 1932, and replaced the acetylene beacon established in 1912. The station is located on the easterly end of Anacapa Island, the most easterly of the group forming the southern boundary of the Santa Barbara Channel on the California coast. The island is very precipitous, the cliffs being over 100 ft. high and almost perpendicular, there being only one place available as a landing. The buildings at the station comprise a tower, four keepers' dwellings, a powerhouse, a fog-signal tower, an oil house, a storehouse, and a service building. There is also a concrete

rain shed 120 by 250 ft. and two 50,000 gal. water tanks. The light tower is conical in design, 39 ft. high, and from it is displayed a light of 600,000 candlepower. The focal plane is 277 ft. above mean high water and the light is visible 23 miles. The fog signal consists of two diaphones, one pointing to the inside of the channel for serving south-bound traffic along the coast, while the other points to the southward, serving north-bound coast traffic, and in-and-out-bound open-sea traffic.

**AIRWAYS FACILITIES.** The construction programme of the fiscal year 1932, under the Aeronautics Branch of the Bureau, comprised the extension and improvement of the Federal airways system by the installation of an additional 2000 miles of airways lighting, construction of 10 radio communication stations, and 25 radio range beacons, installation of 18 radio marker beacons of the landing-range type, and extension of the teleprinter communications system by approximately 3500 miles of circuits and 55 additional stations. At the close of the fiscal year 1932 there were in operation and under construction or installation 19,500 miles of lighted airways, 69 radio communication stations, 94 radio range beacons, 118 radio marker beacons, and 233 teleprinter stations on a leased-wire system comprising some 13,000 miles of circuits. The total personnel of the airways division was 2102 of whom 897 were part-time employees serving as attendants or caretakers at intermediate fields and beacon lights.

Surveys were completed and contracts were let for lighting installation on the following airways or sections of airways: Dallas-Louisville (Dallas-Nashville section), Fort Worth-Atlanta (Dallas-Meridian section), Chicago-Twin Cities (Chicago-LaCrosse section), Amarillo-Tulsa, New Orleans-St. Louis (Biehle-St. Louis section), Albany-Boston. In addition, the Salt Lake City district organization installed airways lighting on the Salt Lake-Great Falls airway from Pocatello, Idaho, to Spencer, Idaho.

At the close of the year there were 1541 rotating beacon lights, 368 flashing beacon lights, and 355 intermediate fields in operation. The fields had a combined acreage of 32,928, equivalent to 51 sq. mi., and were furnished with 10,296 boundary lights, 1913 obstruction lights, and 3104 boundary marker fences. In addition, installation was proceeding under contract on 132 rotating beacon lights, 5 flashing beacon lights, and 23 intermediate fields.

**LIGHTNING.** See ELECTRICAL TRANSMISSION AND DISTRIBUTION.

**LIGHTNING GENERATOR.** See ELECTRICAL INDUSTRIES.

**LIGHTSHIPS.** See LIGHTHOUSES.

**LIME.** The sales of lime in 1932 by producers in the United States amounted to 1,956,000 short tons, valued at \$12,108,000, according to preliminary figures of the U. S. Bureau of Mines. This was a decrease of 28 per cent in quantity and 35 per cent in value compared with sales of 2,707,614 tons valued at \$18,674,913 in 1931, and followed a decrease of 20 per cent in quantity and 27 per cent in value in 1931 compared with 1930. The average unit value per ton in 1932 was \$6.19; in 1931 it was \$6.90.

Sales of lime in 1932 for construction were estimated at 666,000 tons compared with 947,085 tons in 1931, a decrease of 30 per cent. This followed a decrease of 21 per cent in 1931 from the

1930 production. Sales of lime for chemical uses were estimated at 1,070,000 tons, a decrease of 27 per cent from 1931 (1,463,217 tons). In 1931 there was a decrease of 20 per cent from the 1930 sales. The sales of lime for agricultural use were estimated at 220,000 tons, a decrease of 26 per cent in 1932 from 1931 (297,312 tons) and followed a decrease of 13 per cent in 1931 from the 1930 figures. All the States producing lime showed decreases from the 1931 production ranging from 2 to 66 per cent in quantity and 7 to 63 per cent in value. In the majority of States the percentage decrease in output was less than the percentage decrease in value.

The accompanying table compares the estimated sales of lime in 1932, by States, with the sales in 1931.

LIME SOLD BY THE PRODUCERS IN THE UNITED STATES IN 1931 AND 1932

State	1931		1932 (estimated)	
	Short tons	Value	Short tons	Value
Ohio . . .	656,441	\$4,007,004	477,000	\$2,479,000
Pa. . . .	497,258	3,878,088	374,000	2,410,000
Mo. . . .	224,416	1,481,240	180,000	1,082,000
Tenn. . .	113,268	566,694	104,000	454,000
W. Va. . .	170,420	985,687	85,000	446,000
Va. . . .	100,659	654,665	78,000	437,000
Ill. . . .	96,105	718,952	76,000	547,000
Ala. . . .	137,423	823,437	75,000	370,000
Mass . .	123,607	1,108,036	64,000	466,000
Ind. . . .	81,925	502,232	64,000	342,000
Mich. . .	46,716	334,025	42,000	301,000
Texas . .	46,553	384,392	35,000	286,000
Wis. . . .	42,621	372,244	31,000	230,000
N. Y. . .	49,574	412,351	29,000	229,000
Vt. . . .	30,226	271,417	29,000	202,000
Calif. . .	41,371	389,696	27,000	246,000
Md. . . .	36,445	268,148	25,000	160,000
Me. . . .	28,157	250,028	23,000	183,000
Wash. . .	20,619	215,033	17,400	175,000
Ariz. . .	22,567	232,785	14,000	146,000
Other . .	142,243	1,328,769	106,600	917,000
Total . .	2,707,614	\$18,674,913	1,956,000	\$12,108,000

**LINDBERGH KIDNAPING.** On the evening of Mar. 1, 1932, Charles Augustus Lindbergh, Jr., 19-months-old son of Col. Charles A. and Anne (Morrow) Lindbergh, was kidnaped from the Lindbergh home near Hopewell, N. J. An intensive search by governmental and private agencies in the United States and Europe ended on May 12 when the infant's badly decomposed body was accidentally discovered in woods near a roadway, within five miles of Colonel Lindbergh's home. Meanwhile the latter had paid \$50,000 ransom, through an intermediary, John F. Condon of New York City, to persons representing themselves as the kidnapers. Two other men who falsely professed to be in contact with the abductors were prosecuted. They were Gaston B. Means, who obtained \$100,000 for the child's ransom from Mrs. Evelyn Walsh McLean, of Washington, D. C., and John H. Curtis, Norfolk, Va., boat builder. Means was sentenced to 15 years imprisonment. Curtis, who was convicted by a Flemington, N. J., jury of obstructing justice, was sentenced to one year in prison and fined \$1000. He had taken Colonel Lindbergh on fruitless cruises in Chesapeake Bay on the pretense of establishing contact with the kidnapers. Both Means and Curtis appealed from their sentences. SEE CRIME; LAW IN 1932.

**LINGUISTICS.** See PHILOLOGY, MODERN.

**LINTHICUM, JOHN CHARLES.** An American lawyer and congressman, died in Baltimore, Md., Oct. 5, 1932. He was born in Linthicum Heights, Anne Arundel Co., Md., Nov. 26, 1867, attended

the State Normal School in Baltimore and the Johns Hopkins University, and was graduated with the LL.B. degree from the University of Maryland in 1890. Admitted to the Maryland bar in the latter year, he was engaged in practice in Baltimore with his brother Seth Hance Lithicum. He was elected to the Maryland House of Delegates in 1903 and to the Senate in 1905, serving in the latter for two terms. During 1908-12 he served also on the staff of Governor Crothers as judge advocate general. In 1910 he was elected to the Sixty-second Congress as member from the fourth Maryland district, and had been reelected to each succeeding Congress. He was chairman of the House foreign affairs committee, being instrumental in the drafting and enactment of the bill in 1924 for the improvement of the American foreign service. He succeeded also in having preserved as a national monument Fort McHenry, the bombardment of which by the British fleet in 1814 inspired Francis Scott Key to write the words of *The Star-Spangled Banner*, and in having that song adopted as the national anthem by act of Congress in 1931. He was one of the most aggressive opponents of prohibition.

**LIONS CLUBS, INTERNATIONAL ASSOCIATION OF.** An organization of business and professional men's clubs united in one association for the purpose of promoting good government and good citizenship, encouraging efficiency, and promoting high ethical standards in business and in the professions.

The Association has grown steadily, and on Dec. 1, 1932 numbered 2660 clubs with a membership of approximately 80,000. The International Convention of 1932 was held at Los Angeles, Calif. Charles H. Hatton, banker, of Wichita, Kan., was elected president; Roderick Beddow of Birmingham, Ala.; Vincent C. Hascall of Omaha, Neb.; and Richard J. Osenbaugh of Denver, Col., vice-presidents. The founder of the Association, Melvin Jones of Chicago, has been secretary-treasurer from the first. The official magazine of the Association is *The Lion*, Charles Lee Bryson, managing editor. Headquarters are at 332 South Michigan Ave., Chicago.

**LIPPE.** See GERMANY.

**LITERATURE.** See FRENCH LITERATURE; GERMAN LITERATURE; ITALIAN LITERATURE; LITERATURE, ENGLISH AND AMERICAN; PHILOLOGY, MODERN; SCANDINAVIAN LITERATURE; SPANISH-AMERICAN LITERATURES, SPANISH LITERATURE.

**LITERATURE, ENGLISH AND AMERICAN.** In January appeared O. H. Cheney's *Economic Survey of the Book Industry*, sponsored by the National Association of Book Publishers of America. This report attacked the separation between publishing and book-selling; the system whereby a few best-sellers, accidentally found, carry the burden of the rest of a publisher's list; the short selling-life of most books, most often about four months; meaningless, because too favorable, reviewing; and the absence of information among publishers about their consumers. It recommended a number of reforms, mainly in finance and research, with the aim, apparently, of making the public more "book-conscious." Though the report was "news," and much discussed, that it had led to anything by the end of the year was hard to see. Prices of books had come down somewhat, especially non-fiction; publishers were fewer, and their lists of new books shorter; authors' manuscripts were harder to sell; but these were

results of the depression, not of fundamental, thoughtful reform of a too haphazard industry. That publication in such fields as poetry, criticism, and history tended to be restricted, while books of a merely topical or temporary interest were published in as great numbers as usual, if not greater, illustrated the publishers' methods of meeting their difficulties, both in Great Britain and America.

In regard to the variety of books published during the year, the following compilation from *Publisher and Bookseller*, discarding reprints, shows 1996 novels, 743 books on theology and religion, 653 on political economy, 589 on biography and history, 357 on poetry and the drama, 350 on medicine and surgery, and 219 on travel and adventure. The total, including all miscellany and reprints was 15,279 books.

**FICTION.** More striking than any individual works during 1932 was the small range of the novelists' themes. The favorite American subject was life in the South, which, in its novelists' opinion, was pretty terrible. For instance, Ellen Glasgow's *The Sheltered Life*, highly praised, studied decaying gentility. William Faulkner, who may have been responsible for the vogue, showed in *Light in August* the horrors of Mississippi. Sherwood Anderson's *Beyond Desire* and Fielding Burke's *Call Home the Heart* were about the troubles of mill people. Erskine Caldwell's *Tobacco Road* brutally exposed poor whites in Georgia. Julia Peterkin's *Bright Skin*, and Roy Flannagan's *Amber Satyr* gave us bedeviled negroes. DuBose Heyward's *Peter Ashley* was an unhappy Charleston aristocrat.

The English, on the other hand, went in strongly for novels about a family. John Galsworthy, perhaps to blame for this, published *Flowering Wilderness*, the second about the Cherrills. Phyllis Bentley's *Inheritance* concerned several generations of Yorkshire textile people. Francis Brett-Young's family, in *The House Under the Water*, was Welsh. Hugh Walpole's *The Fortress* was the third of his Herries saga. G. B. Stern's *The Rueful Mating* began a trilogy. American family stories: Myron Brinig's *This Man is My Brother*; Helen Hull's *Heat Lightning*; Ambrose South's *Broken House*.

Both British and Americans were fond of historical themes. *God's Angry Man*, by Leonard Ehrlich, was about John Brown. Rose Macaulay's *The Shadow Flies* re-created seventeenth-century literary England. John Dos Passos' 1919 continued his cross-sectioning American life. *The Store*, by T. S. Stripling, gave the South just after the Civil War. Helen Grace Carlisle's *We Begin* psychoanalyzed the Pilgrims. Floyd Dell's *Diana Stair* was a New Englander of a century back. Booth Tarkington's *Wanton Mally* was laid in the days of Charles II. Gilbert W. Gabriel's *I, James Lewis*, traded fur in the early West, at about the same time as *The Long Rifle*, by Stewart Edward White. And there were many other historical novels.

Certain novels had distinction apart, though most might reasonably be called psychological, which applied, however, to almost every novel in 1932. *The Fountain*, by Charles Morgan, was philosophical about the strange ways of love. Rosamund Lehmann's *Invitation to the Waltz* dealt with a few hours in a girl's life; A. J. Cronin's *Three Loves* was the tragedy of a possessive woman. Louis Golding's *Magnolia Street* discussed Jews versus Gentiles. Edith Wharton con-

tinued *Hudson River Bracketed* in *The Gods Arrive*. W. Somerset Maugham used the tropics for setting of *The Narrow Corner*. Pearl S. Buck in *Sons*, and Ann Bridge, in *Peking Picnic*, wrote about contemporary China. John Cowper Powys' *A Glastonbury Romance* was an ambitious attempt to do a town thoroughly. Louis Bromfield's *A Modern Hero* started in the circus. J. B. Priestley's *Faraway* involved treasure-hunting. James Hanley's *Boy*, and Cyril Hume's *My Sister My Bride* illustrated the 1932 fondness for horrors.

Among first novels which received acclaim were: Phil Stong's *State Fair*, Iowa farmers on holiday; Paul Green's *The Laughing Pioneer*, and Wellbourn Kelley's *Inchin' Along*, two more Southerners; and Willa Muir's *Imagined Corners*, Scotch life.

Skillful light entertainment: P. G. Wodehouse's *Hot Water*; Mazo de la Roche's *Lark Ascending*; A. S. M. Hutchinson's *Big Business*; E. M. Delafeld's *Provincial Lady Goes Further*; Sylvia Thompson's *Summer's Night*; Booth Tarkington's *Mary's Neck*; Mathilde Eiker's *Brief Seduction of Eva*; Christopher Ward's *The Strange Adventures of Jonathan Drew*. Murderers were revealed in Francis Iles' *Before the Fact*, and Manuel Komroff's *A New York Tempest*, besides many others.

A bitter satire was Aldous Huxley's *Brave New World*, against "progress." Other satires: *Loads of Love*, by Anne Parrish, against benevolence; *A Good Man's Love*, by E. M. Delafeld, against the marriage market; *Swiss Family Manhattan*, mildly against New York, by Christopher Morley, who also published *Human Being*, a bewildered business man; *Mrs. Taylor*, by Marjorie Worthington, a female Babbitt.

Novels of fantasy may not have been important, but they were interesting, such as: Radclyffe Hall's *The Master of the House*, Christ in modern dress; *Three Go Back*, by J. Leslie Mitchell, moderns in pre-history; *Pigeon Irish*, by Francis Stuart, Ireland in the next war; T. E. Powys' *Uncle*; Eleanor Farjeon's *The Fair of St. James*; and John Erskine's *Tristan and Isold*, rewriting Malory.

**SHORT STORIES.** Among the producers of volumes of short stories were many distinguished names: Rudyard Kipling with *Limits and Renewals*; George Bernard Shaw with *The Adventures of the Black Girl in Her Search for God*; Sir James M. Barrie with *Farwell*, *Miss Julie Logan*; Willa Cather with *Obscure Destinies*; Arnold Bennett with *Stroke of Luck and Dream of Destiny*. Others, not so distinguished but maybe as good: *Soft Answers*, by Richard Aldington; *The Haunted Mirror*, by Elizabeth Madox Roberts; *Thirty Clocks Strike the Hour*, by V. Sackville-West; *Women Live Too Long*, by Vina Delmar; and *Guardian Angel and Other Stories*, by Margery Latimer.

**POETRY.** *The Collected Poems of Elinor Wylie*, containing much hitherto unpublished work, brought fresh certainty of her commanding position among American poets. *Conquistador*, by Archibald MacLeish, was brilliant modern narrative of the conquest of Mexico, based on Bernal Diaz. John Masefield told of the old war in *A Tale of Troy*. William Rose Benét gave a dramatic narrative in *Rip Tide*. *Thurso's Landing*, by Robinson Jeffers, and *Nicodemus*, by Edwin Arlington Robinson, replowed the fields these authors have made their own. Jewish history was



the subject of Sara Bard Field's *Barabbas*. Hilaire Belloc's *Ladies and Gentlemen* was delightful humor; Wilfred J. Funk's *Light Lines and Dears*, and Louis Untermeyer's *Food and Drink* were lighter verse. England was stirred by the publication of a collection from the young moderns called *New Signatures*, which was matched by their elders with *Known Signatures*. Edmund Blunden published *Halfway House*; William Plomer *The Five-Fold Screen*; Leonard Bacon *The Furioso*, about D'Annunzio; Frances Frost *These Acres*; Marion Canby *High Moving*; Sterling Brown, a new negro poet, *Southern Road*; W. H. Auden, a highly praised young Englishman, *The Orators*.

*The Collected Poems of D. H. Lawrence* appeared with his *Last Poems*; and *Poems*, by Padraic Colum, and *The Poems of T. Sturge Moore* were collections of many earlier volumes. Among the anthologies there were: the second and third series of *The Pleasures of Poetry*, by Edith Sitwell; *American Poets, 1630-1930*, by Mark van Doren; *New English Poems*, by Lascelles Abercrombie; and *An Anthology of the Younger Poets*, by Oliver Wells.

**DRAMA.** Probably no play promising greatness was published in 1932. English and American playwrights' favorite field during this year was the drawing-room play, the comedy of manners. Such were George S. Kaufman and Edna Ferber's *Dinner at Eight*; Robert E. Sherwood's *Reunion in Vienna*; Philip Barry's *The Animal Kingdom*; S. N. Behrman's *Brief Moment*; A. A. Milne's *Four Plays*, the second volume of his with that title; John van Druten's *Behold We Live* and *Somebody Knows*. George S. Kaufman, with Morrie Ryskind and Ira Gershwin, published the Pulitzer prize play of 1931, *Of Thee I Sing*, a musical comedy. That good old naturalism was far from dead was shown by Rose D. Franken's *Another Language*; Denis Johnston's *The Moon in the Yellow River* and *The Old Lady Says No*; C. K. Munro's *Three Plays*. J. B. Priestley's *Dangerous Corner* was melodrama. John Howard Lawson's *Success Story* was strongly satirical. Maxwell Anderson's *Night Over Taos* was historical. Edna St. Vincent Millay's *The Princess Marries the Page*, and T. C. Murray's *Michaelmas Eve* were romantic. The first nudist play was Tom Cushing's *Barely Proper*.

Other plays that might be mentioned were Elmer Rice's *Black Sheep*; Clemence Dane's *Wild Decembers*, about the Brontës; Ronald Mackenzie's *Musical Chairs*; Benn W. Levy's *Springtime for Henry*. Collections included the fifth volume of E. Bradlee Watson and Benfield Pressey's *Contemporary Drama*; and S. Marion Tucker's *Modern Plays*.

**ESSAYS.** Collections dealing with affairs ranged from the high and serious plane of *Interpretations, 1931-1932*, by Walter Lippmann; *As I See It*, by Norman Thomas; *Thunder and Dawn*, by Glenn Frank; to the gossipy and sometimes scandalous *More Merry-Go-Round*, anonymous, about Washington figures; *Not to Be Repeated*, anonymous, a European *Merry-Go-Round*; and *Sons of the Wild Jackass*, by Ray Tucker and Frederick R. Barkley. Other aspects of American life were considered in *Sidelights*, by G. K. Chesterton; *The Soul of America*, by Arthur Hobson Quinn; *A Passing America*, by Cornelius Weygandt, nostalgia for old times.

Literary essays included: Bonamy Dobrée's *Variety of Ways*; T. S. Eliot's *Selected Essays*;

Branch Cabell's *These Restless Heads*; Irving Babbitt's *On Being Creative and Other Essays*. Concerned with finding an attitude toward the contemporary were: *Fear and Trembling*, by Glenway Wescott, and *Challenge to Defeat*, by William Harlan Hale. Semi-philosophical were: *What We Live By*, by Ernest Dimnet, and *On the Meaning of Life*, edited by Will Durant. George Bernard Shaw's *Pen Portraits and Reviews* collected hitherto scattered stuff. Of historical interest: *Bath*, by Edith Sitwell; *The Great Victorians*, edited by H. J. and Hugh Massingham; *The Eighteen-Sixties*, edited by John Drinkwater. Comedy was intended in *Fun in Bed*, edited by Frank Scully; *Comic Relief*, edited by R. N. Linscott; *No Poems*, by Robert Benchley; *The American Keepsake*, old seriousness become funny.

In addition: E. V. Lucas' *Lemon Verbena and Other Essays*; Padraic Colum's *A Half-Day's Ride*, travel; and volumes 13 and 14 of *The Private Papers of James Boswell*, edited by Frederick A. Pottle.

**CRITICISM AND THE HISTORY OF LITERATURE.** Notable this year was the work in American literary history. Ludwig Lewisohn's *Expression in America* was fresh and persuasive. V. F. Calverton's *The Liberation of American Literature* exhibited a Marxian point of view. Stuart P. Sherman's *The Emotional Discovery of America*, and Thomas H. Dickinson's *The Making of American Literature* were also of importance.

Among general works: in aesthetics: *Experience and Art*, by Joseph Wood Krutch; *Art and Beauty*, by Max Schoen; essays on various figures: *Titans of Literature*, iconoclasm by Burton Rascoe; *The Second Common Reader*, by Virginia Woolf; *Sketches in Criticism*, by Van Wyck Brooks; *Sex in the Arts*, edited by J. F. McDermott and K. B. Taft, a symposium which concluded there was very little, or not enough.

About poets and poetry: Charles Williams' *The English Poetic Mind*; F. R. Cleavis' *New Bearings in English Poetry*; Herbert Read's *Form in Modern Poetry*; Chard Powers Smith's *Pattern and Variation in Poetry*; G. K. Chesterton's *Chaucer*; A. Allen Brockington's *Browning and the Twentieth Century*.

About the drama and dramatists: G. Wilson Knight's *The Shakespearean Tempest*; Mark Harris' *The Case for Tragedy*; A. E. Wilson's *Penny Plain, Twopence Coloured*, about English toy theatres; Eleanore Boswell's *The Restoration Court Stage*; Joseph Spencer Kennard's *The Italian Theatre*.

About novels and novelists: *The Twentieth Century Novel*, by Joseph Warren Beach; *Mark Twain*, by Stephen Leacock; *Mark Twain's America*, by Bernard de Voto; *George Moore*, by Humbert Wolfe.

**BIOGRAPHY.** Astonishing was the number of persons whose lives were done more than once in 1932. Spinoza was born 300 years ago, therefore: *Blessed Spinoza*, by Lewis Browne; *Spinoza*, by Benjamin de Casseres; *Spinoza: a Life of Reason*, by Abraham Wolfson. Scott died 100 years ago, therefore: *The Letters of Sir Walter Scott, 1787-1807*, edited by H. J. C. Grierson; *The Life of Sir Walter Scott*, by S. Fowler Wright; *Sir Walter Scott*, by John Buchan; *The Laird of Abbotsford*, by Dame Una Pope-Hennessy. About D. H. Lawrence were: *The Savage Pilgrimage*, by Catherine Carswell; *Lorenzo in Taos*, by Mabel Dodge Luhan; and *The Letters*



of D. H. Lawrence, edited by Aldous Huxley. About the Brontës: *The Brontës, Their Lives, Friendships, and Correspondence*, edited by T. J. Wise and J. A. Symington; *Charlotte Brontë*, by E. F. Benson. About Thomas Huxley: Clarence Ayres' *Huxley*; Houston Peterson's *Huxley, Prophet of Science*. About Benedict Arnold: *Benedict Arnold, Patriot and Traitor*, by Oscar Sherwin, and *Benedict Arnold, Military Racketeer*, by E. D. Sullivan. Another doublet: *William Penn, Quaker and Pioneer*, by Bonamy Dobrée; and *The Penns of Pennsylvania and England*, by Arthur Pound.

In addition to those mentioned, British literary figures were represented in: *Return to Yesterday*, amusing autobiography by Ford Madox Ford; *The Life of Robert Burns*, by Franklyn Snyder; *Bernard Shaw, Playboy and Prophet*, by Archibald Henderson; *Swinburne*, by Georges Lafourcade; *The Journals of Arnold Bennett, 1896-1921*, edited by Newman Flower; *Samuel Butler*, by Clara G. Stillman; *The Life of William Beckford*, by J. W. Oliver; *Dorothy Wordsworth*, by Catherine M. Maclean; *Jane Austen's Letters*, edited by R. W. Chapman; *Discovery*, second volume of autobiography, by John Drinkwater; *The Wife of Rossetti*, by Violet Hunt; *Francis Bacon*, by Mary Sturt; *Thackeray*, by Malcolm Elwin; *Lady Caroline Lamb*, by Elizabeth Jenkins; *Reading, Writing, and Remembering*, autobiography by E. V. Lucas; *Carlyle*, by Emery Neff; *Mrs. Carlyle to Joseph Neuberg*, letters edited by Townsend Scudder; and *The Essential Shakespeare*, by J. Dover Wilson.

British political personages were revealed in: volume iii of the third series of *The Letters of Queen Victoria*, edited by G. E. Buckle; *Lord Cromer*, by the Marquess of Zetland; *Life of H. H. Asquith, Lord Oxford and Asquith*, by J. A. Spender and Cyril Asquith; *The Life of Lord Carson*, volume i, by Edward Marjoribanks; *The Scottish Queen, Mary*, by Herbert Gorman; *Sarah, Duchess of Marlborough*, by Kathleen Campbell; *Albert the Good, the Prince Consort*, by Hector Bolitho; *Stanhope: a Study in 18th Century War and Diplomacy*, by Basil Williams; *Sir Billy Howe*, by Bellamy Partridge; *The Life of Joseph Chamberlain*, volume i, 1836-1885, by J. L. Garvin; *Amid These Storms*, autobiography by Winston S. Churchill; *The Three Pelicans*, about Cranmer, by Arthur Styron.

Other Britishers: the second volume of *Men and Memories*, by William Rothenstein; Edward Gordon Craig's *Ellen Terry and Her Secret Self*; Flinders Petrie's *Seventy Years in Archaeology*; Francis Yeats-Brown's *Bloody Years*, war autobiography; Paul Cohen-Portheim's *Time Stood Still*, how it feels to be interned; Donald Barr Chidsey's *Sir Humphrey Gilbert*; J. R. Ackersley's *Hindoo Holiday*, a funny section of autobiography; Sir Oliver Lodge's *Past Years*; and Captain S. G. S. McNeil's *In Great Waters*, autobiography.

There was a vogue for lives of American big business men, such as: *The Life of Andrew Carnegie*, by Burton J. Hendrick; *Lusty Scripps*, by Gilson Gardner; *Owen D. Young*, by Ida M. Tarbell; *The Tragedy of Henry Ford*, by Jonathan Norton Leonard; *God's Gold* (John D. Rockefeller, Sr.), by John T. Flynn; and *Silver Dollar: the Story of the Tabor*, by David Karsner. Political renown brought lives of: *Grover Cleveland*, by Allan Nevins; *John Quincy Adams*, by Bennett Champ Clark; *Roger Williams*, by

James Ernst; *Beveridge and the Progressive Era*, by Claude G. Bowers; *John G. Carlisle*, by James A. Barnes; *Sherman: Fighting Prophet*, by Lloyd Lewis; *Mary Lincoln, Wife and Widow*, by Carl Sandburg; *Carl Schurz, Reformer*, by Claude Moore Fuess; *George Washington, Soul of the Revolution*, an English biography by Norwood Young; *Lee of Virginia*, by William E. Brooks; *Little Aleck* (Alexander E. Stephens), by E. Ramsay Richardson; *The Autobiography of Peggy Eaton*; *Portrait of an Independent* (Moorfield Storey), by M. A. DeWolfe Howe; *Stephen J. Field*, by Carl B. Swisher; autobiographies by senators' wives: *I Would Live It Again*, by Julia B. Foraker, and *The Heritage of Years*, by Frances M. Wolecott; *Samuel Seabury*, by Walter Chambers; *Justice Oliver Wendell Holmes*, by Silas Bent; and a number of attacks and defenses of President Hoover.

About American writers: *New Letters of James Russell Lowell*, edited by M. A. DeWolfe Howe; *The Three Jameses*, by C. Hartley Grattan; Mary Austin's *Earth Horizon*, autobiography; Carl Van Vechten's *Sacred and Profane Memories*; Gertrude Atherton's *Adventures of a Novelist*; Van Wyck Brooks' *The Life of Emerson*; Upton Sinclair's *American Outpost*, autobiography; Grace King's *Memories of a Southern Woman of Letters*. Other Americans: Clarence Day's charming *God and My Father*; Ernest Sutherland Bates and John V. Dittmore's *Mary Baker Eddy, the Truth and the Tradition*; Stanley Vestal's *Sitting Bull*; Richard Lockridge's *Darling of Misfortune* (Edwin Booth); Max Miller's *I Cover the Waterfront*; Ed Halyburton and Ralph Goll's *Shoot and Be Damned*, war autobiography; Frank Lloyd Wright's *An Autobiography*; Charles J. Dutton's *The Samaritans of Molokai* (Fr. Damien and Bro. Joseph); Clarence Darrow's *The Story of My Life*; Basil Lubbock's *Bully Hayer, South Sea Pirate*; Florence Bennett Anderson's *Through the Hawse-Hole*, a Nantucket whaling captain; Irina Skariatina's *A World Begins*, autobiography; Louis Adamic's *Laughing in the Jungle*, autobiography, these last two of immigrants; and volumes viii and ix of the *Dictionary of American Biography*, edited by Dumas Malone.

About French men and women: Hilaire Belloc's *Napoleon*; Duff Cooper's *Talleyrand*; Naomi Royde-Smith's *The Double Heart* (Julie de Lespinaisse); Sidney B. Whipple's *Scandalous Princess* (Mme. Tallien). Other non-Anglo-Saxon people: G. P. Baker's *Charlemagne*; Carleton Beals' *Porfirio Diaz*; G. O. Griffith's *Mazzini*; David Loth's *Philip II of Spain*; Arthur Herman's *Metetrach*; Arthur Weigall's *Sappho of Lesbos*; Marcia Davenport's *Mozart*; Essad-Bey's *Stalin*; Christopher Hollis' *Saint Ignatius*; Richard Boleslavski and Helen Woodward's *Way of the Lancer*; Edith O'Shaughnessy's *Marie Adelaide*, the Grand Duchess of Luxembourg; Harold Lamb's *Nur Mahal*; William Oxling's *Kagawa*; Grand Duchess Marie of Russia's *A Princess in Exile*; Grand Duke Alexander of Russia's *Once a Grand Duke*; Rafael de Nogales' *Memoirs of a Soldier of Fortune*. Gamaliel Bradford published two collections of essays: *Saints and Sinners and Biography and the Human Heart*.

THE FINE ARTS. Historical works bulked largest in this field, including Frederic Fairchild Sherman's *Early American Painting*; Clive Bell's *An Account of French Painting*, lively and opinionated; Charles Johnson's *English Painting*

from the Seventh Century to the Present Day; Bernhard Berenson's *Italian Pictures of the Renaissance*, an invaluable list with locations; Arthur Upham Pope's *An Introduction to Persian Art since the Seventh Century*; G. H. Edgell's *A History of Sieneese Painting*; O. Elfrida Saunders' *A History of English Art in the Middle Ages*; and Frank P. Chambers' *The History of Taste*, about painting everywhere. A. P. Laurie, in *The Brushwork of Rembrandt and His School*, illustrated the use of photomicrographs in criticism. A. M. Hinds' *Rembrandt* was published lectures. Raymond Coxon's *Art: an Introduction to Appreciation*, also had to do with painting principally.

About architecture were Claude Bragdon's *The Frozen Fountain*, and H. S. Goodhart-Rendel's *Vitruvian Nights*, both collections of essays. R. H. Wilenski explained *The Meaning of Modern Sculpture*. Lee Simonson described the development of scenic design from its beginnings in *The Stage is Set*. In *Horizons*, Norman-Bel Geddes showed how the principles of design affected many of the mechanisms of modernity; while Paul Nash, in *Room and Book*, pleaded for more art in applied art.

RELIGION. The progress of the German theological movement called Barthianism in the Anglo-Saxon world was signalized by the American Walter Lowrie's *Our Concern with the Theology of Crisis*, and the English *Tell John*, by Geoffrey Allen and Roy McKay. The former was a plea for Barthianism; the latter an attack on Barthian grounds on other present day faiths. Charles A. Bennett's *The Dilemma of Religious Knowledge* accepted unprovability and defended the intuitions. *The Religion of Scientists*, edited by C. L. Drawbridge, was a symposium. Histories included: Henry K. Rowe's *History of the Christian People*; Edwyn Bevan's *Christianity*; and Joseph Haroutunian's *Pieté vs. Moralism: the Passing of the New England Theology*. George Lawton's *The Drama of Life after Death* had to do with spiritualism. Bruce Barton did a life of St. Paul in *He Upset the World*. Corliss Lamont discussed *The Issues of Immortality*; many theologians contributed to *Contemporary American Theology*, edited by Vergilius Ferm; Rees Griffiths' *God in Idea and Experience* was sober reasoning. Harry Emerson Fosdick's *As I See Religion*, Samuel M. Shoemaker's *Confident Faith*, and Clarence T. Craig's *Jesus in Our Teaching* also deserved attention.

SOCIOLOGY. A. G. Keller wrote a fascinating history of social institutions in *Man's Rough Road*. Robert Briffault published a shrill attack on social formulas in *Breakdown: the Collapse of Civilization*. Wyndham Lewis found fault with industrial society in *Doom of Youth*. The effects of the depression were discussed in *The American Jitters*, by Edmund Wilson; *Slump!* by H. Hessel Tiltman, about European conditions; and *The Year of Regeneration*, the last a fictional treatment of the theme, by James Cooper Lawrence. Intended originally for European consumption was *America as Americans See It*, edited by Fred J. Ringel; but similar matter was considered in *This Country of Yours*, by Morris Markay; and *Small Town Stuff*, by Albert Blumenthal. In criminology, Lewis E. Lawes' *Twenty Thousand Years in Sing Sing* attracted attention; and Edwin M. Borchard's *Convicting the Innocent* was an attack on the administration of criminal justice by case studies. Having to do with the

sexes: *A Thousand Marriages*, by R. L. Dickinson and Lura Bean; *Woman*, by A. Corbett-Smith; *The Modern Woman and Herself*, by Margaret Kornitzer; and *The More I See of Men*, edited by Mabel Ulrich. Harry Elmer Barnes attacked prohibition in *Prohibition versus Civilization*, and religion in *Can Man Be Civilized?* Sidney and Beatrice Webb gave guidance in *Methods of Social Study*. Other sociological works deserving mention were: C. DeLisle Burns' *Leisure in the Modern World*; *Our Neurotic Age*, edited by Samuel D. Schmalhausen; *The Taxi Dance Hall*, by Paul G. Cressey; *A Short Introduction to the History of Human Stupidity*, by Walter B. Pitkin; *As We Are*, by E. F. Benson; and *Wah' Kon-Tah*, by John Joseph Matthews, about the Osage Indians.

EDUCATION. The following three books attempted to re-define the relations between the State and education: Lord Bertrand Russell's *Education and the Modern World*; George A. Coe's *Educating for Citizenship*; and William Heard Kilpatrick's *Education and the Social Crisis*. *The Theory of Education in the United States*, by Albert Jay Nock, was an attack on democratic higher education. Alexander Meiklejohn's *The Experimental College* described the rise and fall of his undertaking at the University of Wisconsin. *The University in a Changing World*, edited by Walter M. Kotschnig and Elined Prys, was a symposium of expert opinion. The following also were noteworthy: *The College and Society*, by Ernest H. Wilkins; *The Liberal Arts College*, by Floyd W. Reeves and others; *The Founding of American Colleges and Universities before the Civil War*, by Donald G. Tewksbury; *Realism in American Education*, by William S. Learned; *The Making of Citizens*, by Charles Edward Merriam; *Creative Expression*, edited by Gertrude Hartman and Ann Shoemaker; and *Education through Recreation*, by L. P. Jacks.

POLITICS AND INTERNATIONAL. Concerned with internal politics of the United States were: Paul H. Douglas' *The Coming of a New Party*; *What's the Matter with New York?* by Norman Thomas and Paul Blanshard; both these radical; *Farewell to Reform*, by John Chamberlain, and *Our Wonderland of Bureaucracy*, by James M. Beck; both these conservative. Also, Charles A. Beard's *The Navy: Defense or Portent?* and Frederick Palmer's *So a Leader Came* were concerned with American politics, the latter advocating a dictatorship.

About America's foreign relationships: Walter Lippmann and W. O. Scroggs' *The United States in World Affairs 1931*; Wallace Thompson's *Greater America*, North, Central, and South; Harry B. Hawes' *Philippine Uncertainty*, advocating independence; Lothrop Stoddard's *Europe and Our Money*, and *Lonely America*, for isolation; Foster Rhea Dulles' *America in the Pacific*; Frank H. Simonds' *Can America Stay at Home?*

General works included: *Studies in Law and Politics*, by Harold J. Laski; *After Democracy*, by H. G. Wells, an attack on nationalism; *Moral Men and Immoral Society*, by Reinhold Niebuhr; *The Causes of War*, a symposium edited by Arthur Porritt; *The Spirit of World Politics*, by William Ernest Hocking, an attack on imperialism. Mainly historical: *American Foreign Policy in Mexican Relations*, by James Morton Callahan; *The Truth about Reparations and War Debts*, by David Lloyd George; *The Growth of Political Thought in the West: from the Greeks*

to the End of the Middle Ages, by Charles H. McIlwain.

Interest in Russia did not decline, as evidenced by: Waldo Frank's *Dawn in Russia*; Harry Stekall's *Through the Communist Looking-Glass*; Walter Arnold Rukeyser's *Working for the Soviets*; Isaac Don Levine's *Red Smoke*, attempting to prove that the Five-year Plan would fail; Louis Fischer's *Machines and Men in Russia*; *Socialist Planned Economy in the Soviet Union*, by V. Ossensky and others.

About the troubles in the Far East were: *Manchuria: Cradle of Conflict*, by Owen Lattimore; *Manchuria, the Cockpit of Asia*, by P. T. Ether-ton and H. Hessel Tiltman; *The Tinder Bow of Asia*, by George E. Sokolsky. Concerned with the League of Nations were: Felix Morley's *The Society of Nations*, and *Boycotts and Peace*, edited by Evans Clark, attacking article xvi of the Covenant.

Miscellaneous political writings included: Val-entine de Balla's *The New Balance of Power in Europe*, between revisionists and anti-revisionists; Harold E. Scarborough's *England Muddles Through*; W. L. Middleton's *The French Political System*; A. W. Jose's *Australia: Human and Economic*; Sir Arnold T. Wilson's *Persia*; Robert Machray's *Poland: 1914-1931*; Henry Kittredge Norton's *The Coming of South America*.

ECONOMICS. The world and his brother were economists in 1932. Sir Arthur Salter's *Recovery: the Second Effort* offered a programme attractive to many, which he repeated in *The World's Economic Crisis and the Way of Escape*, contributed to, also, by J. M. Keynes, Sir Josiah Stamp, and others. Keynes' *Essays in Persuasion* proved that he had warned us, and gave more advice. Other works offering cures for our ills were: Stuart Chase's *A New Deal*; Wal-lace Brett Donham's *Business Looks at the Unforeseen*, insisting that mass production implies mass consumption; George Soule's *A Planned Society*; *Facing the Facts: an Economic Diagnosis*, by twelve professors; *The Way Forward*, by Robert S. Brookings; *Economic Stabilization in an Unbalanced World*, by Alvin Harvey Hansen, *The Road to Revival*, by F. C. James; and *America Faces the Future*, edited by Charles A. Beard, a summary of economic plans.

Lawrence Dennis asked *Is Capitalism Doomed?* and was inclined to think it was. Henry Pratt Fairchild, in *Profits or Prosperity?* attacked the profit motive. G. D. H. Cole offered *A Guide through World Chaos*. Harold G. Moulton and Leo Pavlovsky explained *War Debts and World Prosperity*; while Garet Garrett, in *A Bubble that Broke the World*, bitterly attacked the system of encouraging foreign trade by foreign loans. Elisha E. Garrison discussed *The Riddle of Economics*; and over-production was considered in *The Paradox of Plenty*, by Harper Leech; *Jobs, Machines, and Capitalism*, by Arthur Dahl-berg; and *Money for Tomorrow*, by W. E. Wood-ward.

Studies in special features of economic life were: *Men, Money, and Mergers*, by George L. Hoxie; *Stop, Look, and Listen*, about the rail-roads, by David Hinshaw and W. E. Albigh; *Confessions of the Power Trust*, by Carl D. Thomp-son; *The Power Fight*, by Stephen Raushenbush; and *Red Economics*, by Walter Duranty and others. Economic history was represented by: Edward C. Kirkland's *A History of American*

*Economic Life*; John H. Frederick's *The Develop-ment of American Commerce*; Henry Hamilton's *The Industrial Revolution in Scotland*; Lancelot Lawton's *An Economic History of Soviet Russia*; and A. M. Sakolski's *The Great American Land Bubble*, showing the results of the inflation of land values on our history.

HISTORY. Publications in history exhibited a marked vogue for reciting and explaining events since the beginning of this century. This was exemplified in such works as the fourth volume of *Our Times*, by Mark Sullivan, covering the years 1909-1914; *Just the Other Day*, by John Collier and Iain Lang, about England in the 1920's; *Years of Tumult*, by James H. Powers, about Europe from 1919 to 1931; *The Partition of Tur-key, 1913-1923*, by Harry N. Howard; *The Nation at War*, by Peyton C. March, defending the conduct of the General Staff; and *Development of the League of Nations Idea: Documents and Correspondence of Theodore Marburg*, edited by John H. Latané. Even *The United States since 1865*, by Louis M. Hacker and Benjamin B. Ken-drick, and *Fifty Years, 1882-1932*, by various persons, gave the greater part of their space to quite recent events. Also, dealing with the con-temporary period, though naturally with a nar-rower interest, were volume vii, *The Agadir Crisis, of British Documents on the Origins of the War*, edited by G. P. Gooch and Harold Tem-perley; and *Spain's Uncertain Crown, 1808-1931*, by Robert Sencourt.

More general works in American history in-cluded: James Truslow Adams' *The March of Democracy*, the political accompaniment of his social *Epic of America*; J. H. Denison's *Emo-tional Currents in American History*; Virginus Dabney's *Liberalism in the South*; and Michael Williams' *The Shadow of the Pope*, about anti-Romanist movements.

Perhaps the outstanding work of history in the traditional grand manner was the second volume of *England under Queen Anne: Ramillies and the Union with Scotland*, by G. M. Trevelyan. Other publications in English history were: Sir Charles Petrie's *The Jacobite Movement*; F. M. G. Higham's *Charles I*; Sir John A. R. Marriott's *The English in India*; R. G. Collingwood's *Roman Britain*; Esmé Wingfield-Stratford's *The Victorian Sunset*. In European history appeared: *War and Peace in Europe, 1815-1870*, by E. L. Woodward; *The Peacemakers, 1814-1815*, by J. G. Lockhart, about the Congress of Vienna; *A History of Europe, 1378-1494*, by W. T. Waugh; *The Story of the Borgias*, by L. Collison-Morley; and volume vii, *Decline of Empire and Papacy, of The Cambridge Medieval History*, edited by J. R. Tanner, C. W. Previté-Orton, and Z. N. Brooke.

In ancient history there were two works by Max Cary: *A History of the Greek World from 323 to 146, B.C.*, and *The Legacy of Alexander*; and volume ix, *The Roman Republic, 133-44, B.C.*, of *The Cambridge Ancient History*, edited by S. A. Cook, F. E. Adcock, and M. P. Charles-worth. There was also *A History of Israel*, by W. O. E. Oesterley and T. H. Robinson.

SCIENCE. In *Kamongo*, Homer W. Smith gave a fictional background to an argument for a mechanist view of life. Gustav Eckstein's *Lives* was about pet animals. Other biological works were: Thomas Hunt Morgan's *The Scientific Basis of Evolution*; J. B. S. Haldane's *The Causes of Evolution*; and A. C. Seward's *Plants:*

*What They Are and What They Do.* In physics appeared *Advancing Science*, by Sir Oliver Lodge; *Science and Human Experience*, by Herbert Dingle; *The Interpretation of the Atom*, by Frederick Soddy; *A History of Experimental Physics*, by Carl Trueblood Chase; and *Behemoth: the Story of Power*, by Eric Hodgins and F. Alexander Magoun. Howard W. Haggard's *The Lame, the Halt, the Blind*, and Paul de Kruif's *Men against Death*, were about medicine, the latter largely biographical. Eighteen astronomers contributed to *The Splendour of the Heavens*; and W. de Sitter's *Kosmos* was about astrophysics.

Experts under the direction of the National Research Council produced four volumes called *Physics of the Earth*, volcanology, meteorology, etc. *Van Loon's Geography*, by Hendrick Willem Van Loon, attracted attention. General works included John Langdon-Davies' *Man Comes of Age*, describing the effect of science on philosophy; J. Arthur Thomson's *The Riddles of Science*, questions with their possible answers; and J. G. Crowther's *Outline of the Universe*, attempting a summary in many fields.

**TRAVEL AND SPORT.** The headliner here was Ernest Hemingway's *Death in the Afternoon*, about bull-fighting. William Beebe's *Non-such* told about sea-bottoms, as did David Scott's *Seventy Fathoms Deep*, about the salvage of the *Egypt*. Charles B. Nordhoff and James Norman Hall described the *Mutiny on the Bounty* dramatically. H. T. Wilkins gave advice about *Treasure Hunting*. Malcolm D. Whitman was learned about *Tennis Origins and Mysteries*. Gene Tunney insisted *A Man Must Fight*. Joseph Hergesheimer's *Berlin* included visits to other cities. Philip Guedalla's *Argentine Tango* was amusing. A. J. Villiers' *The Sea in Ships* dealt with the few commercial sailing-vessels left. Bertram Thomas wrote about *Arabia Felix*; Edmund Blunden about *The Face of England*; F. Spencer Chapman about the British Arctic Air Expedition of 1930-1931 in *Northern Lights*; Sir George Dunbar about Assam in *Frontiers*; Marian Nicholl Rawson about travel in early New England in *From Here to Yonder*; Henry Baerlein about Transylvania in *Enchanted Woods*; Edward H. Thompson about the Mayas of Yucatan in *People of the Serpent*; Cherry Keaton about African water-pools in *The Animals Came to Drink*. These should be mentioned: *Modern Athletics*, by Lawson Robertson; *What Price Football*, by Barry Wood; *Alpine Days and Nights*, by W. T. Kirkpatrick; *Writ in Sand*, by R. B. Cunningham-Graham.

**LITHUANIA**, lith'ô-â-nî-â. A Baltic republic established Feb. 16, 1918, from territories of the former Russian Empire; bounded by Latvia on the north, Poland on the east and south, and East Prussia on the southwest. Capital, Kovno, although Vilna, which was transferred to Poland by the Council of Ambassadors in 1923, was still claimed by the Lithuanians in 1932 as their capital.

**AREA AND POPULATION.** Poland retains possession of approximately 10,000 square miles of territory claimed by Lithuania. The actual area under Lithuanian sovereignty in 1932 was 21,490 square miles, the population being estimated at 2,393,000, as compared with about 2,170,245 at the census of 1923. The Memel (Klaipėda) district, with an area of 933 square miles and a population of 141,274 in 1925, was included in

these figures (see MEMEL). The chief cities, with their estimated population at the beginning of 1932, were: Kovno (Kaunas), 99,530; Memel (Klaipėda), 37,142; and Shavli (Siauliai), 23,249. For the five-year period, 1927-31, births averaged 64,545 annually and deaths, 37,779. The average annual birth rate per 1000 inhabitants was 27.9 and the death rate 16.3.

**EDUCATION.** According to the 1923 census, 35.9 per cent of all males and 38.8 per cent of all females over five years of age were illiterate. In 1931, there were 227,505 students in primary schools, 28,093 in secondary schools and lyceums, and 4354 in higher schools.

**PRODUCTION.** Agriculture and lumbering support the bulk of the population. About 6,485,000 acres, or 47 per cent of the total area, was under cultivation in 1930; there were 3,508,000 acres of meadow and pasture, 311,000 acres of orchard trees, shrubs and bushes, and 2,175,000 acres of woods and forests. The 1931 cereal crop was 28 per cent lower than in 1930 and there was a heavy decline in the value of farm production. The chief crops in 1930 (in bushels) were: Wheat, 8,340,000; rye, 16,282,000; barley, 10,845,000; oats, 28,065,000; potatoes, 72,089,000. Flax production was 46,028,000 pounds; hay and clover, 1,281,000 metric tons. Livestock in 1931 included 1,120,000 cattle, 1,338,000 swine, 605,000 sheep, and 592,000 horses. Industrial enterprises in 1930 numbered 1100, with 20,217 workmen, compared with 1045, with 19,746 workmen, in 1929. Machinery, metal products, foodstuffs, textiles, chemicals, brewing and tobacco manufacture are the leading industrial products.

**COMMERCE.** The value of imports declined 11 per cent in 1931 and that of exports 18 per cent. Imports for consumption were valued at 277,959,000 lits (\$27,796,000), as against 312,415,000 lits (\$31,242,000) in 1930. Exports totaled 273,119,000 lits (\$27,312,000), compared with 333,739,000 lits (\$33,374,000) in 1930. Leading imports in order of value were cotton cloth, metal wares, wool cloth; coal, coke, and briquets; machinery, and fertilizers. The principal exports were meats, butter, chemical wood pulp, swine, and eggs. Imports came principally from Germany (47 per cent), United Kingdom (7.7 per cent), Czechoslovakia (7.1), and the United States (3.9). Exports went chiefly to Germany (45.9 per cent). In 1932, imports totaled 166,953,500 lits and exports 189,125,800 lits.

**FINANCE.** Closed accounts for both ordinary and extraordinary budgets showed a surplus of 4,796,000 lits (lit equals \$0.10 at par) for 1931, with revenues totaling 340,086,000 lits and expenditures 335,290,000 lits. The 1932 budget estimates balanced at 295,000,000 lits (\$29,500,000). The external debt on Jan. 1, 1931, stood at 103,494,000 lits (\$10,349,000); on Jan. 1, 1932, it was 131,599,000 lits (\$13,160,000), of which \$6,197,000 was due the United States Government. The internal debt was negligible.

**COMMUNICATIONS.** The railway, telegraph, and telephone systems are state owned. In 1931, there were 1016 miles of railway lines and about 27,543 miles of highway (752 miles macadam). Gross revenues of the railways in 1931 were equivalent to \$4,736,000.

**GOVERNMENT.** According to the constitution as amended May 15, 1928, executive power is vested in the President of the Republic, elected for seven years, who acts through a responsible ministry; and legislative power is in a diet elected for five

years by universal, equal, direct, and secret suffrage. No elections had been held from 1926 up to 1932, and government remained in the hands of a small nationalist intelligentsia, with legislation being enacted by presidential decrees. President in 1932, Antanas Smetona; Prime Minister and Minister of Finance, Juozas Tubelis.

**HISTORY.** The Memel question again came to the forefront of Lithuania's tangled foreign relations when the Lithuanian government on Feb. 6, 1932, ousted the German president of Memel Territory and established control of the city of Memel, whose autonomy within the Lithuanian state was guaranteed by the League of Nations' Statute of May 8, 1924. This action was precipitated by the action of the German president of the Memel Directorate in negotiating in Berlin concerning the foreign affairs of Memel. The dispute was amicably terminated by a decision of the Permanent Court of International Justice on August 11, whose ruling was primarily favorable to Lithuania (see MEMEL for details of the dispute and of the Court's decision; also see WORLD COURT). There was no improvement in Polish-Lithuanian relations, which had been strained since the Polish occupation of the Vilna district in October, 1920. Lithuania was among the six nations which made war-debt payments to the United States on Dec. 15, 1932, her contribution totaling \$92,396, all in interest. No payment on principal was due.

The desperate condition of the farming population was aggravated during 1932 by continued

of Versailles, St. Germain, Trianon, and Neuilly. The treaties of alliance were renewed in 1929.

**LIVESTOCK.** Drastic price reductions were experienced for all livestock products during 1932. General unsettled conditions and the fact that livestock producers were compelled to move their animals in the face of a declining domestic and foreign demand were the important contributing factors.

The price of beef, pork, and lamb continued to show an almost steady decline from 1929. An indication of the low prices of meat animals may be obtained from the average price received by producers on Oct. 15, 1931 and 1932, for hogs, beef cattle, veal, sheep, and lambs, as calculated by the U. S. Bureau of Agricultural Economics. On Oct. 15, 1932, producers received \$3.25 per 100 lbs. for hogs, \$3.91 for beef cattle, \$4.75 for veal, \$2.03 for sheep, and \$3.95 per 100 lbs. for lambs. At the corresponding date in 1931, the average price for hogs was \$4.70; beef cattle, \$4.76; veal, \$6.5; sheep, \$2.63; and lambs, \$4.64. The prices given for 1931 were at that time considered very low. A temporary rise in June, 1932, in the price of beef cattle and hogs gave some encouragement but the market soon dropped back.

The accompanying table shows that there were somewhat smaller numbers of cattle and calves, but larger numbers of hogs and sheep slaughtered under Federal inspection in 1932 than in 1931. Except in the case of sheep, the numbers of cattle and hogs were smaller than for the 5-year average:

MEAT SLAUGHTERED AND STORED UNDER FEDERAL INSPECTION IN THE UNITED STATES IN 1932, WITH COMPARISONS

	Cattle	Calves	Hogs	Sheep and lambs
Number slaughtered:				
1932 . . . . .	7,625,373	4,493,439	45,244,957	17,899,037
1931 . . . . .	8,107,842	4,716,560	44,771,981	18,070,875
5-year average * . . . .	8,517,939	4,671,286	46,182,229	15,032,403
Total dressed weight of slaughtered animals:				
1932—lbs. . . . .	3,989,886,000	454,386,000	7,830,545,000	681,515,000
1931—lbs. . . . .	4,278,467,000	473,004,000	7,831,136,000	687,634,000
5-year average *—lbs. . . . .	4,369,689,000	467,812,000	8,057,844,000	581,432,000
In storage on December 31:				
1932—lbs. . . . .	42,870,000 <sup>b</sup>		531,938,000 <sup>c</sup>	2,767,000
1931—lbs. . . . .	53,199,000 <sup>d</sup>		614,530,000 <sup>e</sup>	2,318,000
5-year average *—lbs. . . . .	81,645,000 <sup>f</sup>		644,756,000 <sup>g</sup>	4,483,000

\* Average for 1927, 1928, 1929, 1930, 1931.

<sup>b</sup> 29,279,000 lbs. fresh, and 13,591,000 lbs. cured beef.

<sup>c</sup> 101,798,000 lbs. fresh, 389,057,000 lbs. cured pork, and 41,088,000 lbs. lard.

<sup>d</sup> 37,812,000 lbs. fresh, and 15,387,000 lbs. cured beef.

<sup>e</sup> 141,758,000 lbs. fresh, 421,648,000 lbs. cured pork, and 51,224,000 lbs. lard.

<sup>f</sup> 60,542,000 lbs. fresh and 21,103,000 lbs. cured beef.

<sup>g</sup> 133,469,000 lbs. fresh, 446,381,000 lbs. cured pork, and 64,966,000 lbs. lard.

low prices and by heavy rains, which destroyed nearly one-fifth of all the important crops. The decreased purchasing power on the farms was reflected in declining industrial production and foreign trade. Former Premier Augustinas Volde-maras, who was acquitted in 1931 of a charge of treason, was acquitted for a second time on Sept. 29, 1932, following his trial on a charge of attempted embezzlement.

Consult Malbone W. Graham, "Security in the Baltic States," *Foreign Policy Reports*, Feb. 17, 1932, vol. vii, no. 25.

**LITTLE ENTENTE.** A designation applying to the three countries of Czechoslovakia, Rumania, and Yugoslavia (q.v.), whose governments in 1920 concluded a defensive alliance aimed at the maintenance of the status quo in central Europe as established by the treaties

The compensating factor in the livestock situation was cheap feed and relatively good grazing on the range lands. In the range area 1930 and 1931 were years of low rainfall and the range had suffered from drought. Practically all the reserve feed supplies were exhausted in the winter of 1931, but spring rains produced good pastures. However, they suffered from dry weather in the summer in certain areas.

The corn hog ratio used as an indication of the economic advantage of feeding hogs is based on the ratio between the prices of corn and hogs. This ratio was favorable most of the year and above the average of 11 bushels of corn equivalent to 100 pounds of pork.

The number of cattle on farms has been increasing since 1928, but the number of cattle slaughtered each year has been decreasing, cow

and heifer slaughtering being especially low. However, the slaughtering of steers increased. The expansion in the cattle breeding stock is expected to result in a marked increase in beef slaughterings during the next few years.

Because of the favorable range and feed conditions, grass cattle marketed in the fall were in unusually good flesh and there were heavy movements of cattle back to the country for further finishing. There were large numbers of well-finished cattle marketed in the late fall of 1932 which had been fed or held, expecting a rise in the market as occurred in 1931. This points to larger supplies of well-finished cattle during the spring and summer of 1933. The expansion in the beef cattle industry, which has been going on since 1928, appears to warrant caution on account of doubt regarding the ability of consumers to absorb an increased supply of beef at remunerative prices. Early in the fall there was a decided price advantage for heavy steers, but this did not hold in the late fall.

Sheep production probably suffered worse than other phases of the livestock industry because of the long continued low prices of both meat and wool. There was no pronounced recovery in the lamb meat market as occurred temporarily for beef and hogs in June. Although the sheep population has increased for several years the number of feeder lambs transported seemed to be very low as compared with other years.

Egg and poultry markets were generally weaker than in 1931, eggs being quoted at 15 cents or less for five months of the year. After July, egg prices increased very rapidly, equaling 1930 and 1931 fall prices. The estimated November egg price to producers of 26.1 cents was only 1.5 cents less than the 1910-14 average price for November.

Poultry prices did not equal egg prices, and there was disappointment among producers regarding the holiday trade. Returns for turkeys were very low.

**INTERNATIONAL CONDITIONS.** Conditions and expected future developments in the European countries taking most of the United States' exports of pork products, the only major meat exports of the United States, did not offer much promise of improvement. The continuance of the protectional policies of the leading countries was indicated, and there was no general improvement in the buying power of the European consumers.

The downward trend in the pork exports of the United States, which has been under way for several years on account of increased European hog production, continued through 1932, but because of the higher tariffs and other barriers European importation declined, notwithstanding a tendency toward decreased hog production in many European countries. The United Kingdom was the outstanding exception to the general downward trend in production which was evidenced in Germany, Denmark, Poland, Netherlands, and other countries.

Total pork exports of the United States were reduced 25 per cent as compared with the preceding year, the decrease being much greater in bacon than in hams and shoulders. Lard exports showed little change. Although British imports of bacon were the largest on record, those from the United States declined from 10,792,801 pounds to 3,385,640 pounds during the first six months of 1932. The bacon exports to the other principal European countries also de-

clined except to Italy. The total bacon exports of the United States for 1932 were 28,083,000 pounds, as compared with 59,838,000 pounds in 1931. The total exports of hams and shoulders decreased in 1932 to 95,216,000 pounds, as compared with 132,324,000 pounds in 1931. Exports of lard during 1932 were 836,000,000 pounds, as compared with 901,000,000 pounds in 1931.

The greatest factor in the drop in bacon imports of the United Kingdom from the United States was the increase in bacon production in continental hog producing countries. The Danish pig industry has been built up with the intention of supplying the English market. The Dutch industry formerly supplied England with much fresh pork. Since the prohibition of imports of fresh pork from the Continent, Holland increased the production of bacon for the English market. Sweden also caters to this market. In recent years the bacon industry in Poland, Lithuania, Estonia, and Latvia has undergone great development, export production being largely for the English market. Occasional shipments from Germany and frequent but irregular shipments from Russia appeared on the English market.

The British government took steps to encourage livestock production in the various dominions, which may be expected to have a definite influence on the international meat trade. This may be expected to stimulate beef production in a number of the dominions, and in the Union of South Africa additional encouragement was offered in the form of a subsidy. Increased beef production in South Africa may be expected to offer additional competition to the frozen and chilled beef trade, particularly of the South American countries.

**RESEARCH.** Investigations continued on the various phases of livestock production. Meat investigations were probably of the most general interest in the U. S. Department of Agriculture and State agricultural experiment stations. These were concerned with the part played by management; breeding; feeding; grade; storage; and cooking on the quality, tenderness, and palatability of beef, lamb, and pork. In breeding studies there was a growing interest in the setting up of a record of performance to serve as a measure of the breeding capacity of swine, beef cattle, sheep, and poultry. Livestock breeders and those interested in the research features of livestock improvement aided in fostering such a programme. Several State experiment stations and the U. S. Department of Agriculture were engaged in a coöperative attack on the mode of inheritance of capacity for meat and milk production in cattle, and an attempt was being made to combine both qualities in dual purpose breeds. Problems of local and sectional interest are constantly under investigation at the 48 State experiment stations and their substations over the United States.

Interesting results regarding the addition of feeds rich in vitamins A and D to the rations of calves, milking cows, and pigs were reported by H. Isaachsen of the Royal Agricultural College of Norway. Practically no benefit in the growth of calves or pigs from adding feeds rich in vitamin A to skim milk for calves or grain rations for pigs was observed. Additional amounts of vitamin D (antirachitic) supplied in feeds maintained better calcium and phosphorus balances in milch cows and helped to prevent rickets in pigs. Some, but not all, fish meals were good

sources of vitamin D. The importance of the antirachitic vitamin in rations of growing sheep was brought out in studies conducted by D. W. Auchinachie and A. H. H. Fraser at the Rowett Institute in Scotland. Here it was found that cod-liver oil or outdoor sunlight were necessary to permit normal growth. As the calcium and phosphorus in the blood serum were correlated with the growth of the sheep it seemed conclusive that the important factor was the antirachitic vitamin in the cod-liver oil or sunlight. Of course an adequate supply of lime must be available in the ration to permit the full operation of the antirachitic factor.

The importance of minerals and a factor necessary for the assimilation of calcium were further borne out in studies of the mineral balances of laying pullets conducted in the animal nutrition division of the Ministry of Agriculture for Northern Ireland, by R. H. Common. Large amounts of calcium are required for eggshell formation and there was found to be a reduction in the calcium and phosphorus voided during the 2 to 3 weeks prior to egg laying. These findings confirm and substantiate the results of many investigations at the State agricultural experiment stations and the U. S. Department of Agriculture.

Agricultural experiment stations of the Union of South Africa are working on pasture improvement projects. The present carrying capacity of South African pastures is fully utilized in years of normal rainfall and normal grazing conditions. Under existing export subsidies for cattle and dairy products, together with the improved outlook for a market for chilled beef, however, an increased carrying capacity for pastures seems justified.

The National Advisory and Legislative Committee on Land Use and National Land Use Planning Committee issued a statement in November regarding the administration of the public domain of the United States, in which recommendation was made for immediate Federal regulation of grazing on the unreserved and unappropriated public lands to check overgrazing, erosion, and damage to watersheds and irrigation districts. As a result of unrestricted use, large areas have been greatly reduced in grazing capacity and some have been depleted so that they are unfit for grazing in their present condition.

**NECROLOGY.** W. A. Henry, head of animal husbandry and Dean of the Wisconsin Agricultural College from 1880 until his retirement in 1907, died at the age of 82. Dr. Henry was probably best known as the author of the book *Feeds and Feeding* by W. A. Henry and F. B. Morrison.

Dr. Byron E. Pontius, professor of animal husbandry at Purdue University, died on March 16. In addition to teaching animal husbandry and genetics, he conducted research in the field of animal breeding.

Dr. C. D. Marsh, in charge of poison plant investigations in the U. S. Department of Agriculture until his retirement in 1930, died on Apr. 23, 1932.

Dr. Graham Lusk, a member of the Cornell Medical College faculty for 30 years, and one of the leading world authorities on animal nutrition, died on July 18.

**CHANGES IN PERSONNEL.** C. F. Curtiss, well known in animal husbandry circles and as a livestock judge, retired on June 30 as Dean and

Director of the Iowa State Agricultural College and Experiment Station.

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**LIVESTOCK DISEASES.** See VETERINARY MEDICINE.

**LIVESTOCK PLANT POISONING.** See VETERINARY MEDICINE.

**LIVONIA.** See LATVIA.

**LJUNGBERG, GOTÅ.** See MUSIC.

**LOAD LINE CONVENTION.** See SHIPPING.

**LOCKOUTS.** See STRIKES AND LOCKOUTS.

**LOEB CLASSICAL LIBRARY, THE.** See PHILOLOGY, CLASSICAL.

**LOGIC.** See PHILOSOPHY.

**LOMBOK.** See NETHERLAND INDIA.

**LONDON PHILHARMONIC ORCHESTRA.** See MUSIC.

**LONE SCOUTS.** See BOY SCOUTS OF AMERICA.

**LOS ANGELES.** See AQUEDUCTS.

**LOUISIANA. POPULATION.** According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 2,101,593, as against 1,798,509 in 1920. New Orleans, the chief city, had (1930) 458,762 inhabitants; Baton Rouge, the capital, 30,729.

**AGRICULTURE.** The table on page 408 shows the acreage, production, and value of the principal crops for 1932 and 1931.

**MINERAL PRODUCTION.** The production of petroleum decreased moderately to 21,804,000



Crop	Year	Acres	Prod. Bu.	Value
Cotton	1932	1,801,000	610,000 <sup>a</sup>	\$19,520,000
	1931	1,958,000	900,000 <sup>a</sup>	25,065,000
Rice	1932	424,000	16,536,000	6,780,000
	1931	471,000	17,192,000	9,112,000
Corn	1932	1,261,000	17,906,000	6,804,000
	1931	1,287,000	20,592,000	9,060,000
Sweet potatoes	1932	84,000	5,544,000	2,489,000
	1931	72,000	5,400,000	3,240,000
Hay	1932	196,000	241,000 <sup>b</sup>	1,617,000
	1931	192,000	304,000 <sup>b</sup>	2,591,000
Potatoes	1932	41,000	2,878,000	1,881,000
	1931	48,000	3,552,000	1,812,000
Sugar cane	1932	217,000	3,401,000 <sup>b</sup>	11,321,000
	1931	184,000	2,717,000 <sup>b</sup>	9,648,000

<sup>a</sup> Bales. <sup>b</sup> Tons.

barrels for 1931, from 23,272,000 for 1930; in value, more sharply, to \$14,220,000 (1931), from \$26,110,000. In the production of natural gas the State ranked fourth among the members of the Union, on the basis of quantity, though not on that of value, for 1930, the latest year for which statistics on natural gas were available. The State's natural-gas wells increased their yield to 278,341,000 M cubic feet (1930), from 261,138,000 M (1929); by value, to \$35,895,000 (1930), from \$26,505,000 (1929). Extensive systems of transmission had much to do with the increase. From natural gas were extracted in 1931 58,034,000 gallons of gasoline, as against 73,693,000, in value \$3,725,000 for 1930. Salt production declined only slightly, to 529,280 short tons for 1931, from 535,250 for 1930; by value, to \$1,962,690 (1931), from \$2,164,365 (1930). Except for sand and gravel to the total value of \$2,225,211 produced in 1930 no other mineral products were listed as furnishing totals of major importance in that year. While the State made no substantial contribution to production of sulphur, it was reported in November, 1932, that the Froepert Texas Company was about to develop a sulphur deposit at Grande Ecaille, near the Mississippi River some 50 miles below New Orleans. The total value of the mineral product of the State was \$71,929,038 for 1930; for 1929, \$62,725,997.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 4639. During the year previous, some 15 miles of line had been abandoned.

**EDUCATION.** In the face of conditions generally adverse to liberal support for public education the State Legislature appropriated in 1932, for the public schools, \$1,500,000 more than had been granted the year before; it likewise increased by \$750,000 the total for the State university and maintained the existing level of appropriations for the other higher schools under the State Board of Education. For the academic year 1931-1932, the numbers of persons of school age were stated as 399,999 whites and 263,170 Negroes. There were enrolled in the public schools 286,988 whites and 160,529 Negroes. Of these, 230,243 whites and 153,285 Negroes were in common schools or elementary grades; in high schools, 56,745 whites and 7244 Negroes. The expenditure of the year for public-school education totaled \$15,019,468 for whites and \$1,861,096 for Negroes. Salaries of teachers, by the year, averaged \$969.55 for whites and \$296.31 for Negroes.

**CHARITIES AND CORRECTIONS.** Under the system in operation in 1932 the central authority of the State over institutions for the care and custody of persons rested in a Board of Charities

and Correction. This board was composed of four ordinary members, of whom one served as vice-chairman, and further included the Governor, as *ex-officio* member and chairman. The board did not possess administrative or executive powers; its duties were supervisory, with regard to the State and subdivisional institutions. The State institutions were conducted by separate directing bodies. The board had, further, the authority to visit private eleemosynary institutions. The chief State institutions were: penal and correctional, the Penitentiary at Baton Rouge, Training Institute at Monroe, and Industrial School for Girls, at Alexandria; for the insane, the Central Louisiana State Hospital, at Pineville, and East Louisiana State Hospital, at Jackson; Greenwell Springs Tuberculosis Hospital, Greenwell Springs; Charity Hospital (general), at New Orleans; for defectives, schools for the blind at Baton Rouge (colored and white), School for the Deaf (Baton Rouge), State Colony and Training School (feeble-minded, Alexandria).

**LEGISLATION.** The State Legislature held a regular biennial session, which adjourned on July 7. In spite of an adverse report, declaring it unconstitutional to repeal State laws by a popular vote, there was passed a bill submitting to a popular referendum in November the proposal that the State's prohibition law be repealed. A separate referendum was submitted to the November popular vote, on the proposition whether to favor the repeal or modification of the Eighteenth Federal Amendment. New or additional taxes were imposed on tobacco, soft drinks, electricity, insurance premiums, corporate franchises and chain stores. The State Highway Commission was authorized by concurrent resolution to borrow \$2,500,000 for the cost of finishing road-building that was under way. Gross sales of dairy and meat products were subjected to a tax of 1¼ per cent. Measures of budgetary planning, of State economy, and of tax reduction were lost. The proposed Federal constitutional amendment to alter the dates of inaugurations and of the convening of Congress was ratified.

**POLITICAL AND OTHER EVENTS.** The State act of 1931, prohibiting the planting of cotton in 1932, not having been copied by the other cotton States, was declared inoperative by Governor Long in a proclamation in January. Long vacated the office of Governor on January 25 in order to qualify for the office of United States Senator, to which he had been elected in 1930. He was not succeeded by Lieutenant Governor Cyr, who had sought to obtain the office through court action, but by Alvin O. King, President of the State Senate and Long's personal choice for his successor. King was sworn in on January 26, and assumed office. Cyr also went through the form of being sworn in but did not obtain authority. In the Democratic primary election, held on January 19, O. K. Allen, who had Governor Long's support, received the nomination for Governor, this insuring his election, which took place April 20. An ouster suit brought by Cyr for the removal of King as actual governor was denied by Judge Porter of the District Court, at St. Charles, on March 14. Oscar K. Allen was inaugurated Governor on May 16. On the same day was dedicated, at Baton Rouge, the new State Capitol, a \$5,000,000 structure of Alabama limestone, composed of a broad, low base and a central tower of 33 stories, the interior being

embellished by works of Lorado Taft, Jules Guerin, and other artists of note. The State secured a loan of \$1,000,000 for relief of need among the unemployed, from the Reconstruction Finance Corporation, in August. It obtained, from the same source, on September 27, a loan of \$13,000,000 to cover the cost of the projected railroad and highway bridge across the Mississippi River at New Orleans.

**ELECTIONS.** The State voted the Democratic Presidential ticket by a majority of 13 to 1. For President, the popular vote was: Roosevelt (Dem.), 249,418; Hoover (Rep.), 18,853.

J. H. Overton, Democrat, was elected United States Senator, and a full Democratic delegation of 8, all but one being actual incumbents, were elected to the Federal House of Representatives. An affirmative popular vote was cast on two referenda: That the State prohibition law be repealed, and that Congress be petitioned to call a convention to repeal the Eighteenth Amendment.

**OFFICERS.** The chief officers of the State, serving subsequently to the inauguration of May 16, were: Governor, Oscar K. Allen; Lieutenant-Governor, John B. Fournet; Secretary of State, E. A. Conway; Treasurer, J. S. Cave; Auditor, L. B. Bayard, Jr.; Attorney-General, G. L. Porterie; Superintendent of Education, T. H. Harris.

**Supreme Court:** Chief Justice, Charles A. O'Neill; Associate Justices, Ben C. Dawkins, Winston Overton, John St. Paul, W. G. Rogers, John R. Land, H. F. Brunot, Fred M. Odom.

**LOW, SIR SIDNEY.** A British author and journalist, died in Kensington, London, Jan. 13, 1932. He was born in Blackheath, Jan. 22, 1857, and was educated at Balliol College, Oxford. He became a barrister of the Inner Temple and also lectured on constitutional history at King's College, University of London. In 1888 he succeeded Frederick Greenwood as editor of the *St. James's Gazette*, holding this post until 1898 when he became a leader writer on the *Standard*. He was literary editor of the latter in 1904 and special correspondent thereafter. His assignments, which covered important events in all parts of the world, including the World War, were later recounted in such books as *A Vision of India* (1906), the outgrowth of his trip to India at the time of the Prince of Wales's tour; *Egypt in Transition* (1914); *The Spirit of the Allied Nations* (1915); *Italy in the War* (1916); *The Call of the East* (1921); and *Indian States and Princes* (1929). He also wrote a *Dictionary of English History* (1884, revised, 1896); *Governance of England* (1904); *Political History of the Reign of Queen Victoria* (1907); *De Quincey* (1911); and *The British Constitution* (1928). He was knighted in 1918.

**LOW, WILL HICOK.** An American illustrator and figure and genre painter, died in Bronxville, N. Y., Nov. 27, 1932. He was born in Albany, N. Y., May 31, 1853, and obtained his art education in Paris where he studied under Gérôme at the École des Beaux Arts and under Carolus-Duran. His work was also influenced by association with Millet and other painters at Barbizon. Returning to the United States in 1877, he was elected a member of the Society of American Artists in 1878, an associate of the National Academy of Design in 1888, and an academicien in 1890. During 1882-85 he was an instructor in the life classes at Cooper Union and during

1889-92 at the National Academy of Design. In 1910 he delivered the Scammon lectures at the Art Institute of Chicago. He was the recipient of medals at the Paris Exposition of 1889, the Chicago Exposition of 1893, and the Buffalo Exposition of 1901, and at the St. Louis Exposition of 1904 served as a member of the International Jury of Awards. At the time of his death he was a member of the National Institute of Arts and Letters.

Low was one of the first to introduce the light tones of the plein-air school into American art, his work showing grace of line, delicate coloring, and good composition. Among his paintings are: "The Orange Vender" (Art Institute of Chicago); "Christmas Morn" (National Gallery, Washington); "May Blossoms" (Smith College); "The Sylvan Year" (Montclair, N. J., Art Museum); "My Lady" (Lotus Club, New York City); and "Aurora" (Metropolitan Museum of Art, New York City). Among his decorations are stained-glass windows in the Rock Creek Church, Washington, D. C., and St. Paul's Methodist Episcopal Church, Newark, N. J.; decorative panels for the ball room of the old Waldorf-Astoria Hotel, New York City; and mural paintings in the Essex County Court House, Newark, N. J., the Lucerne County Court House, Wilkes-Barre, Pa., the Federal Building, Cleveland, Ohio, and St. Paul's Protestant Episcopal Church, Albany, N. Y. His most significant murals are the series depicting "The Aspiration of Man and the Results of His Achievement" in the rotunda of the New York State Educational Building and the frieze in the legislative library of the Capitol at Albany. His best-known illustrations are those for Keats's *Lamia* and *Odes and Sonnets*. He was the author of *A Chronicle of Friendships* (1908) and *A Painter's Progress* (Scammon Lectures, 1910).

**LUBECK, lü'bék.** A state of the German Republic. See GERMANY under *Area and Population*.

**LUCE, ADMIRAL JOHN.** A British naval officer, died near Devizes Sept. 23, 1932, aged 62. During the World War he participated in the cruiser operations in the South Atlantic, commanding the *Glasgow* which he successfully saved when the rest of Admiral Cradock's squadron was lost in the battle off Coronel, Chile, Nov. 1, 1914. Afterwards he helped Admiral Sturdee to restore the prestige of the British navy at the battle of the Falklands on Dec. 8, 1914, the *Glasgow* destroying the German cruiser *Leipzig*. His ship was also responsible for the sinking of the *Dresden* off the island of Juan Fernandez on Mar. 14, 1915. After the war he became associated with the Royal Naval Air Service and was one of the first commodores of the station at Cranwell. During 1921-24 he was admiral superintendent of the Malta dockyard. He retired in 1925. He was created a Companion of the Bath and received the decoration (third class) of the Order of the Rising Sun of Japan in recognition of the part he had played in the destruction of the German Asiatic fleet.

**LUDLOW, JAMES MEEKER.** An American clergyman and author, died in Norfolk, Conn., Oct. 4, 1932. He was born in Elizabeth, N. J., Mar. 15, 1841, and was graduated from Princeton University in 1861 and from the Princeton Theological Seminary in 1864. Following his ordination to the Presbyterian ministry in 1864, he held, until his retirement in 1909, pastorates of the First Presbyterian Church, Albany; the

Collegiate Reformed Church of St. Nicholas, New York City; the Westminster Church, Brooklyn; and the Munn Avenue Church, East Orange, N. J. He wrote: *A Man for A' That* (1880); *Concentric Chart of History* (1881); *Captain of the Janizaries* (1886); *A King of Tyre* (1890); *That Angelic Woman* (1890); *The Age of the Crusades* (1896); *Deborah* (1901); *Incentives for Life* (1902); *Sir Raoul* (1905); *Jesse Ben David* (1907); *Judge West's Opinion* (1908); *The Discovery of Self* (1910); *Avanti!* (1913); and *Along the Friendly Way* (1919).

**LUMBER.** See FORESTRY.

**LUSK, GRAHAM.** An American physiologist, died in New York City, July 18, 1932. He was born in Bridgeport, Conn., Feb. 15, 1866, and was graduated from Columbia University in 1887 and with the Ph.D. degree from the University of Munich in 1891. From 1891 to 1898 he was successively instructor, assistant professor, and professor of physiology at Yale University. He was then called to the same chair at the University and Bellevue Hospital Medical College in New York City. After 1909 he was a member of the Cornell University medical college faculty. Also, he was made scientific director of the Russell Sage Institute of Pathology, and during the World War was a member of the Inter-Allied Scientific Food Commission. He was the author of *Elements of the Science of Nutrition* (1906) and of the *Fundamental Basis of Nutrition* (1914).

**LUTHERAN CHURCH.** A church that expresses itself in groups of religious bodies and synods that receive and hold the canonical Holy Scriptures of the Old and New Testaments as the inspired Word of God, and as the only infallible rule and standard of faith and practice. The church accepts the three ecumenical creeds—the Apostles, the Nicene, and the Athanasian. The church receives and holds the Unaltered Augsburg Confession as a correct exposition of the faith and doctrine of the Evangelical Lutheran Church, founded upon the Word of God. All the groups accept Luther's Small Catechism and none reject the symbolical books of the Evangelical Lutheran Church, namely, the Apology of the Augsburg Confession, the Smalcald Articles, the Large Catechism of Luther, and the Formula of Concord. The cardinal doctrine of the Lutheran system of theology is justification by faith alone in Jesus Christ.

The membership of the Lutheran Church, while found chiefly in Central and Northern Europe and in the United States and Canada, is distributed throughout the world, being a total of about 83,000,000, served by more than 50,000 pastors in more than 75,000 congregations. In the United States, as the result of mergers and the formation of federations, the Lutheran Church expresses itself in practically a threefold equal division in the United Lutheran Church in America, the American Lutheran Conference (consisting of the American Lutheran Church, the Augustana Synod, the Norwegian Lutheran Church, the Lutheran Free Church, and the United Danish Church), and the Synodical Conference (consisting of the Missouri Synod, the Joint Wisconsin Synod, the Slovak Synod, the Norwegian Synod, and the Negro Missions). In addition there are the following minor religious bodies: Eielson Synod, Church of the Lutheran Brethren, Danish Church, Icelandic Synod, Finnish Suomi Synod, Finnish National Church, Finnish Apos-

tollic Church, and a number of non-synodical or independent congregations.

The statistics for 1931-32 for the United States and Canada were as follows: pastors, 12,018; congregations, 10,532; baptized members, 4,401,501; confirmed or communicant members, 2,941,413; communing members, 2,411,461; church schools, 19,552; officers and teachers, 155,286; scholars, 1,791,291; value of church property, \$380,202,923; congregational expenses, \$39,784,096; congregational benevolences, \$9,933,064; congregational expenditures, \$49,717,160. The per capita gifts were for congregational expenses, \$13.52; for congregational benevolences, \$3.37; and for congregational expenditures, \$16.90.

During 1932 are to be noted the process of balancing budgets, without curtailment of work and expansion despite depression; the intensive emphasis upon evangelism; the survey of the Lutheran Church in Canada, looking forward to the formation of a separate Lutheran Church; the establishment of commissions on investments and endowment; the development of the stewardship movement and the development and conservatism of the work among young people's and laymen's and women's organizations; the passing of a resolution of the 35th triennial convention of the Synod of Missouri, Ohio, and other States, creating the office of the board of Christian education and the office of the secretary of missions under a board of national missions, and the placing of linguistic missions in charge of the local districts; the passing of a resolution by this same convention, looking to the formation of one unit by the merging of the synods now in the federation with the Synodical Conference; and the taking of steps for the formation of one Lutheran Church in America. There must also be noted the initiation of a survey of the American Lutheran Church educational institutions; the steps taken by the board of trustees of Hartwick Theological Seminary, Brooklyn, N. Y., for the establishment of an all-Lutheran theological seminary in the City of New York; and the agreement of the Norwegian Lutheran Church, the American Lutheran Church, and the Augustana Synod to support and operate jointly the Pacific Lutheran College, Parkland, Wash. The first convention of the American Lutheran Conference was held in Milwaukee, Wis., in November, 1932, when it was decided to divide the United States into five home mission areas, with a separate home mission council in each, composed of representatives of the five general Lutheran Church bodies in the American Lutheran Conference. This council was to supervise the work and co-ordinate the efforts of these Lutheran bodies so as to avoid duplication and overlapping. There should also be noted the resolutions of the American Lutheran Conference looking forward to the formation of one Lutheran Church in America.

**FOREIGN.** In the Lutheran Church of the world in general are to be noted first of all the transfer of the 397 Lutheran refugees from Harbin, Manchoukuo, to Brazil and their settlement there by the Lutherans of the world acting through the executive committee of the Lutheran World Convention, Dr. John A. Morehead, chairman, the necessary funds having been contributed by the Lutherans of America, Norway, Sweden, Denmark, Finland, Germany, and other countries. In Norway must be noted the influence of Hallesby's teaching, preaching, and writing and Martha Steinsvik's translation of Liguori's *Moral*

**Theology.** In Denmark must be noted the celebration of the 800th anniversary of the Bishopric of Viborg. In Sweden must be noted the consecration at Upsala on Trinity Sunday, May 22, 1932, of the new Archbishop, Erling Eidem, who is holding the Lutheran Church to its cherished ideals; the movement to return all Lutheran church properties to the parishes and institutions, and all the missionary churches of India and China, in charge of Swedish missionaries, to entire mission field home rule and self-government; also the unveiling of a memorial to the late Archbishop Nathan Söderblom in Upsala Cathedral. The Lutheran World Convention honored Gustavus Adolphus on Nov. 7, 1932, when Bishop Ludwig Ihmels, vice-president of the executive committee, presented a tribute in the form of a wreath on behalf of the Lutherans of the world at the celebration at Luetzen, Germany. There must also be noted in Germany the founding of the Luther Academy in Sondershausen; the Gustavus Adolphus celebration in Leipzig, Sept. 17-20, 1932; the Salzburger 200th anniversary celebration in Prussia; and the rededication on Reformation Day, Oct. 31, 1932, of the castle church in Torgau, first dedicated Oct. 5, 1544. In Switzerland there was the organization of the Martin Luther Society, to aid in the supporting of the Lutheran congregations in that country; in Rumania, the retirement of Bishop Teutsch and the election of Dr. Victor Glondys as the Bishop at the head of the Evangelical Lutheran Church of the Augsburg Confession in Rumania; in Estonia, on June 30, 1932, the celebration of the 30th anniversary of the Lutheran University of Dorpat,—the founder was Gustavus Adolphus; in Hungary, the inauguration of the use of a new liturgy edited by Bishop D. D. Sonder Raffey, based upon the order of service prepared by Martin Luther; in Latvia, the creation of the Archbishopric of Latvia and the election of Dr. Theodors Grinbergs as Archbishop, and also the election of four other bishops to preside over the four Latvian districts of the Lutheran Church in Latvia.

In 1932 the Lutheran Church in the United States and Canada maintained 37 theological seminaries, 31 colleges, 85 junior colleges, academies, and schools with a total enrollment of 31,591 students, 2093 instructors, an endowment amounting to \$17,010,988, and a property value of \$44,729,337. Lutheran Inner Mission institutions, such as deaconesses' homes, hospitals, old people's homes, orphanages, immigrants' and seamen's homes, numbered 410, with an endowment of \$5,223,228 and a property value of \$49,996,530. During the year they sheltered, cared for, and ministered to 8847 children and 1,119,952 women and men at an annual expense of \$11,262,857. In addition to the institutional work, congregational and society inner mission work was done at an expense of approximately \$9,000,000. The expansion of efforts, looking to the preparation of literature for the blind is to be noted.

The work of the American Lutheran churches in fields outside of the United States and Canada was carried on principally in India, Africa, Japan, China, New Guinea, Argentina, and British Guiana in charge of 450 pastors, serving 2462 congregations and missions with 307,099 baptized members, 110,332 confirmed members, 127,957 communing members, 3104 church schools, 1370 officers and teachers, 127,795 scholars. The property value was \$4,430,954; the local congregational

expenses, \$219,833; the benevolences, \$151,348; the total congregational expenses, \$371,181. On the foreign mission field are to be noted the transference by the Rheinisch Mission Society of Barmen, Germany, to the American Lutheran Church of the mission in New Guinea (Madang District) and the 20th anniversary of the Boys' Middle School, Kyushu Gakuin, at Komoto, Japan.

The church maintains 25 publishing houses, with a total property value of \$5,663,798. The official periodicals are: *The Lutheran* (United Lutheran Church), *Lutheran Standard* (American Lutheran Church), *Lutheran Companion* (Augustana Synod), *Lutheran Herald* (Norwegian Lutheran Church), *Lutheran Witness* (Missouri Synod), *Northwestern Lutheran* (Wisconsin Synod), *Ansaar Lutheran* (United Danish Church), *Lutheran Men* (American Federation of Lutheran Brotherhoods), and *National Lutheran* (National Lutheran Council). Headquarters of the National Lutheran Council, in which the United Lutheran Church in America and the American Lutheran Conference cooperate, are at 39 East 35 Street, New York City, the executive director being the Rev. Ralph H. Long, D.D.

**LUXEMBURG (LUXEMBOURG)**, lük'sembürg. A small state of western Europe, bounded by Germany, France, and Belgium and linked economically to Belgium by a customs union effective May 1, 1922. Area, 999 square miles; population (1931) 300,748. Capital, Luxembourg, population (1931), 53,791.

Agriculture engages only 32 per cent of the population, the 394,000 acres under cultivation being devoted principally to oats and potatoes. Mining and metallurgical industries predominate. Production of iron ore (1931) totaled 4,731,068 metric tons; pig iron, 2,053,158 metric tons; steel, 2,034,942 metric tons. In 1930 there were 45 blast furnaces and 7 steelworks in operation. The brick, printing, leather, and glass industries are relatively important. Figures for foreign trade are included in those for Belgium. In the budget for 1931, revenue was estimated at 505,640,578 Luxemburg francs and expenditure at 461,586,709 francs (1 Luxemburg franc equals \$0.139 at par). The public debt Jan. 1, 1931, was 531,010,511 francs.

Executive power is vested in the sovereign, who appoints the Cabinet, and legislative power is vested partly in the sovereign and partly in the Chamber of Deputies of 54 members elected by direct suffrage for six years. The Council of State of 15 members, chosen by the sovereign for life, acts as a Senate. Premier in 1932, Joseph Bech (Catholic-Conservative), who is assisted by three director-generals. Ruler in 1932, Grand Duchess Charlotte. See BELGIUM and NETHERLANDS, THE, under *History*.

**LYMAN ALLYN MUSEUM.** See ART MUSEUMS.

**LYNCHINGS.** The year 1932 saw the perpetration of 11 lynchings in the United States, as compared with 14 in 1931, thus indicating that despite the continuance of the depression this form of mob rule was being kept tightly in hand. Of the 11 victims, 9 were Negroes and 2 were whites. Two lynchings occurred in Florida, and one each in Arkansas, Georgia, Kansas, Kentucky, Louisiana, Ohio, South Carolina, Texas, and Virginia. In all cases the mobs either hanged or shot their victims. The offenses charged to the lynched persons included a quarrel with an em-

ployer, murder, theft of a \$10 note and the wounding of a deputy sheriff, quarrel over pay resulting in shooting, dynamiting a store, and insulting white women.

**LYTTON COMMISSION**, REPORT OF. See JAPAN and CHINA under *History*; LEAGUE OF NATIONS; MILITARY PROGRESS.

**MACAO**, maká'ô. An island at the mouth of the Canton River, in China, which with the two adjacent islands of Taipa and Colôane, constitutes a province of Portugal. Area, 4 square miles; population, according to the census of 1927, 157,175 (including 3846 Portuguese, and 152,738 Chinese). The trade is chiefly in transit and is mainly in the hands of the Chinese. In 1930-31, revenues were estimated at 4,769,535 patacas and expenditures at 4,758,243 patacas (1 pataca equals approximately \$0.48). In 1930, imports were valued at 20,571,497 patacas and exports at 11,014,782 patacas. Governor in 1932, Artur Tamagnini.

**McCLURE, JAMES GORE KING**. An American clergyman and educator, died in Lake Forest, Ill., Jan. 18, 1932. He was born in Albany, N. Y., Nov. 24, 1848, and was graduated from Yale University in 1870, and from the Princeton Theological Seminary in 1873. Ordained to the Presbyterian ministry, he was pastor in New Scotland, N. Y., from 1874 to 1879. Following his call to Lake Forest, Ill., in 1881, he was elected president of the Lake Forest University in 1897 and held that office until 1901. From 1905 to 1928 he was president of the McCormick Theological Seminary (now the Presbyterian Theological Seminary) in Chicago. He was the author of *Possibilities* (1896); *The Man Who Wanted to Help* (1897); *The Great Appeal* (1898); *Environment* (1899); *For Hearts That Hope* (1900); *A Mighty Means of Usefulness* (1902); *Living for the Best* (1903); *The Growing Pastor* (1904); *Loyalty, The Soul of Religion* (1905); *Supreme Things* (1907); *Grandfather's Stories* (1926, 1928); and *History of the Presbyterian Theological Seminary, Chicago* (1929).

**MACDONALD, J. RAMSAY**. See GREAT BRITAIN under *History*.

**MACEDONIA**. A stretch of territory in the Balkan peninsula, included in European Turkey until the outbreak of the Balkan Wars (1912-13) and since the World War divided between Greece and Yugoslavia to the exclusion of Bulgaria. See GREECE.

**MCGILL UNIVERSITY**. A coeducational institution of higher learning in Montreal, Quebec, Canada, founded in 1821. The enrollment for the autumn session of 1932 was distributed as follows: Faculties of arts and science, 1049; medicine, 478; engineering, 345; dentistry, 39; law, 89; music, 149; and graduate studies, 257; and schools or departments of agriculture, 118; architecture, 51; commerce, 218; household science, 91; graduate nursing, 38; physical education, 26; library administration, 12; and teachers' training school, 223. The registration in the French summer school of 1932 was 185 and in the summer library school, 27. The number of members on the teaching staff was 576.

The endowment of the university amounted to \$18,878,274; the income for the year was \$2,027,392. The library contained 450,000 volumes.

An institute of helminthology and a department of animal industry were inaugurated at Macdonald College, an affiliated college of McGill University at Sainte Anne de Bellevue, Quebec.

In the faculty of graduate studies and research two new courses were offered: one leading to the degree of Master of Civil Law and the other to the degree of Master of Arts in Chinese Studies. The university received a grant of \$1,232,652 from the Rockefeller Foundation for the department of neurology and neuro-surgery in the faculty of medicine, and a new building for the carrying on of this work was under construction. Principal, Sir Arthur William Currie, G.C.M.G., K.C.B., LL.D.

**MACK, NORMAN EDWARD**. An American newspaper publisher and politician, died in Buffalo, N. Y., Dec. 26, 1932. Born in Canada July 24, 1858, he received a public school education in Pontiac, Mich. Settling in Buffalo, N. Y., he established there in 1879 the *Sunday Times* and in 1883 the *Daily Times*, both of which he continued to edit and publish until his retirement in 1929. Becoming active in Democratic politics, he came to be regarded by many as the up-State representative of Tammany Hall. He served between 1892 and 1924 as delegate to nine Democratic National Conventions. After 1900 he was New York member of the Democratic National Committee, and in 1908 was selected by William Jennings Bryan as chairman of that committee. In 1915 he was chairman of the New York State Committee for the Panama-Pacific Exposition in San Francisco.

**McKEE, JOSEPH V.** See NEW YORK under *Political and Other Events*.

**MACKENZIE**. See NORTHWEST TERRITORIES.

**McKINNEL, NORMAN**. A British actor, died in Bloomsbury, London, Mar. 29, 1932. He was born in Maxwelltown, Scotland, Feb. 10, 1870, and was educated at Edinburgh and Leipzig Universities. He first appeared on the stage at Clacton-on-Sea in *A Jonathan without a David* in 1894. His début in London was made the following year in *Davy Garrick*. Also, he played with Sir H. Beerbohm Tree for three years, principally in Shakespearean productions. In 1903 he was engaged by Sir Henry Irving to support him in *Dante*. Subsequently he played leading parts in *Candida* (1904), *The Perfect Lover* (1905), *The Harlequin King* (1906), *Pan and the Young Shepherd* (1906), *Don Juan in Hell* (1907), *Irene Wycherley* (1907), *Grit* (1908), *The Truants and Strife* (1909), *The Crisis* (1910), *The Master Builder* (1911), and *The Cat and the Cherub* (1911). In 1912 he gave a notable performance in London and New York as John Rutherford in *Rutherford and Son*. He later distinguished himself in *Monna Vanna* (1914); *The Ware Case* (1915); *Hobson's Choice* (1916); *General Post* (1917); *The Truth about Blayds* (1921); *Old English* (1924); *The Green Hat* (1925); *Intimate Enemies* (1926, of which he was co-author); *Tuppence Colored* (1927); and *Water* (1929). He was the author of *The Bishop's Candlesticks*, founded on an incident in Victor Hugo's *Les Misérables*, which was produced in 1901. He was also for a time chairman of the British Actors' Association.

**McLEAN, GEORGE PAYNE**. An American lawyer, governor, and U. S. Senator, died June 6, 1932 in Simsbury, Conn., where he was born Oct. 7, 1857. While engaged as a reporter on the Hartford *Evening Post* he studied law, and after his admission to the bar in 1881 practiced in Hartford. He served as a member of the House of Representatives of the Connecticut General Assembly in 1883 and was clerk of the Board of

Pardons (established largely as a result of his efforts as chairman of the House committee on State prisons) from 1884 to 1901. In 1885 he was a member of the commission to revise the statute laws of Connecticut, and the following year was elected a member of the State Senate. During 1892-96 he was U. S. attorney for Connecticut and also counsel for the State comptroller and State treasurer. He was governor of Connecticut from 1901 to 1903, the outstanding events of his administration being the calling of a constitutional convention in 1902 and the establishment of a tax commission. Elected to the U. S. Senate in 1910, he was reelected in 1916 and 1922, voluntarily retiring in 1928 before the expiration of his third term.

**McMASTER, JOHN BACH.** An American historian, died in Darien, Conn., May 24, 1932. He was born in Brooklyn, N. Y., June 29, 1852, and was graduated from the College of the City of New York in 1872. After establishing a reputation as a civil engineer, especially through his books *Bridge and Tunnel Centres* (1876) and *High Masonry Dams* (1876), he was appointed in 1877 instructor in civil engineering at Princeton University. He abandoned that field, however, and in 1883 was chosen professor of American history at the University of Pennsylvania where he remained until his retirement as professor emeritus in 1920. In 1905 he served as president of the American Historical Association. He was also a member of the National Institute of Arts and Letters. His works include: *A History of the People of the United States* (8 vols., 1883-1912); *Benjamin Franklin as a Man of Letters* (1887); *Origin, Meaning, and Application of the Monroe Doctrine* (1893); *A School History of the United States* (1897); *A Primary School History of the United States* (1901); *Daniel Webster* (1902); *Brief History of the United States* (1907); *The Struggle for the Social, Political, and Industrial Rights of Man* (1903); *Life and Times of Stephen Girard* (1917); *The United States in the World War* (2 vols., 1918-20); *A History of the People of the United States during the Administration of Abraham Lincoln* (1927). He was joint editor of the *American Historical Review* from 1896 to 1899, and in 1903 contributed several chapters to vol. vii of the *Cambridge Modern History*.

**MADAGASCAR.** An island belonging to France, separated from the southeast coast of Africa by the Mozambique Channel, which is 240 miles wide at its narrowest point. The area is 241,094 square miles and the population at the census of 1926 was 3,621,342 (including the Mayotte and Comoro Islands), of whom 3,591,943 were Malagasy, 18,040 French, and 11,359 foreigners. In 1929, the total estimated population was 3,853,300, of which Tananarive, the capital, had 92,998; Majunga, 19,072; Tamatave, 16,380; Fianarantsoa, 13,162.

Cattle breeding and agriculture are the chief occupations, the principal crops being rice, sugar, coffee, manioc, cotton, cacao, vanilla, tobacco, beans, cloves, rubber, and mulberry trees. The forests contain valuable woods and gums. Phosphate, graphite, and mica are mined. The balance of foreign trade has been unfavorable since 1925. In 1930 exports were valued at 355,053,000 francs, compared with imports of 602,783,000 francs (1 franc equals \$0.0392 at par). In 1930, exports to France totaled 257,172,000 francs (367,423,000 in 1929) and imports from France were 240,704,000 francs (407,346,000 in 1929).

Exports were principally vanilla, hides and skins, raffia fibre, coffee, graphite, and manioc. The budget for 1932 was estimated to balance at 255,600,000 francs. The public debt on Jan. 1, 1930, stood at 127,128,000 francs (131,142,000 francs on Jan. 1, 1929).

In 1930 there were about 443 miles of railway in operation; passengers carried, 1,183,000; freight, 285,000 metric tons. During 1931, the railways were working on large-scale electrification projects. There were about 1800 miles of highway. A total of 5732 vessels of 3,279,427 tons entered the ports in 1929 and 5756 vessels of 3,253,380 tons cleared. The colony is under a governor-general assisted by a consultative council. A delegation of 24 French citizens and 24 natives meet once a year to examine budget proposals. Chiefs represent the natives in their relations with the government and natives are widely employed in subordinate civil and military positions. There is a military force of 5365, including 1589 Europeans. Governor-General in 1932, Leon Cayla.

**MADDEN DAM.** See DAMS.

**MADEIRA, mǎ-dě'rǎ.** A group of islands in the North Atlantic, with an area of 314 square miles and a population (1930 census) of 210,220, politically an integral part of Portugal. Funchal, the capital (population about 25,000), lies 535 miles southwest of Lisbon and 360 miles west of the African coast. Governor in 1932, A. A. Calçado.

**MADOERA (MADURA).** See NETHERLAND INDIA.

**MAGINOT, ANDRÉ.** A French statesman, died Jan. 7, 1932, in Paris where he was born Feb. 17, 1877. Beginning his career as a civil servant in Algeria, he rose to be a director in the Department of the Interior. In 1910 he was elected Deputy for Bar-le-Duc, taking his seat among members of the *Gauche Républicaine Démocratique*. In 1913 he was appointed Under-Secretary of State for War, and on the outbreak of the World War a year later served as a private, being promoted to sergeant. After being severely wounded before Verdun in 1916 he was dismissed from the army with the Cross of the Legion of Honor and the *Médaille Militaire*. In 1917 he was made Minister of the Colonies by Ribot, and later under Millerand in 1920 became Minister of Pensions. On Poincaré's accession to power in 1922 he was made Minister of War, which post he held until the fall of that government in 1924. During this period he was one of the leading opponents of early evacuation of the Rhineland and of the granting of an equality status to Germany on the ground of her responsibility for the War. He reassumed the portfolio of the Colonies in the Poincaré government of 1928 and the Briand government of 1929, and in the succeeding Tardieu and Laval ministries again became Minister of War. With Tardieu and Barthou he was for more than a decade one of the most powerful advocates of French nationalism and of an aggressive military policy.

**MAHE.** See FRENCH INDIA.

**MAINE. POPULATION.** According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 797,423, as against 768,014 in 1920. Portland had (1930) 70,810 inhabitants; Augusta, the capital, 17,198.

**AGRICULTURE.** The accompanying table shows the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod. Bu.	Value
Potatoes ....	1932	168,000	89,480,000	\$ 9,870,000
	1931	195,000	50,810,000	12,578,000
Hay .....	1932	971,000	808,000*	7,990,000
	1931	967,000	952,000*	9,410,000
Oats .....	1932	180,000	4,940,000	1,630,000
	1931	118,000	3,776,000	1,548,000
Apples .....	1932	.....	2,412,000	1,471,000
	1931	.....	1,178,000	1,028,000

\* Tons.

**MINERAL PRODUCTION.** Stone quarries yielded in 1930, 318,620 short tons of stone of all grades, largely superior, as against 354,500 short tons produced in 1929; by value, \$2,252,097 for 1930 and \$2,902,603 for 1929. The sales of the product of the slate quarries were much reduced in total value, for 1931, to \$257,619, from \$506,322 for 1930. Producers' sales of lime diminished to 29,000 tons (estimated) for 1931 from 66,775 for 1930; in value to \$240,000 (estimated, for 1931), from \$542,115 (1930). Clay products attained a value of \$459,406 for 1930, the latest year of tabulated figures, as against \$641,364 for 1929. The production of sand and gravel, to the value of \$806,545 for 1930, was relatively important. Maine ranked second, after North Carolina, among the members of the Union in the production of crude feldspar, of which her total for 1930 was, by quantity, 22,738 long tons, and by value, \$161,631. The total value of the State's mineral product, duplications eliminated, was \$6,227,528 for 1930; for 1929, \$6,748,799.

**FINANCE.** State expenditures in the year ended June 30, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments, \$14,223,239 (of which \$2,397,261 was for local education); for conducting public-service enterprises, \$104,513; for interest on debt, \$985,852; for permanent improvements, \$10,535,299; total, \$25,848,903 (of which \$13,135,891 was for highways, \$3,765,925 being for maintenance and \$9,369,966 for construction). Revenues were \$24,296,769. Of these, property and special taxes furnished 39.1 per cent; departmental earnings and compensation to the State for officers' services, 8.4; sale of licenses, 43.3 (in which was included a gasoline sale tax that produced \$4,398,102). Funded debt outstanding on June 30, 1931, totaled \$24,388,588, of which \$17,556,500 was for highways. Net of sinking-fund assets, the debt was \$24,170,847. On an assessed valuation of \$756,860,383 the State levied in the year ad valorem taxes of \$5,481,517.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 2192.48.

**EDUCATION.** A preliminary revision of the curriculum for the normal schools was completed, in the course of the year. For the academic year 1931-1932 the number of persons of school age in the State was reported as 252,780. There were enrolled in the public schools 168,574 pupils. Of these, 137,930 were in common schools or elementary grades; in high schools, 30,644. The year's expenditures for public-school education totaled \$11,438,111. Salaries of teachers averaged, by the year, \$894.86 for elementary positions and \$1540.80 in high schools.

**CHARITIES AND CORRECTIONS.** Under the administrative statute of 1931 one of the four departments created under the State government was the Department of Health and Welfare. In

it were vested the previously separate powers and duties of the former Department of Health, Board of Prison Commissioners, trustees of the Reformatory for Women, trustees of the Reformatory for Men, trustees of the juvenile institutions, trustees of the tuberculosis sanatoria, and of authorities concerned with care of the blind and the deaf, pensions, poor relief, Indian welfare, child guardianship, and paroles. Headed by a commissioner, the department was divided into bureaus of health, social welfare, and institutional service. Superintendents of State institutions were to be chosen by appointment of the Commissioner of Health and Welfare, with the approval of Governor and Council. An advisory council of health and welfare was created, with power to make recommendations and, likewise, regulations for carrying out the health and welfare laws. The Governor received the power to appoint boards of visitors to keep check upon the several State institutions. These institutions were: State Hospitals, at Augusta, Bangor, and Pownal, respectively, for the mentally afflicted; the Pownal State School, at Pownal; State sanatoria for tuberculosis at Hebron (post office, Greenwood Mt.), Fairfield, and Presque Isle; Maine State Prison, Thomaston; State Reformatory for Women, Skowhegan; State Reformatory for Men, South Windham; State School for Girls, Hallowell; State School for Boys, South Portland; Maine School for the Deaf, Portland; State Military and Naval Children's Home, Bath.

**LEGISLATION.** A special session of the State Legislature was held in April. Its purpose was to amend the gasoline-tax law, so as to render the 4-cent tax on gasoline applicable to quantities used, as well as quantities sold, in the State, which was done.

**ELECTIONS.** The State election, held on September 12, resulted in a decisive Democratic victory, upsetting the State's political traditions. Louis J. Brann, Democratic candidate, was elected Governor, defeating Burleigh Martin, Republican. Two Democrats and one Republican were elected to the House of Representatives. The Democratic State vote for Governor exceeded the Republican by only a scanty margin; it was the first Democratic State victory in 18 years. The State had been made a battle ground by the National parties, the Republicans especially sending speakers of note in the attempt to hold the vote in line, on account of its possible effect on sentiment in the National campaign. The total vote cast for Governor was about 239,000 and the Democratic majority was apparently about 2400. About 30,000 fewer Republican and 54,000 more Democratic votes were cast than in the gubernatorial election of 1928. The September vote had an influence on the campaign in the Nation, being taken as a sign of Republican weakness.

On November 8 was cast the State's popular vote for the National candidates. The vote was: Hoover (Rep.), 166,631; Roosevelt (Dem.), 128,907. Thus the State reversed its September position by reflecting the normal preference for the Republican National ticket.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, William Tudor Gardiner; Secretary of State, Edgar C. Smith; Treasurer, William S. Owen; Auditor, E. D. Hayford; Attorney-General, Clement F. Robinson; Commissioner of Education, Bertram E. Packard.



**Supreme Judicial Court:** Chief Justice, William R. Pattangall; Associate Justices, Charles J. Dunn, Frank G. Farrington, Guy H. Sturgis, Sidney St. F. Thaxter, Charles P. Barnes.

**Superior Court:** Justices, James H. Hudson, George L. Emery, Herbert T. Powers, William H. Fisher, George H. Worster.

**MAINE, UNIVERSITY OF.** A coeducational State institution of higher learning in Orono, founded in 1865 and opened for students in 1868. The enrollment for the autumn of 1932 was 1615 and for the summer session of 1932, 402. There were 173 members on the faculty. The productive funds of the university amounted to \$905,945.33, and the income for the year was \$1,622,957.59. The library contained 105,000 volumes. Stevens Hall, the building of Arts and Sciences, named for Dean Emeritus James S. Stevens, is being augmented by the addition of two wings which will double the capacity of the present Arts building. President, Harold Sherburne Boardman, C.E., D.Eng., LL.D.

**MAIZE.** See CORN.

**MALACCA.** See STRAITS SETTLEMENTS.

**MALAYA, BRITISH.** See BRITISH MALAYA.

**MALAY STATES.** See BRITISH MALAYA; FEDERATED MALAY STATES; UNFEDERATED MALAY STATES; STRAITS SETTLEMENTS; BRITISH NORTH BORNEO; BRUNEI; SARAWAK.

**MALDIVÉ ARCHIPELAGO.** See CEYLON.

**MALTA.** An island in the Mediterranean Sea, which, with the adjacent islands of Gozo and Comino, was annexed by Great Britain in 1814. Situated 58 miles south of Italy and 180 miles from the African coast, it is an important link in British Imperial communications and is the base of the British fleet in the Mediterranean. Area of Malta, 95 square miles; total area with Gozo and Comino, 122 square miles. The civil population increased from 224,680 at the census of 1921 to 232,832 on Jan. 1, 1930. There is a garrison of about 10,000 troops. Valletta, the capital, is the chief town and port (population, excluding the suburbs), 22,779. The people generally speaks a Maltese dialect, but English and Italian are the official languages. In 1930-31 there were 165 public elementary schools, with 29,110 pupils, besides several secondary institutions and a university with 198 students. The Church owns one-third of all the land. Cereals, vegetables, cotton, and fruit are the leading crops. Fishing and the manufacture of lace, cotton, filigree, beer, and cigarettes are other industries. Imports in 1930, including bullion and specie, totaled £3,836,260; exports, including bullion and specie, £482,932. Revenue was £939,993 for 1930-31, and expenditure £997,272. In 1930, 2201 vessels aggregating 3,561,513 tons entered the ports.

**GOVERNMENT.** Under the Constitution of 1921 (suspended temporarily June 26, 1930 and restored Mar. 2, 1932) local affairs were controlled by a legislature, consisting of the senate of 17 members, 10 of whom are appointed, and a legislative assembly of 32 elected members. In the elections of June, 1932 the standing of the parties in the assembly was: Nationalists, 21; Constitutional, 10; Labor, 1. The Senate standing was: Nationalist and Clergy, 11; Constitutional, 4; Trade Union 2. There was a responsible ministry for local affairs. A governor, appointed by the King, controls the naval, military, and air forces, Imperial interests, external relations and trade, coinage, immigration, and may veto local legis-

lation. He is assisted by an appointed executive council and a nominated council, consisting of the Lieutenant-Governor, a legal adviser, and three officers of the military forces. Governor and Commander-in-Chief in 1932, Gen. Sir David Campbell.

**HISTORY.** The report of the Royal Commission appointed by the British government Feb. 23, 1931 to investigate conditions which led to the suspension of the Maltese Constitution on June 24, 1930, was published Feb. 11, 1932. Describing as trivial the origin of the conflict between Lord Strickland, the Governor, and the Roman Catholic clergy, the commission declared that the Governor's subsequent tactics had aggravated the situation and divided the island into "very embittered cliques." (For origin of the dispute, see the 1930 YEAR BOOK.) The commission's recommendations that the Constitution be restored and that the teaching of Italian in the elementary schools be abolished were adopted by the British government. The Constitutionalist Ministers, who had remained in office despite the suspension of the Constitution, resigned on March 2. The religious controversy between Lord Strickland and the Roman Catholic clergy was now ended by Lord Strickland's apology and full withdrawal of his remarks offensive to the church, the apology being accepted by the Pope. On June 3, the Bishops of Malta and Gozo issued a pastoral letter withdrawing the pastoral letter of May 2, 1930, in which they forbade Catholics to vote for Lord Strickland's Constitutional party candidates "under pain of mortal sin."

With the religious issue relegated to the background, the campaign previous to the elections of June 11-13 was fought out primarily on the language issue. In Letters Patent issued Apr. 25 and May 2, 1932, the British government had ended the use of Italian in elementary schools, leaving English and Maltese as the languages of instruction. The use of Italian along with English was authorized in secondary schools and in the university and it was retained as the normal language of the law courts and as optional for speeches in the Legislative Assembly. This action aroused restrained protests from the Royal Academy of Italy and from Foreign Minister Grandi of Italy. The Nationalist party's platform called for the revocation of the Letters Patent and the restoration of the Constitution of 1921, under which Italian was a language of instruction in elementary schools. The voting gave the Nationalists a decisive victory over the Constitutionalists, who had controlled the Legislative Assembly since 1927. The Nationalists won 21 out of 32 seats in the Assembly, as against 10 for Lord Strickland's Constitutionalists and 1 for his Labor allies. In the Senate the Nationalists and clergy won 11 seats, the Constitutionalists 4, and Labor 2. The Left wing of the Nationalist party stood for separation from Great Britain and union with Italy. The Nationalists charged that the clergy were active in supporting the Nationalist candidates during the campaign.

The events of the year in Malta, and particularly anti-English remarks made by Francesco Giunta, Under-Secretary of State to Mussolini, during a brief stopover in Malta March 23, served to irritate Anglo-Italian relations.

**MAMMALS.** See ZOOLOGY.

**MAN, ANTIQUITY OF.** See ANTHROPOLOGY.

**MANADO.** See NETHERLAND INDIA.

**MANAGER PLAN.** See MUNICIPAL GOVERNMENT.

**MANCHOUKUO.** A new state comprising the three northeastern Provinces of China, namely, Liaoning (Fengtien), Kirin, and Heilungkiang, the independence of which was proclaimed under Japanese auspices Feb. 18, 1932. Manchoukuo came into official existence Mar. 1, 1932. The three Provinces of Liaoning, Kirin, and Heilungkiang constitute the geographical region known as Manchuria and were administered during 1932 by the government of Manchoukuo. Jehol, in Inner Mongolia, remained in control of a local Chinese governor, Gen. Tang Yu-lin, who signed the declaration of Manchoukuo's independence but continued his nominal allegiance to both Manchoukuo and the Nationalist government of China. The so-called Northeast Special District and several Mongolian banners (districts), adhered to Manchoukuo's declaration of independence. Capital, Changchun. Official head in 1932, the former Manchu Emperor of China, Hsuan Tung, commonly known by his personal name of Henry Pu Yi, whose new title was Provisional Dictator (*Chin Cheng*). The name of the city of Changchun was changed to Hsinking in March, 1932. An independent Chinese régime was maintained in the Barga region—the section of Heilungkiang Province west of the Khingan Mountains—for a few months during 1932 (see JAPAN under *History*).

**AREA AND POPULATION.** Including Jehol (estimated area, 67,166 square miles), the three Manchurian Provinces (estimated area, 428,998 square miles), and the adjoining Mongolian territories adhering to the declaration of independence, Manchoukuo had an area of approximately 500,000 square miles. The western boundary had not been properly delimited. The population was estimated at about 33,000,000 (26,623,000 in Manchuria and 6,594,000 in Jehol), of whom less than 1,500,000 were Japanese subjects. Official Japanese estimates of 1929 placed the number of Japanese in Manchuria at 240,108 and the number of Koreans at 768,280. The average density of population was about 73 persons to the square mile for the whole of Manchuria, but the density in the respective Provinces varied from 210 in Liaoning to 23 in Heilungkiang. Between 1923 and 1930 more than 5,000,000 Chinese migrated to Manchuria, of whom about 1,500,000 became permanent settlers. The chief cities, with their estimated population, are: Mukden (former capital), 250,000; Changchun, 80,000; Dairen, 250,000; Harbin, 225,000; Newchwang, 65,000; and Antung, 72,500.

**PRODUCTION.** Manchuria (excluding Jehol), is one of the world's most fertile and rapidly developing agricultural regions. The arable land is estimated at about 64,500,000 acres, of which about 30,500,000 acres were under cultivation in 1931. The various crops produced (chiefly soy beans, millet, rice, and wheat), were estimated in 1931 to be worth a billion Chinese (Yuan) dollars at normal exchange and the whole cultivable area was reported to be capable of producing an annual return of three billion dollars. In 1932 all crops were from 40 to 75 per cent below normal. Agriculture is carried on almost exclusively by Chinese and Koreans, the Japanese engaging chiefly in commerce, industry, and official or professional work. Sugar beet and silk cultivation and livestock raising are increasing. Forests cover about 28,756,000 acres.

The chief crops in 1931 were: Wheat, 58,394,000 bushels (50,857,000 in 1930); corn, 67,418,000 bushels (62,554,000); rice (in 1931-32), 15,560,000 bushels (15,296,000 in 1930-31); soy beans, 5,226,000 metric tons (5,296,000 in 1930). Livestock in 1930 included 1,605,000 cattle, 2,641,000 sheep, 2,438,000 horses, 7,507,000 swine, and 1,221,000 mules and asses.

There are rich mineral deposits of coal, iron, gold, silver, lead, and cement materials. The Japanese had under exploitation the great Fushun open-strip coal deposits, 22 miles east of Mukden, where in an area of 15 square miles were about 1,200,000,000 tons of bituminous coal covered by approximately 5,000,000,000 tons of oil shale. A plant for reduction of oil shale was placed in operation in 1930, the output in that year totaling 28,578 tons of heavy oil, 10,606 tons of crude paraffin, 13,332 tons of ammonium sulphate, and 2685 tons of coke. Iron ore deposits were estimated at 738,000,000 metric tons, with an iron ore content of 259,000,000 tons. Japanese government and private investments in Manchuria (including Kwantung) totaled 2,200,000,000 yen, or about \$1,100,000,000 at par, in 1932.

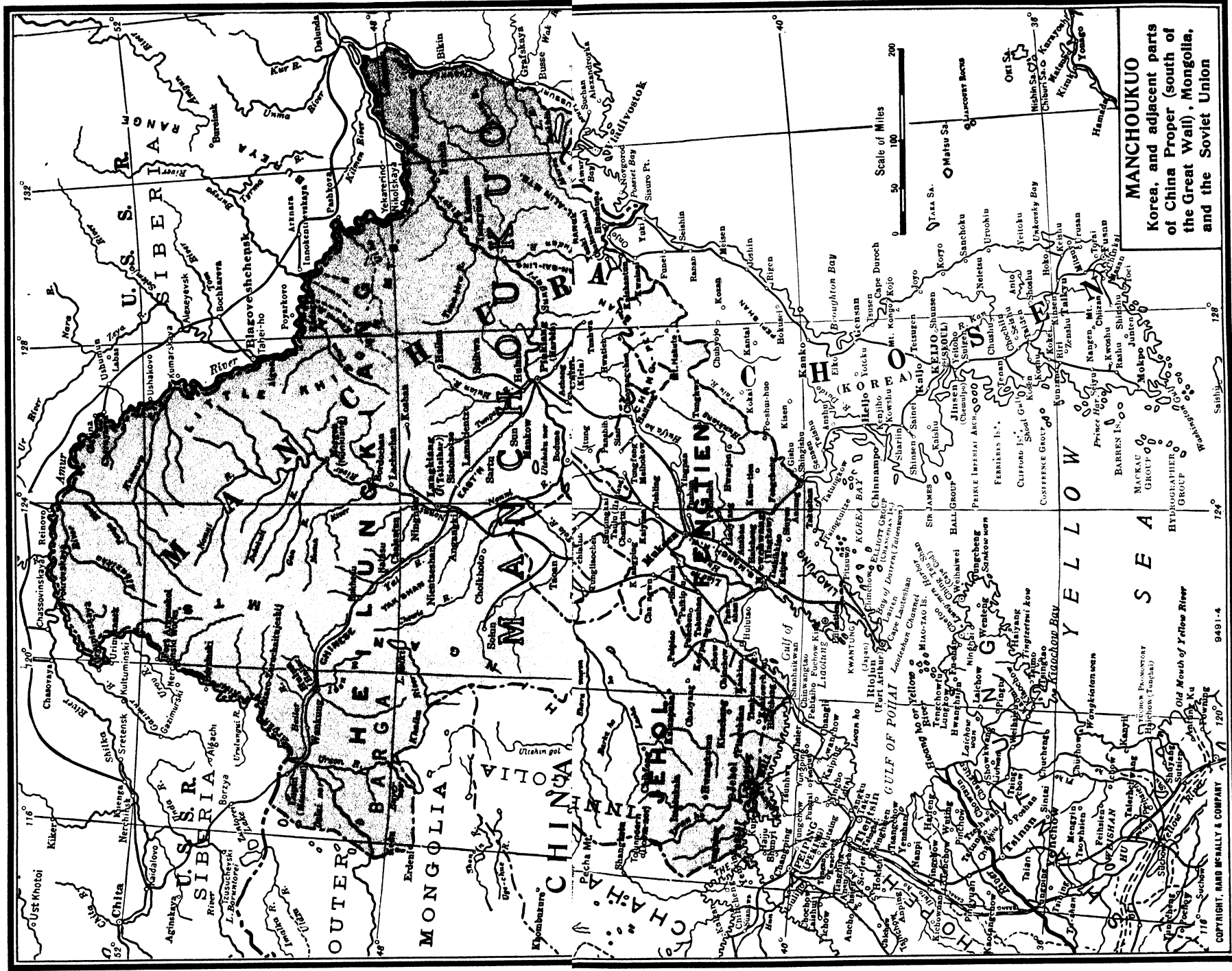
**COMMERCE.** According to the report of the South Manchuria Railway for 1932, total Manchurian exports in 1930 amounted to 396,714,056 Haikwan taels (about \$182,488,000 at the average exchange rate for 1930 of \$0.46) and total imports to 306,999,437 Haikwan taels (about \$141,219,500). This compared with exports and imports of 225,926,429 taels and 205,129,451 taels, respectively, in 1920, and 47,585,123 taels and 53,112,034 taels, respectively, in 1908. Soy beans and their products constituted more than half the total exports, with millet next in importance. Coal exports in 1930 were valued at 37,588,000 taels. Cotton goods, including cotton yarn, comprised 21 per cent of the 1930 import trade.

In 1931, Manchuria's imports from Japan were valued at 77,416,000 yen (about \$38,708,000 at par) and the exports to Japan were valued at 132,013,000 yen (about \$66,006,500). Manchuria in 1931 contributed 56 per cent of all China's exports to Japan and took 30 per cent of all Japan's exports to China. Imports of American finished products in 1931 were estimated at \$3,500,000 (about \$20,000,000 in 1929). About 90 per cent of the foreign trade passed through Dairen, which since 1927 ranked second to Shanghai among China's trading ports. Dairen, imports in 1932, 207,000,000 yen (98,000,000 in 1931).

**FINANCE.** The 1932 budget of Manchoukuo showed estimated revenues of 95,000,000 silver dollars and expenditures of 109,000,000 silver dollars, leaving an expected deficit of 15,000,000 dollars. The par value of the silver dollar, in terms of U. S. currency, varies with the price of silver. The Manchoukuo government during 1932 established a national bank, with a capital of 30,000,000 dollars silver and issued a new currency. The amount of the new currency in circulation on Oct. 29, 1932, was 122,391,000 dollars silver, which was covered by gold and silver reserves to the value of 66,657,000 dollars and by loans and securities valued at 55,000,000 dollars silver.

**COMMUNICATIONS.** Previous to the Japanese occupation of Manchuria in 1931 there were 3700 miles of railway lines in operation. Of these Japan owned nearly 700 miles (the South Manchuria system), Russia (in joint management with China), 1069 miles (the Chinese Eastern









system), and China over 1800 miles. The Japanese took over approximately 600 miles of Chinese roads which had been constructed with Japanese capital. Of the remaining Chinese roads several, particularly those connecting the Chinese railway net with the ports of Newchwang and Hulutao, were put out of commission and the remainder were incorporated as adjuncts of the South Manchuria Railway. In 1932 the Japanese were pushing to completion two extensions—one connecting the Changchun-Tunhua line with Rashin, a new port to be constructed in Northern Korea, and the other connecting Koshan and Hailun in Heilungkiang Province. The Changchun-Rashin route was designed to provide Japan with a new and shorter railway approach into the heart of Manchuria (see KOREA under *Communications*). In North Manchuria, the Manchoukuo government placed its own appointees on the governing board of the Chinese Eastern Railway. The Chinese telephone and telegraph systems in various Manchurian cities were connected with previously competing Japanese systems and placed under Japanese supervision. Of the three powerful radio stations in Mukden, one was destroyed by fire and another, the Sino-American station, was opened under Japanese control Apr. 15, 1932. Manchurian highways were for the most part impassable to motor vehicles in summer. The Japanese have inaugurated air services between some of the principal cities.

**GOVERNMENT.** The Constitution of Manchoukuo, promulgated Mar. 11, 1932, nominally vests virtually unlimited power in the hands of the Provisional Dictator and his Privy Council. Under the Dictator are the four principal departments—Executive (comprising the Cabinet and Board of General Affairs), Legislative, Judicial, and Inspection. The Premier, heading the Cabinet, serves as a link between the Provisional Dictator and the various ministries. The chief officials of the government, announced Mar. 10, 1932, were: Premier, Cheng Hsiao-Hsu; Minister of War, Ma Chan-shan; Foreign Affairs, Hsieh Chieh-shih; Finance, Hsi Chia; head of the Privy Council, Chang Ching-hui. This wholly Chinese governmental façade was supported and controlled by Japanese advisers and officials. The constitution made all residents in Manchuria eligible to hold office. In accordance with this principle, four Japanese were appointed (April 23), to key positions in the Ministries of Finance, Foreign Affairs, and Home Affairs, and the Liaoning provincial police bureau. The president of the Board of General Affairs and the chiefs of the six bureaus comprising the Board, also were Japanese. Having complete control of the budget and wielding the power of dismissal over ministers and officials, the Board of General Affairs was the real sovereign authority in the government.

Japan on Sept. 15, 1932, extended formal recognition to the state of Manchoukuo and signed a treaty of alliance with its government (see JAPAN under *History*). Despite a request for recognition, sent by Foreign Minister Hsieh Chieh-shih Mar. 12, 1932, to the governments of 17 countries having consular representatives in Manchuria, no other foreign government had recognized the Manchoukuo government up to Dec. 31, 1932.

See JAPAN, CHINA, UNITED STATES, GREAT BRITAIN, FRANCE, and the UNION OF SOVIET SO-

CIALIST REPUBLICS under *History*; LEAGUE OF NATIONS; KWANTUNG. Consult Owen Lattimore, *Manchuria: Cradle of Conflict* (New York, 1932); T. A. Bisson, "Railway Rivalries in Manchuria between China and Japan," *Foreign Policy Reports*, Apr. 13, 1932; T. A. Bisson, "Japan and Manchoukuo," *Foreign Policy Reports*, June 22, 1932.

**MANCHURIA.** See MANCHOUKUO.

**MANDATES.** See LEAGUE OF NATIONS; IRAQ; PALESTINE; SYRIA.

**MANGANESE.** Shipments of manganese ore containing 35 per cent or more of metallic manganese from domestic mines (exclusive of Puerto Rico) in 1932 were approximately 17,000 gross tons, valued at \$357,000, compared with 39,242 tons, valued at \$699,121, in 1931, according to the preliminary estimates of the U. S. Bureau of Mines. The shipments in 1932 were the lowest since 1922. The shipments of metallurgical and miscellaneous ores in 1932 amounted to about 10,500 gross tons valued at \$135,000, compared with 31,290 tons valued at \$417,598, in 1931. Battery ore shipments decreased from 7952 gross tons, valued at \$281,523 in 1931, to about 6500 tons valued at \$222,000 in 1932. Shipments of manganese ore from Puerto Rico to the United States during the eleven months ended Nov. 30, 1932, were 2152 gross tons valued at \$61,809, compared with shipments for the entire year 1931 of 2374 tons, valued at \$87,356. Manganese ore was reported shipped from Alabama, Arkansas, Georgia, Montana, and Virginia in 1932; Montana furnished 88 per cent of the total shipments. The imports of manganese ore for the eleven months ended Nov. 30, 1932, amounted to 106,418 gross tons containing 51,318 tons of metallic manganese, compared with 502,518 tons of ore containing 245,910 tons of metallic manganese during the entire year 1931. Of the ore imported in 1932, 55,437 tons were from Soviet Russia, 24,592 tons were from British West Africa (Gold Coast), and 21,500 tons were from Brazil.

The production of steel in 1932 was about 13,500,000 gross tons in comparison with 25,045,501 tons in 1931, which accounts for the decreased demand for ferromanganese and in turn for manganese ore during the past year. The production of ferromanganese in 1932 is reported by *Iron Age* at 57,342 tons; the production reported to the Bureau of Mines in 1931 was 166,937 tons. Shipments of domestic ore containing from 10 to 35 per cent of manganese (ferruginous manganese ore) in 1932 were about 16,000 gross tons, valued at approximately \$62,000, compared with 64,062 tons valued at \$405,749 in 1931. The ferruginous manganese ore shipped in 1932 was from Alabama, Arkansas, Georgia, and Minnesota. The domestic shipments of ore containing 5 to 10 per cent of manganese (manganiferous iron ore) in 1932 were 9582 tons valued at \$29,426, compared with 217,352 tons valued at \$570,800 in 1931. All the manganiferous iron ore shipped in 1932 was from Michigan.

**MANITOBA,** mǎn't-tō'bá. The easternmost of the Prairie Provinces of Canada, bounded on the east by Ontario and the Hudson Bay, west by Saskatchewan, north by the District of Keewatin, and south by the United States. The area is 251,832 square miles and the census population in 1931 was 700,139, compared with 610,118 in 1921. The chief cities, with populations (1931 census), were: Winnipeg, the capital, 218,785; Brandon, 17,082; St. Boniface, 16,305. In 1930,



births totaled 14,411; deaths, 5685; marriages 5061. In the 4166 public schools 151,846 students were enrolled in 1930; the University of Manitoba at Winnipeg had 2844 full-course students registered.

Agriculture, mining, and manufacturing are the leading industries. In 1931, the area under field crops was 5,708,889 acres (6,794,700 in 1930) and the value of production was \$24,664,000 (\$52,975,000 in 1930). The total value of all agricultural production in 1931 was estimated at \$52,379,000 (\$90,606,000 in 1930). The 1931 wheat crop of about 27,000,000 bushels was valued at \$11,070,000. Mineral output in 1931 was valued at \$9,978,556 (preliminary figure) compared with \$5,453,182 in 1930. Gypsum, gold, copper, and zinc are the principal minerals produced. The 1930 fish catch was valued at \$1,811,962. In the same year there were 937 manufacturing establishments, with a capital investment of \$188,413,164; employees numbered 26,488, the gross value of production was \$142,424,990, and the net value was \$67,663,725.

The budget for 1931 was estimated to balance at \$14,705,531. The provincial funded debt on April 30, 1931 was \$94,201,735. Railroad mileage in 1930 aggregated 4420 miles of line. Government is administered by a lieutenant-governor, and a legislative assembly of 55 members elected for five years. The Province is represented in the Dominion Parliament by 6 members in the Senate and 17 in the House of Commons. Lieutenant-Governor in 1932, J. D. McGregor; Premier, President of the Council, and Provincial Treasurer, John Bracken. See CANADA under *History*.

**MANNING, VAN (NOY) H (ARTBOG).** An American engineer, died in Forest Hills, Long Island, N. Y., July 13, 1932. He was born in Horn Lake, Miss., Dec. 15, 1861, and attended the University of Mississippi. In 1886 he became associated with the U. S. Geological Survey as topographic engineer. Upon the establishment of the bureau of mines in the Department of the Interior in 1910 he was appointed chief clerk. The following year he was made assistant director, in 1914 acting director, and in 1915 director. On the entry of the United States into the World War he extended the activities of this bureau, developing the chemical warfare service, improving powerful explosives, and increasing the production of coal and other minerals vitally needed in the war. He was responsible also during this period for the successful experiments in the production of helium from natural gas which aided in the development of the airship for Army and Navy use and led to the establishment of the cryogenic laboratory at the government helium plant near Amarillo, Tex. He resigned from the government service in 1920 to become director of research for the American Petroleum Institute. He served as petroleum engineer for the Pan American Petroleum & Transportation Co. during 1924-25, and in 1926 became consulting petroleum engineer and in 1928 director of engineering and technical research for the Petroleum Research Corp. After 1930 he was consulting engineer for the U. S. Bureau of Mines.

**MANOEL, Dom.** Former King of Portugal, died in Twickenham, Eng., July 2, 1932. He was born in Lisbon, Nov. 15, 1889, and received the title of Duke of Beja. He was trained for a naval career, but succeeded to the throne upon the assassination, on Feb. 1, 1908, of his father King Carlos I and his brother Luis, Duke of Bragança.

He was acclaimed King Manoel II. His father's reign had been marked by extravagance and general demoralization of the finances of the country, and during Manoel's brief reign conditions did not improve. A republic was established following the overthrow of the monarchy in October, 1910, and the king escaped to England where he took refuge at Wood Norton, near Evesham in Worcestershire, with the Duke of Orleans, brother of his mother, Queen Amélie. After the unsuccessful royalist uprisings in Portugal of 1911 and 1912, Manoel restrained his followers from further enterprises against the republic. In September, 1913, he married Princess Augusta Victoria of Hohenzollern. Through friendships in England he acted as an unofficial ambassador of Portugal in her international relations.

**MANUFACTURING.** See BUSINESS REVIEW; CENSUS; UNITED STATES, and section *Manufactures* under the various States.

**MANURES.** See FERTILIZERS.

**MAPLE SUGAR.** See SUGAR.

**MARGOLIS, MAX LEOPOLD.** An American Hebrew philologist, died in Philadelphia, Pa., Apr. 2, 1932. He was born in Merech, Vilna, Russia, Oct. 15, 1866, and attended the Leibniz Gymnasium, Berlin. On coming to the United States, he completed his education at Columbia University, from which he received the A.M. degree in 1890 and the Ph.D. degree in 1891. He was lecturer on Jewish literature at the Glenmore School for Cultural Sciences at Keene, N. Y., in 1892. Called to the Hebrew Union College, Cincinnati, O., he was assistant professor of Hebrew and Biblical exegesis during 1892-97. He then went to the University of California where he was assistant professor of Semitic languages and literatures during 1897-98 and associate professor during 1898-1905. Returning to the Hebrew Union College, he was professor of Biblical exegesis during 1905-07, and after visiting Europe served for a year as editor-in-chief of Bible translation for the Jewish Publication Society of America. After 1909 he was professor of Biblical philology at Dropsie College for Hebrew and Cognate Learning, Philadelphia. He published *The Columbia College Manuscript of Meghilla* (1892); *An Elementary Text-Book of Hebrew Accidence* (1893); *The Theological Aspect of Reformed Judaism* (1904); *The Holy Scriptures with Commentary on Micah* (1908); *A Manual of the Aramaic Language of the Babylonian Talmud* (1910); *The Story of Bible Translations* (1917); *The Hebrew Scriptures in the Making* (1922). He contributed a number of brilliant articles on his studies to the *Jewish Encyclopedia* (1901-05), and after 1922 was editor of the *Journal of the American Oriental Society*.

**MARIETTA COLLEGE.** A nonsectarian co-educational institution in Marietta, O., founded in 1835. The total registration for the autumn term of 1932 was 360 of whom 214 were men and 146 women. The faculty numbered 36. The endowment amounted to \$1,383,786 and the income for the year to \$145,212. The library contained 101,093 volumes. President. Edward Smith Parsons, L.H.D., LL.D.

**MARINE DISASTERS.** See SAFETY AT SEA.

**MARITAL STATUS.** See MARRIAGE AND DIVORCE; LAW IN 1932.

**MARTIME PROVINCES.** The three most easterly Provinces of Canada—Prince Edward Island, Nova Scotia, and New Brunswick. The

population (1931 census) of the three Provinces was 1,009,103 (1,000,328 in 1921). See CANADA and separate articles on each province.

**MARKETS, MARKETING.** See AGRICULTURE; AGRICULTURE, U. S. DEPT. OF; COÖPERATION.

**MARQUETTE UNIVERSITY.** An institution of higher education for men and women, under Roman Catholic direction, in Milwaukee, Wis., organized as a college in 1881 and chartered as a university in 1907. In the autumn of 1932 there was a grand total of 3258 enrolled in the university, excluding 417 students registered in the high school. The registration for the 1932 summer session was 591. The faculty in the autumn numbered 355 members, excluding 27 high school instructors. Endowment funds amounted to \$2,855,251, excluding Jesuit service endowment estimated at \$1,300,000. The income for the year was \$1,168,471. The library had 64,000 volumes. A new building for the school of medicine, costing \$500,000, was opened in

1932. President, the Rev. William M. Magee, S.J., A.M., LL.D.

**MARRIAGE AND DIVORCE.** The Bureau of the Census report on Marriage and Divorce for the United States for 1931 indicated that there were 1,060,905 marriages performed during the year as compared with 1,128,572 in 1930. This represented a decrease of 68,477 or 6.1 per cent as compared with a decrease of 8.4 per cent over 1929-30. In the year 1931 there were 183,695 divorces granted as compared with 191,591 in 1930. This represented a decrease of 7896 or 4.1 per cent as compared with a decrease of 4.9 per cent for 1929-30. There were 4330 marriages annulled in 1931 as compared with 4370 in 1930. The number of marriages per 1000 of the population in 1931 was 8.5 as compared with 9.2 marriages in 1930. The number of divorces per 1000 of the population in 1931 was 1.49 as compared with 1.56 in 1930. In 1931, as compared with 1930, but 11 States reported increases in the number of marriages performed, viz.: New

#### MARRIAGES AND DIVORCES COMPARED FOR TWO YEARS

Division and State	Marriages		Number to one divorce	Divorces		Annulments	
	1931	1930		1931	1930	1931	1930
United States .....	1,060,095	1,128,572 *	5.8	183,695	191,591	4,388	4,370
New England.							
Maine .....	6,232	6,438	4.6	1,342	1,476	5	9
New Hampshire .....	5,535	5,142	8.4	660	639	10	6
Vermont .....	2,554	2,638	7.9	325	371	...	1
Massachusetts .....	26,296	27,431	7.3	3,585	3,691	60	59
Rhode Island .....	4,635	4,816	6.9	674	748	...	...
Connecticut .....	10,080	11,060	7.4	1,351	1,323	15	13
Middle Atlantic.							
New York .....	114,111	118,172 *	22.4	5,091	4,801	1,049	1,030
New Jersey .....	26,458	28,499	8.4	3,152	2,891	89	64
Pennsylvania .....	60,160	64,770	8.3	7,241	8,021	54	49
East North Central.							
Ohio .....	42,319	60,312	3.2	13,312	14,198	82	69
Indiana .....	38,372	38,611	5.3	7,278	7,420	84	96
Illinois .....	71,636	75,961	5.2	13,893	15,432	204	203
Michigan .....	28,856	29,482	3.1	9,425	10,535	76	97
Wisconsin .....	14,784	15,218	5.6	2,643	2,506	62	46
West North Central							
Minnesota .....	19,207	22,697	6.3	2,807	2,855	23	20
Iowa .....	14,190	20,642	3.4	4,117	4,319	27	35
Missouri .....	33,969	34,705	3.8	8,994	9,214	44	49
North Dakota .....	3,633	3,794	7.5	487	466	10	7
South Dakota .....	6,995	6,489	9.3	753	728	12	6
Nebraska .....	11,030	10,248	7.2	1,531	1,635	29	72
Kansas .....	18,311	19,937	4.8	3,842	4,094	27	30
South Atlantic:							
Delaware .....	1,013	1,126	5.6	181	211	8	2
Maryland .....	24,703	24,592	12.3	2,014	2,045	20	16
District of Columbia .....	5,316	5,346	24.7	215	93	4	21
Virginia .....	25,295	23,871	8.1	3,139	3,261	34	19
West Virginia .....	18,173	17,739	11.4	1,599	1,864	43	40
North Carolina .....	13,127	14,573	8.6	1,535	1,537	16	27
South Carolina .....	26,404	26,017	...	...	...	19	13
Georgia .....	28,321	30,385	12.1	2,346	2,338	33	40
Florida .....	17,336	17,147	4.9	3,563	3,632	26	21
East South Central:							
Kentucky .....	34,128	31,116	7.6	4,473	4,337	22	28
Tennessee .....	19,691	20,807	4.2	4,668	4,986	13	19
Alabama .....	25,945	27,587	8.8	2,942	3,224	7	7
Mississippi .....	21,589	25,728	10.7	2,015	2,736	4	8
West South Central:							
Arkansas .....	24,537	25,134	7.1	3,476	4,169	8	19
Louisiana .....	20,167	20,930	12.6	1,601	1,833	17	24
Oklahoma .....	33,914	36,567	4.9	6,902	7,748	142	173
Texas .....	40,507	45,174	2.6	15,788	16,645	121	141
Mountain:							
Montana .....	5,064	5,445	4.0	1,253	1,339	24	31
Idaho .....	2,263	4,497	2.4	961	997	16	18
Wyoming .....	1,244	1,772	1.9	653	650	18	12
Colorado .....	9,952	11,733	4.5	2,209	2,245	106	67
New Mexico .....	8,380	8,711	11.6	725	770	9	9
Arizona .....	7,775	7,715	6.7	1,125	1,136	38	38
Utah .....	5,738	5,649	5.5	1,037	1,016	24	14
Nevada .....	7,630	6,100	1.5	5,260	2,609	34	38
Pacific:							
Washington .....	17,906	18,274	4.5	3,971	4,379	49	63
Oregon .....	7,339	7,676	8.0	2,417	2,825	27	25
California .....	47,525	50,154	3.1	15,113	15,603	1,499	1,476

\* Revised since publication of last report.

Hampshire, 7.6 per cent; South Dakota, 7.8 per cent; Nebraska, 7.6 per cent; Maryland, 0.5 per cent; Virginia, 6 per cent; West Virginia, 2.4 per cent; South Carolina, 1.5 per cent; Florida, 1.1 per cent; Kentucky, 9.7 per cent; Utah, 1.6 per cent; and Nevada, 25.1 per cent. Of these 11 States 8 adjoin those in which recent changes made in the marriage laws require from 3 to 5 days to elapse between the application for the marriage license and the issuance of it. The Census Bureau points out that South Dakota adjoins Iowa, where the change was made effective July 1, 1931, Minnesota, where the change was made Apr. 29, 1931, and Wyoming, where the change was made June 1, 1931. Nebraska also adjoins Iowa and Wyoming. Virginia and South Carolina border North Carolina and Tennessee, where restrictions became effective July 1, 1929. West Virginia is a neighbor to Ohio where the change became effective July 23, 1931. Kentucky adjoins both Ohio and Tennessee. Utah borders Colorado, change effective Sept. 1, 1931, Idaho, on Mar. 16, 1931, and Wyoming. Finally, Nevada adjoins Idaho and California, where the change was made July 29, 1927. Of the remaining three States, Maryland has long been a *Gretna Green* for adjoining Delaware, where restrictions have been in effect for some years, and Florida borders Georgia, where restrictions are in effect for persons under 21 years of age. New Hampshire, however, not only adjoins States where the five day interval must elapse but carries the same law on its statutes. It is interesting to note the relative number of marriages for each divorce. In 1931, for the country as a whole, 5.8 marriages for each divorce were reported as against 5.9 in 1930. The District of Columbia and New York State, each having one cause for absolute divorce, reported 24.7 and 22.4 respectively while the rates in the other States ranged from 12.1 marriages to each divorce in Georgia to 1.5 marriages to each divorce in Nevada. Some States showed marked increases in their divorce rate when the 1931 figures are compared with those of 1930. So, in Nevada the increase was 101.6 per cent and there were increased rates for divorces in the States of New Hampshire, Connecticut, New York, New Jersey, Wisconsin, North Dakota, South Dakota, Georgia, Kentucky, Wyoming, and Utah. The accompanying table compares the marriages and divorces in the United States for 1931 and 1930 and gives the number of marriages to one divorce.

**MARTINIQUE**, *mār'ti-nēk'*. One of the Lesser Antilles group of the West Indies, forming a colony of France. Area, 385 square miles; population (1931 census), 234,505, of whom 10,000 were whites, and the remainder Negroes, mulattoes, East Indians, and Chinese. Capital and chief port, Fort-de-France, with a population (1931 census) of 48,395. The chief exports are sugar, rum, bananas, preserved pineapple, and cacao beans. Exports in 1930 were valued at 281,615,000 francs (1 franc = \$0.0392 at par) and imports at 131,950,000 francs. The budget in 1931 was balanced at 93,450,000 francs. Government is under a governor assisted by a privy council. The budget is voted by an elected general council; the communes, of which there are 32, are administered by elected municipal councils. Governor in 1932, L. Gerbinis.

**MARYLAND**. POPULATION. According to the Fifteenth Census the population of the State on

Apr. 1, 1930, was 1,631,526, as against 1,449,661 in 1920. Baltimore had (1930) 804,874 inhabitants; Annapolis, the capital, 12,531.

**AGRICULTURE**. The following table shows the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod. Bu.	Value
Wheat . . .	1932	380,000	4,940,000	\$2,569,000
	1931	404,000	9,696,000	4,848,000
Corn . . . .	1932	548,000	16,440,000	5,261,000
	1931	545,000	20,710,000	8,077,000
Hay . . . . .	1932	407,000	473,000 <sup>a</sup>	4,485,000
	1931	386,000	473,000 <sup>a</sup>	5,664,000
Tobacco . . .	1932	32,500	22,750,000 <sup>b</sup>	3,640,000
	1931	38,200	29,605,000 <sup>b</sup>	4,441,000
Potatoes . . .	1932	31,000	2,945,000	1,620,000
	1931	32,000	3,360,000	1,714,000
Sweet potatoes	1932	8,000	920,000	414,000
	1931	11,000	2,013,000	1,087,000

<sup>a</sup> Tons. <sup>b</sup> Pounds.

**MINERAL PRODUCTION**. Though of secondary importance in the totals for the entire Union, the State's coal-and-iron group of industries held up relatively well in 1931. The production of coal declined moderately to 1,950,000 short tons (estimated) for 1931, from 2,270,593 for 1930, for which year the value of the product was \$3,690,000. In 1931 there were produced 817,995 short tons of coke, as against 1,169,016 in 1930. Blast furnaces' shipments of pig iron fell to 677,076 long tons for 1931, from 981,466 for 1930. For 1930 the State's clay products attained the value of \$3,513,008; for 1929, \$5,115,816. The stone quarries yielded 1,215,730 short tons of stone, exclusive of marble, in 1930, as against 1,163,630 of all sorts in 1929; by value, \$2,028,021 for 1930 and \$1,915,014 for 1929. The total value of the State's mineral product, duplications eliminated, was \$14,989,695 for 1930; for 1929, \$18,469,568.

**FINANCE** State expenditures in the year ended September 30, 1931, as reported by the U. S. Department of Commerce, were for maintaining and operating governmental departments \$21,651,132 (of which \$3,182,717 was for local education); for interest on debt, \$1,450,358; for permanent improvements, \$10,493,070; total, \$33,684,183 (of which \$13,499,867 was for highways, \$5,023,402 being for maintenance and \$8,476,465 for construction). Revenues were \$33,573,514. Of these, property and special taxes furnished 27.3 per cent; departmental earnings and compensation to the State for officers' services, 13.9; sale of licenses, 4.4 (in which was included a gasoline sale tax that produced \$6,514,516). Funded debt outstanding on September 30, 1931, totaled \$32,096,000, of which \$18,886,000 was for highways. Net of sinking-fund assets, the debt was \$31,197,913. On an assessed valuation of \$2,824,422,084 the State levied in the year ad-valorem taxes of \$6,441,111.

**TRANSPORTATION**. The total number of miles of railroad line under operation on Jan. 1, 1932, was 1439.08. During the year previous, some 4 miles of line were abandoned.

**EDUCATION**. The number of persons of school age (from 5 to 18 years, inclusive) in the State was determined in 1930 as 385,878. There were enrolled in the public schools, in 1932, 288,169 pupils. Of these, 238,653 were in elementary schools; in high schools, 49,516. The year's expenditures for public-school education totaled \$19,260,181. Salaries of teachers, by the year averaged \$1497.

**POLITICAL AND OTHER EVENTS.** In accordance with a permissive State law of 1931 the city of Baltimore submitted to a voters' referendum an ordinance rendering it lawful to hold Sunday sports in the city, and to conduct moving-picture shows and restricted retail sales on Sunday. The vote, taken on May 2, gave a majority of more than 83,000 for the proposed ordinance. The police force of the city, through the voluntary vote of its members, imposed on itself in July a reduction of 10 per cent in pay, in the interest of public economy.

**ELECTIONS.** The popular vote cast on November 8 was in favor of the Democratic National ticket by about 5 to 3. The totals as officially reported were, for President: Roosevelt (Dem.), 314,314; Hoover (Rep.), 184,184. A solid Democratic delegation of six Representatives, all but one being the actual incumbents, was elected to the Seventy-third Congress.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, Albert C. Ritchie; Secretary of State, David C. Winebrenner; 3d.; Treasurer, J. M. Dennis; Auditor, Edmund R. Stewart; Comptroller, William S. Gordy, Jr.; Attorney-General, William Preston Lane, Jr.; Superintendent of Schools, Albert S. Cook.

**Court of Appeals:** Chief Judge, Carroll T. Bond; Associate Judges, John R. Pattison, T. Scott Offutt, William H. Askins, Francis N. Parke, Hammond Urner, W. M. Digges, D. Lindley Sloan.

**MARYLAND, UNIVERSITY OF.** A coeducational State institution of higher learning at College Park and Baltimore, Md., founded in 1807. The enrollment for the autumn term of 1932 was 3362; the summer school enrollment was 1033. The faculty in the autumn numbered 567. The total income from appropriations and other receipts amounted to \$2,676,919. The library contained approximately 84,040 volumes. During 1932 the following buildings were completed: Library building costing \$207,786, horticulture building and equipment, \$220,000, addition to the engineering building, \$100,000; dormitory for women, \$175,676; men's field house, \$181,233; women's field house, \$41,872. President, Raymond A. Pearson, D.Agr., LL.D.

**MASHONALAND.** See RHODESIA.

**MASSONS.** See FREEMASONRY.

**MASSACHUSETTS. POPULATION.** According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 4,249,614, as against 3,852,356 in 1920. Boston, the capital, had (1930) 781,188 inhabitants.

**AGRICULTURE.** The accompanying table shows the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod Bu	Value
Hay . . .	1932	338,000	409,000 <sup>a</sup>	\$6,512,000
	1931	310,000	487,000 <sup>a</sup>	8,671,000
Cranberries	1932	14,000	360,000 <sup>b</sup>	2,520,000
	1931	14,000	450,000 <sup>b</sup>	2,700,000
Tobacco . . .	1932	5,600	7,896,000 <sup>c</sup>	1,295,000
	1931	7,600	10,085,000 <sup>c</sup>	1,936,000
Apples . .	1932	.....	3,442,000	2,375,000
	1931	.....	1,575,000	1,890,000
Potatoes . . . .	1932	13,000	1,950,000	1,268,000
	1931	13,000	1,625,000	1,365,000
Corn . . . .	1932	38,000	1,520,000	760,000
	1931	37,000	1,591,000	939,000

<sup>a</sup> Tons. <sup>b</sup> Barrels. <sup>c</sup> Pounds.

**MINERAL PRODUCTION.** The stone quarries furnished the larger part of the State's pro-

duction of native minerals in 1930, as reckoned by value. There were produced 3,008,360 short tons of stone, as against 3,127,500 for 1929; by value, \$6,865,541 for 1930 and \$8,056,302 for 1929. There was also a substantial production of sand and gravel, attaining the value of \$2,790,436 for 1930. Clay products totaled \$1,718,790 in value for 1930; for 1929, \$2,571,951. The production of lime, which had declined considerably from the totals of 1929 to 107,502 short tons, by value \$1,072,008, for 1930, rose somewhat in quantity to 120,000 short tons (estimated) for 1931, but attained the slightly lower total estimated value of \$1,035,000 (1931). There was a considerable coking industry, which produced, from by-product ovens, 1,150,270 short tons of coke in 1931, as against 862,603 in 1930; the total by value rose to \$9,061,415 (1931), from \$6,697,235 (1930). The total value of the State's mineral product, duplications eliminated, was \$12,722,974 for 1930; for 1929, \$16,030,807.

**FINANCE** State expenditures in the year ended Nov. 30, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments \$43,474,584 (of which \$2,872,136 was for local education); for conducting public-service enterprises, \$228,735; for interest on debt, \$1,181,469; for permanent improvements, \$20,173,843; total, \$74,058,631 (of which \$24,269,827 was for highways, \$1,076,332 being for maintenance and \$22,393,505 for construction). Revenues were \$74,020,060. Of these, property and special taxes furnished 42.1 per cent; departmental earnings and compensation to the State for officers' services, 6.0; sale of licenses, 32.2 (in which was included a gasoline sale tax that produced \$13,685,393). Funded debt outstanding on Nov. 30, 1931, totaled \$29,625,775, of which \$4,486,500 was for highways. Net of sinking-fund assets, the debt was \$17,265,706, exclusive of the State's contingent debt, as guarantor of issues made by certain of its subdivisions, but inclusive of \$7,420,000 on account of the Cambridge subway. On an assessed valuation of \$7,181,358,958 the State levied in the year ad-valorem taxes of \$7,500,000.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 2013.84. During the year previous, 14.57 miles of line were abandoned and 6.62 put in operation.

**EDUCATION.** Attempts were reported to have been made, without success, to secure from the Legislature the enactment of the transfer of control over public-school finances from school committees to mayors, city councils, and selectmen. The move to this end reflected the rise of opposition to the scale of school taxes. Despite some such opposition the year's total of appropriations for the public schools was reported, in the *Journal of the National Education Association*, to have come within 5 per cent of the level of normal times.

For the academic year ended June 30, 1932, the number of persons of school age was reported as 849,119 (from 5 to 16 years, inclusive). There were enrolled in the public schools of the State 767,583 pupils; of these, 513,586 were in the common schools or elementary grades; 98,480 in junior high schools; 155,517 in the upper high schools. The year's expenditures for public-school education were: current, \$72,191,013; outlay, \$9,645,333. Salaries of

teachers, inclusive of principals and supervisors, averaged \$1910 a year. Particular attention to the separate education of special groups of children continued to be given by the State. Superintendent Smith stated that 40 full-time and 51 part-time teachers were instructing crippled children in the latter's homes, and that 50 classes for the mentally retarded and 4 for the deaf and hard of hearing were maintained; also that special provision had been made for over 3000 gifted pupils.

**CHARITIES AND CORRECTIONS.** The authority of the State over its institutions for the care and custody of persons, as exercised in 1932, was not centered in a single body. A Department of Public Welfare, composed of a commissioner and an advisory board of six members, dealt with divers welfare problems; it gave some sort of State assistance to about 70,000 individuals during the year, at an expenditure of some \$6,500,000. Among these were 3379 mothers and 10,101 children assisted under the Mothers' Aid Law. The department had custody (December 1) of 6854 children declared to be State wards. It had charge of 3254 other minors on parole from the State training schools. Its duties included the granting of old-age assistance, supervision of town planning, control of housing regulations, supervision over private charitable corporations of divers sorts, and investigation of adoptions. It directed the State Infirmary, Tewkesbury, with 3252 inmates; Massachusetts Hospital School, Canton, 309; Lyman School for Boys, Westborough, 446; Industrial School for Girls, Lancaster, 290; Industrial School for Boys, Shirley, 323.

Under the government of a Commissioner of Correction were the State Prison, Boston; Massachusetts Reformatory, Concord; Reformatory for Women, Framingham; Prison Camp and Hospital, Rutland; State Farm, Bridgewater. A Department of Mental Diseases supervised mental hospitals at Worcester, Taunton, Northampton, Danvers, Westborough, Medfield, Monson, Foxborough, and Grafton. The Department of Health had authority over five State sanatoria.

**LEGISLATION.** The regular annual session of the General Court passed a law, similar to that of New Jersey, permitting taxpayers to local governing bodies to present previously acquired notes of these bodies in satisfaction of tax payments. The "lame duck" amendment to the Federal Constitution, to change the dates of inaugurations and of initial sessions of Congress, was ratified. The name of the (Boston) Metropolitan Transit District was changed by law to "the Boston Metropolitan District." The legislators failed to act on repeated demands of Governor Ely for a reduction of 10 per cent in the amount of all State salaries above \$2000. Efforts to procure the passage of some sort of aid for the relief work of the cities, 32 of which were reported to be spending at the aggregate rate of \$2,000,000 a month to succor the needy, failed. A Boston bond issue of \$20,000,000 for the construction of a new subway was authorized. The amount of the State tax was set at \$9,750,000 for the year. The power was given to municipalities in the State to receive, in advance of the legal due date, payments of taxes up to 90 per cent of payment that had, in each individual case, been made in the preceding year, and to allow interest on such

payments, from receipt until the due date, at one-half per cent a month.

**POLITICAL AND OTHER EVENTS.** The financial condition of a number of the municipal governments was strained during the year. Fall River was under the management, in financial matters, of a State commission created by the General Court at the city's own request. Lowell, Lawrence, Chelsea, Chicopee, and Revere experienced difficulties at times in meeting payroll disbursements, and payroll payments were at times delayed. Advance payment of taxes, upon which the Legislature had allowed payers to obtain interest as an incentive, replenished some of the municipal treasuries for the time being. Industrial conditions were improved by a rise of activity in the textile mills in the course of the spring, coupled with a reduction in banking troubles. There was erected in the Back Bay section of Boston a \$3,000,000 publishing plant for the Christian Science periodicals.

The primary vote of September 20 gave the Republican nomination for Governor to Lieut. Gov. William S. Youngman; Gov. Joseph B. Ely was chosen as the Democratic candidate, to succeed himself.

**ELECTIONS.** The popular vote cast on November 8 was in favor of the Democratic National ticket by about 13 to 12. The totals of the votes for President, as officially reported, were: Roosevelt (Dem.), 800,148; Hoover (Rep.), 736,959. The 15 Representatives elected to the Seventy-third Congress were prevailingly Republican. Gov. Joseph B. Ely, Democrat, was reelected, defeating William S. Youngman, the Republican candidate. A measure of the State Legislature ratifying the "lame duck" amendment to the United States Constitution was approved by popular referendum. Another referred measure, to provide pre-primary conventions for the selection of parties' candidates in the primaries, was also approved.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, Joseph B. Ely; Lieutenant-Governor, William S. Youngman; Secretary of the Commonwealth, Frederic W. Cook; Treasurer, Charles F. Hurley; Auditor, Francis X. Hurley; Attorney-General, Joseph E. Warner; Commissioner of Education, Payson Smith; Commissioner of Public Welfare, Richard K. Conant.

*Supreme Judicial Court:* Chief Justice, Arthur Prentice Rugg; Associate Justices, John Crawford Crosby, Edward Peter Pierce, William Cushing Wait, Fred Tarbell Field, Charles Henry Donahue, Henry T. Lummus.

**MASSACHUSETTS INSTITUTE OF TECHNOLOGY.** A non-sectarian institution for scientific and technical education in Cambridge, Mass., founded in 1861. The enrollment for the autumn of 1932 was 2831, including 523 graduate students. For the summer session, the registration was 1351. There were 242 members on the faculty and 283 others on the active staff of the institute. The productive funds amounted to \$32,600,000; and the income for the year was \$3,700,000; received from various sources, as follows: Funds, \$1,520,000; student fees, \$1,580,000; miscellaneous, \$600,000. The book value of land and buildings in Boston and Cambridge was \$15,500,000. The library contained 280,000 volumes. President, Karl Taylor Compton, D.Sc., D. Eng., Ph.D., LL.D.

**MASSACHUSETTS STATE COLLEGE** (formerly MASSACHUSETTS AGRICULTURAL COLLEGE.) A State institution for agricultural and scientific training in Amherst, founded in 1867. The enrollment in 1932 was 1223. There were 203 members on the faculty, including 113 in resident teaching, 61 in research at the experiment station, and 29 in extension service in agriculture and home economics. The income in 1932 amounted to \$1,237,235, of which \$1,014,038 was from State appropriation and \$222,596 from Federal appropriation. The library contained approximately 91,000 volumes. President, Hugh P. Baker, M.F., D.Oec.

**MASSIE CASE.** See HAWAII; LAW IN 1932.

**MATABELELAND.** See RHODESIA.

**MATERNAL HEALTH.** See CHILD WELFARE.

**MATHER COLLEGE.** See WESTERN RESERVE UNIVERSITY.

**MATTER, ORIGIN OF.** See CHEMISTRY.

**MAURITANIA.** A French colony forming part of French West Africa (q.v.). Lieutenant-Governor in 1932, M. Chazal (appointed in 1929).

**MAURITIUS, mā-rīsh'ŭs.** An island in the Indian Ocean, 500 miles east of Madagascar, forming, with the adjacent small islands of Rodrigues and Diego Garcia, a crown colony of Great Britain. Area, about 720 square miles; population (1931 census), 393,418. Port Louis, the capital, had 53,988 inhabitants in 1930.

Sugar is the main crop, one-quarter of the island being devoted to its cultivation. Production in 1931-32 was estimated at 200,000 metric tons. Coconuts, cacao, tobacco, coffee, aloe fibre, tea, and vanilla also are grown. Exports in 1930 were valued at 26,600,904 rupees; imports, 39,806,180. The budget for 1930-31 estimated revenue at 13,322,000 rupees and expenditure at 16,930,000 rupees (15 rupees = £1). Governor in 1932, W. E. F. Jackson, appointed March, 1930.

**MAYOTTE (mā-yōt') AND COMORO ISLANDS.** An archipelago midway between the east coast of Africa and the northern end of Madagascar, belonging to France and forming a colony attached to the government of Madagascar of which it is the twenty-first province. Capital, Dzaoudzi (111 inhabitants). Total area, about 790 square miles; population in 1928, 126,208 (about 800 Europeans).

**MEAT.** See LIVESTOCK.

**MECHANICAL ENGINEERS, THE AMERICAN SOCIETY OF.** An organization founded in 1880 to promote the art and science of mechanical engineering and the allied arts and sciences. It includes 16 professional divisions, organized on the basis of a common interest in a branch of engineering within the scope of the society. These divisions are: aeronautic, applied mechanics, fuels, hydraulic, iron and steel, machine shop practice, management, materials handling, national defense, oil and gas power, petroleum, power, printing industries, railroad, textile, and wood industries.

Local sections of the society have been established in 72 industrial centres of the United States. They foster and promote the welfare of strong local engineering societies, inclusive of members of all branches of the engineering profession, together with architects and chemists. These sections held more than 400 meetings during the year. Nearly 5000 students were enrolled in the 108 student branches of the society. The

first southern student branch conference was held in Chattanooga, Tenn., in April, 1932, bringing together representatives of the 15 colleges where there was inaugurated in 1931 a new policy establishing the grade of student member. This plan, which more closely affiliates the students with the work of the society, is being extended to colleges in other localities.

In addition to the meetings of its student branches, local sections, and professional divisions the society held two major meetings during the year. These were the semi-annual meeting at Lake of Bays, Ont., Canada, June 27-July 1, 1932, and the annual meeting in New York City Dec. 5-9, 1932. The membership of the society at the beginning of the fiscal year, Oct. 1, 1932, was 20,079.

The numerous technical committees of the society carried on their work in research, standardization, and the formulation of safety, power test, and boiler codes and rules. The process industries committee, which was organized in 1931, held the first national process meeting in Buffalo, N. Y., in June, 1932. Another special committee of the professional divisions, the pure air committee, was continuing the work inaugurated by the subcommittee on smoke abatement of the fuels division. The society accepted joint sponsorship with the Society of Automotive Engineers for a study of combustion in Diesel engine cylinders and for the standardization of classification and designation of surface qualities.

The society is also a member of the American Engineering Council which, upon the recommendation of its own committee on the economic status of the engineer, established the Engineers' Council for Professional Development. This is a joint organization of the societies of civil, mechanical, mining, electrical, and chemical engineers and of several other organizations whose general objective is the enhancement of the professional status of the engineer.

The regular publications of the society are. *Mechanical Engineering*, the monthly journal; *Transactions*, containing the year's papers of specialized interest and issued in 24 sections, including the Record and Index which contains annual reports, necrology, and an index to all publications of the society for the year; *The Engineering Index*; *Mechanical Catalog*; and the *A.S.M.E. News*, the semi-monthly news sheet for members.

The officers for 1932-1933 were: president, A. A. Potter; vice-presidents, Robert M. Gates, William B. Gregory, Frederick H. Dorner, Charles M. Allen, Harold V. Coes, James D. Cunningham, C. F. Hirshfeld; managers, William L. Batt, Harold L. Doolittle, Herbert L. Whittemore, Eugene W. O'Brien, Harry R. Westcott, Alexander J. Dickie, Robert L. Sackett, Alexander D. Bailey, John A. Hunter; treasurer, Erik Oberg; secretary, Calvin W. Rice; executive secretary, C. E. Davies; assistant secretaries, Ernest Hartford, C. B. LePage. Headquarters are in the Engineering Societies Building, 29 West Thirty-Ninth Street, New York City. There is a mid-west office at 205 West Wacker Drive, Chicago, Ill., and a mid-continent office, concerned principally with the problems of the petroleum industry, in Tulsa, Okla.

**MECKLENBURG-SCHWERIN, mēk'lēn-bōrk-shvā-rēn.** A State of the German Republic. See GERMANY under *Area and Population*, and *History*.

**MECKLENBURG-STRELITZ**, mēk'lēn-bōrk-shtrā'lits. A State of the German Republic. See GERMANY under *Area and Population*.

**MEDICAL ASSOCIATION, AMERICAN.** A union of the constituent, or State and Territorial, medical associations, founded in 1847 to "promote the science and art of medicine and the betterment of public health." The legislative powers of the association are vested in a house of delegates which is empowered to transact all business not provided for in the by-laws and elects the general officers and the board of nine trustees. Members of the association must be members of constituent associations, and these members, in good standing, constitute the scientific assembly of the American Medical Association. The assembly is divided into 16 sections, each having its own officers who serve for a year. These sections are: Practice of medicine; surgery, general and abdominal; obstetrics, gynecology, and abdominal surgery; ophthalmology; laryngology, otology, and rhinology; diseases of children; pharmacology and therapeutics; pathology and physiology; nervous and mental diseases; dermatology and syphilology; preventive and industrial medicine and public health; urology; orthopedic surgery; gastro-enterology and proctology; radiology; and scientific exhibit, technical exhibits, etc.

The eighty-third annual session was held in New Orleans, La., May 9-13, 1932, the house of delegates convening on May 9 and the scientific assembly the following day. There were 2778 persons in attendance. At the section meetings leading authorities and investigators in the field of medical science announced and discussed the latest discoveries and methods in treating the sick. Of special significance were the joint sessions of the section on the practice of medicine and the section on preventive and industrial medicine and public health in which there were discussed the readjustment in organized medicine which the rapidly changing social order calls for, the association maintaining that the necessary readjustment should be initiated and controlled from within the profession rather than be forced from without. See MEDICINE AND SURGERY, under *The Cost of Medical Care*.

The association's convention in 1933 is scheduled to meet in Milwaukee, Wis., June 12-16.

The officers for 1932-33 were: President, Edward H. Cary, Dallas, Tex.; president-elect, Dean Lewis, Baltimore, Md.; vice-president, Rudolph Motos, New Orleans, La.; secretary and general manager, Olin West, Chicago, Ill.; and treasurer, Austin A. Hayden, Chicago, Ill. The official publication is the *Journal of the American Medical Association*, Morris Fishbein, editor. Headquarters are at 535 North Dearborn Street, Chicago, Ill.

**MEDICAL CARE, Cost of.** See MEDICINE AND SURGERY.

**MEDICINE AND SURGERY. THE COST OF MEDICAL CARE.** In November of this year the Committee on the Costs of Medical Care presented its long awaited report, the first comprehensive study ever made in this country of the relation of current medical practice to the actual need of the sick of the nation. This ambitious undertaking, sponsored by several philanthropic foundations and including in its membership representatives of the public, the social sciences, public health, institutions and special interests, and private medical practice, was launched five

years ago under the chairmanship of Ray Lyman Wilbur, Secretary of the Interior in President Hoover's Cabinet, and President of Stanford University. In the course of its survey approximately one million five hundred thousand dollars have been spent.

A majority of the Committee recommended the socialization of medical practice by the formation of community and State medical centres supported by insurance or taxation, which would deal both with the prophylactic and therapeutic aspects of community health. The costs would be borne by the community on a group basis and fees would be paid by weekly or monthly installments. Facilities for private care would be available to those who wished and were able to pay personal physicians' fees. By these means the Committee states it "will provide for the first time a scientific basis on which communities throughout the country can attack the perplexing problem of providing adequate medical care for all persons, at costs within their means."

Vigorous dissent from this opinion was made in a minority report signed by eight physicians, who included in their number the representatives of the American Medical Association. These members felt that the majority plan was Utopian, that it would tend to eliminate one of the most important aspects of medical care, the personal relationship of the physician and patient, and finally that it threatened to involve the medical profession in a complicated, impractical, bureaucratic organization.

The recommendation of the majority report is summarized by the *New York Times* (Nov. 30, 1932) as follows:

That medical care be furnished largely by organized groups of physicians, dentists, nurses, pharmacists and other associated personnel, centered around a hospital, and rendering home, office and hospital care

That all public health services be extended until they are available to the entire population, according to its needs.

That the costs of medical care be placed on a group-payment basis, through the use of insurance, taxation or both methods, without precluding the continuation of the individual-fee basis for those who prefer it

That a specific organization be formed in every community or State for the "study, evaluation and coordination of medical service"

That the professional education of physicians, dentists, pharmacists and nurses be reoriented to accord more closely with present needs, and that educational facilities be provided to train three new types of workers in the field of health-nursing attendants, nurse-midwives and trained hospital and clinical administrators

The development in each city of one or more hospitals into a "community medical centre" is described as the "key-stone" of the committee's recommendations. These centres would provide complete medical services in return for weekly or monthly fees, with, when necessary, some supplementary support from tax funds. Professional procedures, according to the report, would be under the control of the physicians, dentists and other practitioners, and financial responsibility would rest with a board representing the public.

The personal relations between patient and practitioner should be carefully maintained in such centres, the committee says. Such organization, it is asserted, would be fairer to practitioners than the present system because it would provide them with higher average incomes and would give the largest rewards to those with the greatest experience and ability.

The recommendations in general, the report states, provide for the development of existing machinery rather than the construction of an entirely new organization.

The minority report is summarized as follows that:

(1) Government competition in the practice of medicine be discontinued and its activities restricted entirely to certain types of service; (2) government care of the indigent be expanded with the ultimate object of relieving the medical profession of the burden; (3) coordina-



tion of medical service be considered an important function for local communities; (4) united attempts be made to restore the general practitioner to the central place in medical practice; (5) that the corporate (i.e. organized) practice of medicine be vigorously and persistently opposed as wasteful, inimical to high quality, or productive of unfair exploitation of the medical profession; (6) careful trial be given methods which can rightly be fitted into our present institutions and agencies without interfering with the fundamentals of medical practice, and (7) that State or county medical societies develop plans for medical care.

The American Medical Association, speaking through its official organ, the *Journal* (Dec. 3, 1932), strongly attacked the conclusions offered in the majority report, and threw the weight of its authority behind the chief minority report as summarized above. It felt that the director of the work of the committee, Harry H. Moore, Ph.D., had already disclosed in his previous writings, "his personal bias for insurance schemes and, indeed, for government practice"; that "the rendering of all medical care by groups or guilds of medical societies has been one of the pet schemes of E. A. Filene, who probably was chiefly responsible for establishing the Committee . . . and in developing funds for its promotion"; and that "such practice has . . . on various occasions had the endorsement of representatives of some of the eight foundations that contributed financial support." Besides attacking the committee as biased, the *Journal* believes, "The alignment is clear. on the one side the forces representing the great foundations, public health officialdom, social theory—even socialism and communism—inciting to revolution; on the other side the organized medical profession of this country urging an orderly evolution guided by the controlled experimentation which will observe the principles that have been found through the centuries to be necessary to the sound practice of medicine."

Less alarmed indeed is the reaction of the conservative press as represented by this editorial comment in the *New York Times*:

At whatever costs, both the majority and the minority reports of the Committee on Medical Costs agree, the general practitioner should be restored to his place—the central place—in medical practice, and the personal relations between patient and practitioner should be maintained. This is of first importance. It must be the *religio medici*. But there must be a group organization of some sort in order to bring such professional service within the reach of every man, woman and child. A society that does not recognize the obligation to make its skill in protecting and saving human life available for all has not reached or even approached its ideal.

How that is to be done, there may be and is disagreement. The majority report looks in the direction of co-ordinating locally and regionally health and medical services, and distributing the costs over a period of time and over groups of families or individuals. This is in fact the direction in which medical provision is already moving.

Finally, in some liberal circles there is the feeling that the report, while unquestionably a step in the right direction, does not go far enough, and is in reality but a "stop-gap" measure—that the annual payments necessary under the Committee's plan are beyond the means of a great group of "average" wage earners, and that in the end some form of compulsory health insurance with probably an added government subsidy will be necessary. The *New Republic* (Dec. 7, 1932) says,

In short, this is a stop-gap report. The members of the committee as a whole have never grappled with the problem of keeping the nation in good health. They have closed their eyes to the folly of an economic system which keeps three-quarters of the total population just above the

subsistence level. The plan which is proposed is better than the existing situation, but that is about as much as can be said for it. The real solution of the question will have to wait until this country shakes off the pathetic delusions of eighteenth-century society which are today keeping it at the tail of the procession.

It is inevitable that such a report as that of the Committee, suggesting as it does radical changes in the economic relationship of the physician and the patient which would change the whole character of medical practice in this country should meet with widely varying receptions, depending for a large part upon the differences in social and economic views of different groups. But regardless of whether any immediate change in medical organization occurs as a result of it, and it seems unlikely that any will, it will have unquestionably served a very valuable purpose in bringing before the attention of the nation the fact admitted by all, regardless of their economic creed, that at present a large part of our population, which in general consists of the so-called middle class rather than the poor who are received into free clinics and charity hospitals, cannot afford adequate medical attention.

**POLIOMYELITIS.** The widespread epidemic of poliomyelitis (infantile paralysis) occurring in 1931 served to renew interest in this serious epidemic disease and its distressing paralytic sequelae. Numerous papers on its epidemiology and treatment are to be found in the literature for 1932, as well as experimental studies on its immunological aspects. Opportunity was afforded for a large scale study of the effects of antiviral serum therapy on the disease in man, from which conflicting reports have come.

Dr. Simon Flexner, Director of the Rockefeller Institute for Medical Research, a pioneer student of experimentally produced poliomyelitis, read an important paper before the College of Physicians of Philadelphia (*Science*, vol. 77, no. 1984, p. 7), in which he reviewed our present knowledge of the immunology of the disease and made suggestions for a plan of treatment aimed at its prevention. Dr. Flexner pointed out three salient facts:—that poliomyelitis is an infection of the upper respiratory tract, that there is a wide variation in the severity of its clinical manifestations, and that, in monkeys at least, any degree of actual infection protected inoculated animals from the effects of a second administration of the virus. As early as 1910 Flexner and his co-workers discovered neutralizing anti-viral bodies in the blood of both monkeys and men who had recovered from poliomyelitis, and further found that neutralization of the virus occurs not only in the test tube, but *in vivo*, if the anti-serum (so-called convalescent serum) is injected within 18 to 24 hours after inoculation with the virus has been made. More recent studies have shown that the potency of the monkey convalescent serum can be increased by reinoculating animals who have already been injected with the virus.

Professor Netter of Paris, in 1911 (Dr. Flexner points out) was the first to use convalescent serum in the disease in man. Applying the previous experimental studies to clinical practice, he injected into patients suffering with the disease a convalescent serum obtained from others who had recovered from it. (Still later it was found that a great many normal adults who have never had frank symptoms of infantile paralysis have in their blood neutralizing bodies, so that now it is usually not necessary to use only the sera of those who have actually been known to

have had poliomyelitis. The most commonly accepted theory of the origin of this immune sera in normal adults is that at one time they have had a mild attack of poliomyelitis not detected clinically. This theory is attacked by some investigators, as will be pointed out below.) It soon became evident that the serum was quite ineffectual in those cases where paralysis had already developed; so that now it is used only when the disease is detected before paralytic symptoms appear. It is in this group that the question of its efficacy becomes most important and is as yet quite undetermined. Dr. Flexner says that the problem is largely a statistical one and therefore very difficult of judging. His own reaction is that since certainly we have definite evidence of the value of the serum in experimental poliomyelitis in monkeys, and since there is no definite proof that it may not be active in man, we are justified in the continued use and study of it clinically. It certainly has not been shown to have any harmful effects, and may possibly strengthen the "already acting resisting agencies."

An equally important phase of the problem is that of prophylaxis. Dr. Flexner had previously found that monkeys could be protected against the development of poliomyelitis following their experimental inoculation with the virus by previous intra-spinal or intra-venous injection with convalescent serum; and further that the immunity thus developed would last several days. In 1931, at his suggestion, several thousand children exposed to poliomyelitis during the epidemic in New York City were injected with adult serum (30 c.c. of their parents' serum injected intra-muscularly) and the incidence of poliomyelitis in this group was believed to be less than in a corresponding non-protected group. The results of this study were too incomplete to be convincing, and further work along the same line was undertaken in Philadelphia in 1932. While it is too early to make any final report on this last study, the results so far seem to be promising. Dr. Flexner concludes that "We must await future events before attempting any general prediction on this important subject; but enough would appear to have been achieved already to warrant a further and wider trial of this safe and readily available means of preventing epidemic poliomyelitis which continues to be a serious menace on a world wide scale."

Another contribution made by Flexner (*Jr. Am. Med. Ass'n* 99, 1244, 1932) has to do with the production of an active immunity against poliomyelitis in monkeys. It has been known for some time that the repeated subcutaneous injections of small amounts of the virus or even one large injection would confer immunity. But some animals, a small percentage of those injected, might develop paralysis. Recently, it has been found that the combined injection of both serum and virus would obviate this occasional production of paralysis while still consistently producing immunity (Rhoads, *Jr. Exp. Med.* 52, 115, 1931). Flexner also found that the serial passage of the virus through monkeys changed its infectivity without changing its immunizing properties. It is possible that these findings may later prove of value in actively immunizing human beings against the disease.

Several important studies are reported in the *Journal of the American Medical Association* for Sept. 24, 1932 (99, 13).

J. E. Gordon of the Detroit Department of Health, described and emphasized the diagnosis of poliomyelitis in its preparalytic stage. Two great benefits are to be expected from early diagnosis. In the first place, public health may be protected by the isolation of the affected person, and in the second the patient may be benefited by the early use of certain therapeutic measures: absolute rest in bed, reduction of cerebro-spinal fluid pressure by lumbar puncture, and possibly the use of presumably specific anti-sera.

S. D. Kramer of the Harvard Medical School, studied the incidence of immunity in varying age groups of the population and the probable mechanism of its production. Babies at the breast are immune up to one year, when susceptibility begins. Following this there is increasing immunization with increasing years, so that by adult life approximately nine-tenths of the urban population and a somewhat lesser percentage of the rural population is immune. Kramer made an investigation in a small town in Massachusetts (population, 1500) where five cases of poliomyelitis occurred. At the same time there were 33 other minor illnesses among children in the town which might have been abortive forms of poliomyelitis. Tests for immunizing substances in the sera of these children were made several months later, and no higher percentage found than among those who were not ill during the epidemic, or among children in a neighboring town where there had been no poliomyelitis. He concluded, therefore, that minor, atypical febrile illnesses in the wake of an epidemic are usually not mild forms of poliomyelitis. Several children who had been in immediate contact with those ill of infantile paralysis were all found several months later to possess immune bodies in their sera, although they had not been ill, and although at the time of the epidemic their blood had not shown immunizing properties. Several children who had had more remote contact (and especially were not liable to have had nasopharyngeal secretions transferred to them) did not develop immunity. Kramer believes as a result of this investigation that immunity to poliomyelitis may be developed by contact without necessity for the development of even an "abortive" form of the disease, and he suggests that this is the mechanism by which a large part of the general immunity of the population is developed. He also surmises that there must be a carrier group, just as is the case of measles or diphtheria. He concludes that "the most productive line of further study would seem to be in investigating the factors which seem to lead in one case to immunity after exposure and in the other to the development of clinical symptoms."

Of special interest and importance is the report of Dr. William H. Park of the Department of Health, New York City, under whose direction extensive use of antipoliomyelitis serum ("immune serum") in the treatment of the preparalytic forms of poliomyelitis was carried out. As pointed out above, we know that in monkeys, immune sera, if injected within 18 to 24 hours, will prevent the development of symptoms. The crucial question then, would seem to be whether or not this same phenomenon occurs in man, and if it does, whether it is possible to diagnose the disease in an early enough stage to allow the antiserum to be effective. Parks' review of the experience in New York City would seem to indicate that, unfortunately enough, either the anti-

serum is not effective in man, or else it cannot be administered in an early enough stage to be of any value.

Nine hundred and twenty-seven cases were studied, 408 of which were untreated and 519 treated with convalescent serum. All were in the preparalytic stage. Various methods of administration of the serum were used and amounts given varying between 25 c.c. and 100 c.c. An attempt was made to divide the series equally between treated cases and controls without regard to the severity of the symptoms, although, since most of the cases treated at home were given serum, it was found necessary, in order to keep the series approximately even, to refrain from giving serum to alternate hospital cases, as had been the original plan. A summary of the results is found in the following table:

<i>Controls untreated by serum</i>	<i>Total cases</i>	<i>No paralysis or weakness at end of three weeks</i>	<i>Weakness</i>	<i>Paralysis</i>	<i>Death</i>
Observed by Health Department and City Hospital pediatricians .....	306	229 (74.8%)	46 (15%)	29 (9.9%)	2
Observed by Academy of Medicine pediatricians .....	102	72 (70.5%)	12 (11.7%)	16 (15.6%)	2
Combined totals .....	408	301 (73.7%)	58 (14.2%)	45 (11%)	4 (0.9%)
<i>Patients treated with convalescent serum</i>					
Observed by Health Department and City Hospital pediatricians .....	95	72 (75.7%)	10 (10.5%)	10 (10.5%)	8
Observed by Academy of Medicine pediatricians .....	424	285 (67.2%)	30 (7%)	92 (21.7%)	17
Combined totals .....	519	357 (68.8%)	40 (7.7%)	102 (19.6%)	20 (3.8%)
Total of all cases .....	927				

Dr. Park adds, "The figures . . . are disappointing to those who hoped that the serum would demonstrate its value statistically. Some of us were hardly surprised for we knew that antiserums have been of little or no value in other diseases known to be due to filtrable viruses. These tend to invade the cells themselves and seem to be beyond the curative reach of serum.

"Not one of the pediatricians who treated these patients felt that he had any evidence of a curative influence in the serum."

And he concludes, "The results of these observations on treated and untreated patients in the preparalytic stage of poliomyelitis during the 1931 outbreak do not give any statistical proof that the serum has any value when given in cases after the cells of the central nervous system are involved."

It would not be fair to ignore the fact that not many previous investigators have felt that the serum was of value, although it must be admitted at once that their series was not as well controlled as was Dr. Park's. He suggests that future studies should be adequately controlled and reviewed by impartial investigators.

It would seem that while Dr. Park's paper casts grave doubts upon the efficacy of immune serum treatment, it would be unwise to entirely discard it until even larger and more complete studies have been made. The position of Dr. Flexner, mentioned earlier in this article, seems to be a justifiable one.

Two interesting new viewpoints toward the problem of individual susceptibility to poliomyelitis were expressed during the year. Dr. George

Draper of the College of Physicians and Surgeons, Columbia University, a student of the relationship of constitution to disease, applied the criteria of his previous studies to the problem of poliomyelitis, and came to the conclusion that children of a certain and very definite type of physical make-up were apt to be susceptible to the disease (*Am. Jr. Med. Sci.* clxxxiv, 1, 111). He found that "the constitutional structure of the infantile paralysis people points toward deficiencies of three glands, namely: pituitary, gonad, and adrenal cortex," and concluded that "the highly specialized type of child described above is a causal factor in the occurrence of infantile paralysis, of equal importance with the virus; but so far as the development of the virus is concerned, the constitution of the child is of greater significance than the virus."

Jungeblut and Engle of the College of Physicians and Surgeons, likewise concluded that endogenous rather than exogenous factors accounted in chief part for individual susceptibility to poliomyelitis (*Jr. Am. Med. Ass'n*, 99, 25, 2091). After reviewing previous epidemiological and immunological studies they are of the opinion that the theory, which presupposes a widespread sub-clinical infection with the virus of poliomyelitis as the causative mechanism of adult immunity, is untenable. In their opinion, it is invalidated by the varying age incidence in different latitudes, by the fact that the age line has been recently advancing, and by the fact that natural virucidal substances can develop in human blood serum without contact with the specific antigen. They believe that "the mass protection enjoyed by the adult human population rests primarily on the normal function of the endocrine balance characteristic of mature age." In support of their theory they were able, in some instances, to demonstrate virus neutralizing substances in the serum of immature monkeys after prolonged treatment with anterior pituitary extract (a substance which may cause precocious sexual development). It of course, goes without saying that their views run contrary to the present day immunological teaching.

WHOOPING COUGH. One interesting line of investigation followed recently concerns the etiology of whooping cough, the cause of which has been considered for many years to be the Bordet-Gengou bacillus (*B. Pertussis*). With advances in our knowledge of the nature of filtrable viruses, the conception has gained prominence that

certain of them may be the cause of diseases previously thought to be of bacterial origin; and, in fact, in some instances it has been definitely demonstrated that particular bacteria, formerly regarded as primary etiological factors in the production of a given disease, are in reality merely secondary invaders in a pathological process caused by a filtrable virus. This is notably the case in epidemic influenza, the causative agent of which was at one time thought to be the "influenza bacillus" of Pfeiffer, but which is now considered almost certainly to be a virus disease, although as yet little exact knowledge concerning the virus involved has been obtained. More recent and exact studies have shown that psittacosis, hog cholera, and the distemper of dogs are all virus diseases, although usually associated with specific bacteria which earlier investigators had considered the responsible organisms. Studies reported by McCordock, Rich, and others during the past year would seem to indicate that possibly whooping cough falls into this same group.

In a lucid article in the *Bulletin* of the Johns Hopkins Hospital (vol. li). Rich outlines the case against the Bordet-Gengou bacillus, and presents pathological evidence suggesting that a filtrable virus is the primary causative agent of the disease. Rich points out that the etiological rôle of the Bordet-Gengou organism has never been definitely established. It is true that it has been cultured in the early stages of whooping cough in many cases; but in some cases it has not been cultured, in spite of the use of presumably adequate technique; and furthermore, it is practically never grown late in the disease or at autopsy, when a neighboring and very similar organism, the influenza bacillus, has been frequently found. More important still, whooping cough has not, in Rich's opinion, ever been definitely produced in animals by inoculation with *B. Pertussis*. One strong bit of evidence favoring the bacillary origin of pertussis is that at autopsy microscopic examination of the epithelial tissues lining the respiratory passages shows myriads of small gram-negative organisms, presumably Bordet-Gengou bacilli, enmeshed in the cilia of the epithelial cells. Indeed, it is this feature that probably accounts for the convulsive cough which characterizes the disease clinically. Rich found, however, that exactly this same picture might occur in cases of whooping cough in which the influenza bacillus and not the pertussis bacillus had been cultured both primarily and at autopsy; and since the organisms are morphologically indistinguishable, he concludes that the bacteria seen in the microscopic sections are in certain cases unquestionably influenza bacilli. And he points out that indeed a pertussis like cough is not uncommon in epidemic influenza, nor in the distemper of dogs where a similar organism (*B. Bronchisepticus*) is found, but is known to be a secondary invader.

On the other hand, there is good reason for suspecting clinically that whooping cough is a virus disease. It resembles known virus diseases in certain of its salient features—that is, it is highly infective, one attack leaves a durable immunity and a specific form of encephalitis sometimes occurs as a complication. Pathologically there is evidence pointing in this same direction. The terminal pneumonia associated with whooping cough is characterized histologically by an infiltration around the smaller bronchi and bron-

chioles with mononuclear cells, a definite picture differing sharply from the ordinary terminal lobular pneumonia following infectious diseases and one found only, so far as we know, in two other diseases, measles and influenza, both of which are pretty certainly caused by filtrable viruses. Very interestingly Rich found that this same characteristic type of peribronchial infiltration might be found in cases of whooping cough uncomplicated by pneumonia, where the fatal conclusion was caused by convulsive seizures. And since the monocellular response is not in any other condition elicited by the *B. pertussis* or the *B. influenzae*, which are pyogenic organisms, Rich is inclined to believe that the reaction in the peribronchial tissues is a specific response to virus infection. Furthermore, in a careful study of tissues from the respiratory tract, he was able in certain cases to find so-called inclusion bodies, large round or oval masses in the cell nucleus and sometimes also in the cytoplasm, which are generally considered to be characteristic of virus disease. The exact significance of this finding has not been established, however, because in some cases inclusion bodies were found in the absence of peribronchial mononuclear infiltration.

Finally, in an experimental study carried out with several other investigators at Johns Hopkins, he found that a virus might be recovered, both from the blood and from the filtered tracheal secretions of children suffering from whooping cough, which, when injected into chimpanzees, produced a catarrhal condition of the upper respiratory tract associated with fever, which closely resembled the early stages of the disease in man. It has not yet been proved, however, that this virus is not that of the common cold. Unfiltered sputum from a case of whooping cough was sprayed in the throats of two monkeys, and these in two days developed an upper respiratory catarrh, which again resembled the common cold as previously produced experimentally in apes. However, in one case thirty days later, the ape developed a typical paroxysmal cough which lasted for seven weeks, and the usual laboratory evidences of whooping cough were found—that is, a cough plate was positive for the Bordet-Gengou bacillus, and there was an increase of the lymphocytes of the blood. Another ape drank a heavy suspension of Bordet-Gengou organisms, and in twenty-four days developed typical whooping cough, both clinically and from the laboratory standpoint. Finally, a third animal was inoculated with a third generation culture of Bordet-Gengou organisms, isolated from the ape described just above, and in seven days he developed a typical whooping cough. In all three of these cases the complement fixation test was positive for the Bordet-Gengou bacillus after the whooping cough was established. A filtrate from the tracheal secretions of these last three animals, taken in the catarrhal stage, did not produce whooping cough when injected into other chimpanzees. The significance of this work is not yet clear, and further studies will no doubt be required to establish the relative significance of the Bordet-Gengou bacillus, and of the virus in the production of the disease. Rich feels that it is quite possible that whooping cough is primarily a virus disease of the upper respiratory tract, which paves the way for a secondary invader (Bordet-Gengou bacillus), which in turn by its localization in the ciliated margin of the

epithelial cells of the air passages, is responsible for the striking clinical feature of paroxysmal cough. (Rich, Long, Brown, Bliss, Holt, *Science*, 76: 330, Oct. 7, 1932.)

H. A. McCordock, of the Washington University Medical School, reported in June the results of an extensive search for inclusion bodies in the lungs of patients dying of pertussis. In 35 autopsies he was able to find characteristic inclusion bodies in 12. In 80 control cases, where there had been no suspicion of whooping cough, he found inclusion bodies in only 2 cases, both infants less than six months old. He is inclined to believe that these findings support very strongly the belief that whooping cough is a virus disease. (*Proc. Soc. Exper. Biol. & Med.*, 29: 1288, 1932.)

**THE ETIOLOGY OF PEPTIC ULCER.** Ulcers of the stomach and duodenum, so-called peptic ulcers, have been the subject of extensive study for many years, but in spite of numerous and careful investigations, we have as yet no satisfactory explanation of their cause. One fact, however, is well recognized—that in recent years there has been a distinct increase in the incidence of the disease. This phenomenon has been considered by some to be associated with the increasing strain of modern life, an opinion corroborated by the frequent parallelism in specific cases between increased mental stress and the occurrence or exaggeration of symptoms and signs of ulcer.

In general there are two schools of thought in regard to the etiology of peptic ulcer: The first believes that the cause of the ulcer is to be found in local conditions in the stomach or duodenum, and the etiological agent is variously believed to be vascular, bacterial, traumatic, secretory, and so on. The second is inclined to believe that nervous factors are primarily responsible, and that ulceration is caused by a disturbance in the normal neurogenic mechanism. This disturbance they consider probably to be due to excessive stimulation of the vagus nerve (which carries the stimulating fibres from the para-sympathetic nervous system) and a resultant change in the normal balance between the two vegetative systems. (Inhibitory fibres come from the sympathetic nervous system by way of the splanchnic nerves and the celiac plexus.) Interesting light is thrown on this neurogenic theory of the etiology of peptic ulcer by a recent paper of Dr. Harvey Cushing, retiring professor of surgery at the Harvard Medical School, and one of the world's leading neurosurgeons. (*Surgery, Gynecology, and Obstetrics*, vol. lv, no. 1, p. 1.)

Dr. Cushing's interest was drawn to this subject by the distressing experience of losing a patient shortly after an intracranial operation because of perforations of multiple acute gastric ulcers. The occurrence of similar complications in two patients, both of whom had been subjected to operations upon the cerebellum, suggested that the incident was not merely a chance one, but that trauma to the brain might possibly be a causative factor in the production of gastric ulcerations.

This opinion was strengthened by his later clinical experience and by reports in the literature of the association of intracranial lesions with peptic ulcer, and especially with the acute type which leads to early perforation. In two of his cases, patients coming to autopsy shortly after intracranial operations showed fresh ulcerations of the stomach which had not perforated,

and since these hemorrhagic erosions may be small and not very obvious, he supposed that in the past they might have been overlooked in routine post-mortem examinations. Similar lesions were found in the stomachs of two patients dying of "malignant hypertension," a disease associated with changes in the cerebral vessels. A chronic duodenal ulcer was found at autopsy in a child of nine who died following a second operation for brain tumor. She had been subjected to extensive X-ray treatment. And finally, in one case, there was a striking relationship between ulcer symptoms and the exacerbation of symptoms caused by brain tumor. At Dr. Cushing's suggestion, Dr. Blackfan of the Children's Hospital in Boston reviewed their autopsy records and found in one year four instances of esophageal perforations associated with intracranial disease or injury. There seemed to be definite clinical evidence, then, that peptic ulcer might follow operations on the brain (and particularly on the cerebellum), that it might be associated with intracranial tumors, and that it might follow birth injuries or other cerebral disease in infants and children.

In addition, there is experimental evidence, both physiological and pharmacological, that lesions of the vegetative nervous system, either in its peripheral branches (vague or sympathetic) or in its central connections, may cause local changes in the stomach or duodenum, which lead to ulceration. This phase of the subject is rather too complex and detailed to allow any full presentation in a summary of this sort, but it is enough to say that the gist of the work seems to be that experimental lesions which cause stimulation of the parasympathetic (motor or stimulating fibres or paralysis of its antagonist, the sympathetic nervous system (carrying inhibitory impulses) lead to definite changes in the normal mechanism of the stomach—changes of a type that are found clinically associated with chronic ulcer, and which one might believe predispose to ulcer formations. Briefly, these changes are hypermotility, hypertonicity, and hypersecretion. Indeed, in animals it has been found possible to produce ulcers by procedures of the general type indicated above.

Cushing's previous studies of the neurohypophysis (pituitary gland) had led him to believe that one of its secretions, pituitrin, is a specific stimulant of the parasympathetic nervous system, quite comparable to adrenalin, the specific stimulant of the sympathetic system; and studies both from the physiological and the clinical side had convinced him that there existed in the inter-brain, or diencephalon, a localized parasympathetic centre, at which site presumably the pituitrin acted. These conclusions were reached after detailed studies of the effect of injection of pituitrin into the ventricles of the brains of patients, in the course of which the type of gastric responses mentioned above were noted.

It seemed, then, that these clinical and experimental findings might be correlated; and that one might gather from them that a possible explanation of the production of conditions favorable for gastric or duodenal ulceration lay in excessive stimulation of the diencephalic parasympathetic centre—in the unusual cases included in this study by such factors as new growths, operative trauma, etc.; in the more ordinary type of case by the action of higher cerebral stimuli (associated with nervous and mental strain). If these excessive stimuli from the forebrain do

cause the changes in gastric physiology which one finds after the intraventricular injection of pituitrin, then local changes might well occur in the walls of the stomach—"small areas of ischæmia or hemorrhagic infarction"—which would definitely predispose to ulceration; and for this eventual event, any of the so-called "local factors" mentioned above (vascular, traumatic, bacterial, etc.) might be responsible.

Cushing concluded: "Those favorably disposed toward the neurogenic conception of ulcer have in process of time gradually shifted the burden of responsibility from the peripheral vagus to its centre in the medulla, to the midbrain, and now to the interbrain, newly recognized as a highly important, long-overlooked station for vegetative impulses easily affected by psychic influences. So it may easily be that highly-strung persons, who incline to the form of nervous instability classified as parasympathetic (vagatonic) through emotion or repressed emotion, incidental to continued worry and anxiety and heavy responsibility, combined with other factors, such as irregular meals and excessive use of tobacco, are particularly prone to have chronic digestive disturbances with hyperacidity often leading to ulcer—effects wholly comparable to those acutely produced by irritative lesions experimentally made anywhere in the course of the parasympathetic system from the tubular centre to its vagal terminals."

**TREATMENT OF CYANIDE POISONING.** The cyanides (hydrocyanic acid, sodium and potassium cyanide) are notoriously powerful poisons, and ones for which there has been in the past no potent antidote. Cases of cyanide poisoning are not so very rare, as the chemical has certain industrial uses (photography, metal refining, etc.) and is besides the chief constituent of some commercial poisons used against insect and animal pests. It is used for suicidal purposes, especially by those with technical knowledge who desire a rapid and painless exitus, and in the past, at least, enjoyed a vogue as an agent for murder. Recent studies seem to indicate that in methylene blue, a complex organic dye, we have a valuable therapeutic agent in cyanide poisoning.

It has been known for some time that the cyanides act by inhibiting aerobic respiration, or oxidation. (Warburg, 1910.) Carbon monoxide, another common cause of poisoning, especially since the advent of the automobile, acts similarly. Methylene blue, it seems, along with other related substances, causes an activation of oxygen. Brooks reported in June experiments on rats, indicating that recovery from mild poisoning by hydrocyanic acid and by carbon monoxide is greatly hastened by the administration of methylene blue, and suggested its clinical use. (*Proc. Soc. Exper. Biol. and Med.*, 29: 1228, June, 1932.) C. J. Geiger, Director of Public Health in San Francisco, reported in December, the successful treatment of a case of cyanide poisoning in man. In this instance, a former medical student, who was admitted to the hospital in a comatose condition after taking fifteen grains of potassium cyanide, ordinarily a lethal dose, was revived dramatically within five minutes by the intra-venous administration of 50 c.c. of a 1 per cent solution of methylene blue. (*Jr. Am. Med. Ass'n*, 99, 23, 1944.) Brooks in a recent communication to the *Journal* indicates that several more cases have been successfully treated, but as yet the details are not available.

So far there is no report of its clinical use in carbon monoxide poisoning, although no doubt this next year will bring many such.

**THE NOBEL PRIZE IN MEDICINE.** See NOBEL PRIZES.

**THE HEREDITARY FACTOR IN CANCER IN MAN.** The question of the existence of an hereditary predisposition to cancer is one which has long been debated and never conclusively settled. Until quite recently the prevailing opinion has been that very probably cancer is not an hereditary disease. Certainly none of the available statistical studies offered any convincing evidence to the contrary. In the last few years, however, this viewpoint has been difficult to reconcile with the accumulating experimental evidence indicating that in certain animals, at least, both the incidence and location of malignant new growths is definitely subject to hereditary influences. The extensive and carefully controlled studies made by Maud Slye of Chicago have been especially important in establishing this fact.

It has been recognized, of course, that large statistical studies of human disease, and especially of such a condition as cancer, which may be of long duration, appear in protean forms, and in many sites, be difficult of diagnosis, may be fraught with error. Again, whereas in the case of experimental animals several generations may be studied in a year, in man a study of as many generations might take a lifetime. And finally, of course, in man one has no way of controlling the countless other factors which might have an etiological rôle in the production of the disease.

Nevertheless, with these difficulties and sources of error in mind, we must conclude from the report of a recent wide-scaled study that the hereditary factor may be an important one in human cancer. This report is that of the Committee for the Investigation of Cancer of the Norwegian Medical Society, a brief discussion of which occurs in the *Journal* of the American Medical Association for May 7, 1932. (P. 1656.)

According to the *Journal*, more than six thousand cases were studied in the interval between 1908 and 1931, and a careful attempt made to discover cases of cancer in near relatives and in forebears. Because of the settled and compact nature of Norway and the relative absence of migration, more complete data were obtained than have ever been available before; no previous study parallels this in either size or thoroughness. The Committee's conclusion, after due consideration of the possible factors predisposing to error, is that the figures obtained indicate a definite hereditary factor in the etiology of cancer in man. It was found, for instance, that cancer was much more common in brothers and sisters of patients with the disease than it was in their husbands or wives, or in the population at large. Again, cancer was more common among the children of those with cancer and conversely, the incidence of cancer was greater in the parents of cancerous patients. The Committee found, however, cases of cancer in persons with no family history of the disease, and concluded that the absence of cancer in parents was no protection against it. This finding led to the conclusion that there are probably two factors predisposing to cancer, one of which is hereditary.

Of special interest, as the *Journal* points out, is the fact that in this study there seemed to be a definite hereditary effect on the localization of cancer (as one might expect from animal stud-

ies). For instance, of the relatives of patients with carcinoma of the breast suffering from cancer, 44 per cent also had cancer of the breast; whereas the incidence of breast cancers among all malignant new growths was only 16.5 per cent. In the case of relatives of patients with cancer of the uterus, localization of the new growth to this same organ occurred in 34.5 per cent of the cases; whereas cancer of the uterus makes up only 8 per cent of cancer in general.

It is not to be expected that a clinical study should afford data for as accurate a determination of the mechanism of heredity involved as is the case in the laboratory. There were indications, however, that probably two independent hereditary factors are involved, and that they are probably recessive.

**SURGICAL TREATMENT OF PULMONARY TUBERCULOSIS.** Dr. Hugh H. Trout, in a presidential address before the Southern Surgical Association, presented an interesting appraisal of the value of surgery in the treatment of pulmonary tuberculosis. (*Surgery, Gynecology, and Obstetrics*, vol. lv., p. 607, 1932.) As a preparation for his paper, Dr. Trout visited the leading thoracic surgery clinics in this country, sent questionnaires to 97 of the largest sanatoria, and reviewed carefully the literature on the subject from 1925 to 1931. He was well equipped, therefore, to give an accurate picture of the present status of the operative therapy of tuberculosis in this country.

This field, Dr. Trout says, is a large and growing one. Of almost 29,000 patients in sanatoria, more than 3500 are in need of surgical treatment (and by this he means procedures more drastic than pneumothorax, which by and large is considered a "medical treatment"). The aim of surgical treatment is to "put the lung at rest," and this may be accomplished by a variety of procedures which produce either temporary or permanent collapse of the affected lobes. The exact physiological changes which produce the favorable clinical results following collapse are not known in detail, but certain broad principles are understood. Cavities are emptied and obliterated, and there is a distinct tendency for the tuberculosis process to heal.

Temporary compression may be achieved by several procedures, the simplest and most commonly used being the production of an artificial pneumothorax—that is, inflation of the pleural cavity with air or some other gas. This causes a collapse of the homolateral lung which is pushed against the mediastinum. Dr. Trout points out that pneumothorax may not only have a beneficial effect on the pulmonary process, but may be of value in laryngeal and intestinal tuberculosis, by removing a focus which is "feeding" secondary lesions; and also may, in some cases, allow pregnancy in a tuberculosis patient to be successfully terminated without the usual exacerbation of the disease. Sometimes the success of collapse therapy by pneumothorax is prevented by the presence of adhesions which bind the lung to the pleura and prevent its shrinkage. These cases, Trout believes, are in general best treated by operation with division of the adhesions.

Another popular measure used to promote collapse is that of phrenicectomy, which consists of interfering with the nerve fibres which run in the phrenic nerve and supply the diaphragm. Temporary paralysis of the diaphragm (and its consequent rise and compression of the lung on the

same side) may be effected by crushing the nerve or injecting it with alcohol. Permanent paralysis is most safely produced by an acutal dissection and excision of a part of the nerve, rather than by the more common exeresis (twisting off the divided half), Dr. Trout believes. Other and more recent measures for producing partial collapse are (1) division of the three scaleni muscles which allows collapse of the apex of the lung, and (2) resection of the intercostal nerves which paralyzes the thoracic muscles.

Permanent collapse of the lungs is best brought about by resection of a portion of each rib. This procedure—thoracoplasty—allows the chest wall to fall in against the lung and thus compress it. This is a major surgical procedure, and a formidable one, but Dr. Trout believes that with a rigorous selection of cases and an adequate technique, the operative mortality should be small. He quotes the figures of a leading American thoracic surgeon who had only 2 per cent of deaths. (The average figures are probably between 5 per cent and 8 per cent, and in unskilled hands run even higher.) That this procedure is well worth while, in spite of its risk, is clearly demonstrated by its late results. Five years after the operation, 33 per cent of the patients are well and self-supporting. Another third are very much improved, though not self-sustaining. When one considers that the operation is done only on patients who have failed to respond to medical treatment, usually the subjects of extensive tuberculosis infection, these figures seem even more significant.

There are certain technical features which are important in the procedure. It had best be preceded by phrenicectomy, and should usually be done in stages, the upper ribs being resected before the lower. Sometimes, the improvement following the first stage is so striking that resection of the lower ribs becomes unnecessary. Local anæsthesia is to be preferred, supplemented, if necessary, by nitrous oxide or ethylene.

Dr. Trout concludes that surgery will, in all probability, play an increasingly important part in the therapy of tuberculosis of the lungs; that the benefits of collapse therapy should be extended to patients who fail to respond to the medical treatment; and that it is important that the general surgeon equip himself to deal with this new and important problem—one which is to be adequately met only by those with a broad surgical experience.

**MEDIUMS.** See PSYCHOLOGICAL RESEARCH.

**MELCHERS,** mēlk'ers, (J.) GARI. An American genre, figure, and portrait painter, died in Falmouth, Va., Nov. 30, 1932. He was born in Detroit, Mich., Aug. 11, 1860, and studied at the Academy of Fine Arts in Düsseldorf, Germany, at the École des Beaux Arts in Paris and also under Lefèvre and Boulanger in Paris. He continued to live in Europe until the outbreak of the World War, maintaining studios at the Bois-le-Roi on the outskirts of the Forest of Fontainebleau near Paris, at Egmond, the Netherlands, and at Weimar, Germany. On his return to the United States he divided his time between his studio in New York City and Falmouth, Va. He received many decorations and prizes, including medals of honor at the Paris exposition (1889) and at exhibitions in Berlin (1891) and Antwerp (1894). Gold medals or first-class prizes were awarded him by exhibitions in Amsterdam (1887), Munich (1888), Chicago (1891), Philadelphia (1892, 1896), Vienna (1898), Dresden



(1901) and at the Pan-American Exposition, Buffalo (1901), the Louisiana Purchase Exposition, St. Louis (1904), and the Sesqui-Centennial Exposition, Philadelphia (1926). He was also a member of the international jury of award at the World's Columbian Exposition in Chicago in 1893.

Melchers early made a specialty of Dutch peasant life, which he depicted with great insight and sympathy, painting in a style of simple, sincere, but often almost brutal realism. Among his chief works in foreign galleries are: "Maternity" and "Peasant Nurse and Two Children" (Luxembourg Museum, Paris); "The Family" (Berlin); "The Ship Builder" (Dresden); "Child in Church" (Munich); "Man with the Cloak" (Rome); and "Drummer, Royal Scots" (Toronto). He is represented in American galleries by "Madonna" (Metropolitan Museum of Art, New York City); "Dutch Skaters" (Pennsylvania Academy of Fine Arts, Philadelphia); "Mother and Child" and "Sailor and His Sweetheart" (Carnegie Institute, Pittsburgh); "Penelope" and "Maternity" (Corcoran Gallery, Washington); "The Wedding," "Vespers," "Portrait of Mrs. Melchers," "Ik Marvel," and "The Fencing Master" (Detroit Institute of Arts); "Marriage" (Minneapolis Institute of Arts); "Vespers" (City Art Museum, St. Louis); "Small House, Egmond" (Los Angeles Museum); "Still Life" (School of Design, Providence); and "Brabanconne" (Providence Memorial Museum). His most famous paintings in private collections are: "Audrey," "The Green Mantle," "Supper at Emmaus," "The Nativity," and "Mother and Child." He painted also the murals entitled "War" and "Peace" in the Congressional Library, Washington; decorations in the municipal library, Detroit; and portraits of Mark Twain, Eugene Field, Susan Blow, and Sidney Rollins for the governor's room in the Missouri State Capitol. Other portrait commissions which he received were those of Theodore Roosevelt (National Gallery, Washington), Charles L. Hutchinson (Art Institute of Chicago), Potter Palmer, Donald K. Mitchell, David B. Jones, John Barton Payne, Dr. Lewis Stimson, and Gov. Benjamin Strong.

Melchers was elected an associate member of the National Academy of Design in 1904 and an academician two years later. He was also a member of the International Society of Painters and Sculptors in London, of the Institut de France and of the Société Nationale des Beaux Arts in Paris, of the Royal Academy in Berlin, of the Royal Society of Austrian Painters in Vienna, of the American Federation of Arts, and of the National Institute of Arts and Letters. From the latter he was elected a member of the American Academy of Arts and Letters (q.v.), which at the time of his death was holding an exhibition of his works. Among the decorations which he received were those of chevalier and officer of the French Legion of Honor, knight of the Royal Bavarian Order of St. Michael, and officer of the Royal Prussian Order of the Red Eagle and of the grand ducal order of the White Falcon of Saxony.

**MELONS.** See HORTICULTURE.

**MEMEL,** mā'mēl, or KLAIPĖDA. A territory on the Baltic including the city of Memel (population, 36,988) and the lower reaches of the Memel or Niemen River, which was detached from Germany by the Treaty of Versailles and subsequently incorporated in Lithuania under a con-

vention agreed to by the conference of ambassadors (May, 1924). The German population of Memel received a clearly defined measure of administrative and financial autonomy. The governor is appointed by the President of Lithuania. The total area is 943 square miles and the population (1930) about 147,000, of whom 37,000 were Lithuanians. Governor Antonas Merkys was succeeded in May, 1932, by M. Gylys.

**HISTORY.** On Feb. 6, 1932, the Lithuanian government forcibly ousted Otto Boettcher, German President of Memel Territory, and established control over the city. The Lithuanians charged that Herr Boettcher had carried on secret negotiations with the German government regarding Memel's foreign relations, a revelation which added to the disturbed political situation in Eastern Europe. The Lithuanian Governor appointed Edouard Simaitis, a Lithuanian, as President of the Memel Directorate. The latter then dissolved the Diet, which was German in sympathy, without waiting for that body to accord the new Directorate a vote of confidence. This action was in defiance of the governments of Great Britain, France, Japan, and Italy, the guarantors of the Memel Statute of the League of Nations adopted in 1920. Accordingly these Powers on April 11 brought suit to restrain Lithuania before the Permanent Court of International Justice.

Meanwhile on May 4, 1932, the election of a new Diet in Memel resulted in an overwhelming victory for the autonomist-German majority. On June 6, Governor Gylys appointed an all-German Directorate, with Ottmar Schreiber, a native of East Prussia, as the new president, thus terminating the dispute in favor of the German element. The decision of the Permanent Court, handed down August 11, was primarily favorable to Lithuania. By a vote of 10 to 5, the Court ruled (1) that the Lithuanian Governor had authority to dismiss the President of the Directorate; (2) that the President, Herr Boettcher, violated the Memel Statute in negotiating with Berlin; and (3) that the Governor was not justified in dissolving the Memel Diet under the circumstances. See WORLD COURT; LITHUANIA.

**MENDELISM.** See ZOOLOGY.

**MENTAL TESTS.** See PSYCHOLOGY.

**MENUHIN,** YEHUDI. See MUSIC.

**MERCURY.** See QUICKSILVER.

**MERCURY VAPOR BOILERS.** See DYNAMO ELECTRIC MACHINERY.

**MESOPOTAMIA.** See ARCHAEOLOGY; IRAQ

**METALLURGY.** Operations in metallurgical plants in 1932 were reduced still further so that activity averaged about one-fourth of that in 1929, with prices so low that scarcely a company showed a net profit for the year. Technologic changes therefore were largely those that would result in lower costs of operation without much capital expense involved. Funds for research were limited but as many highly trained experts had plenty of time available, progress in ore reduction technique was not entirely absent. Outstanding among the world's industries during the last year or two has been that of gold production, for the price of this metal has held constant or even increased in terms of the currency used in countries that have temporarily given up the gold standard, whereas costs have continued to decline because of lower wage scales and reduced prices of supplies and equipment. Therefore, the technique of gold production is

now of particular importance, and the recent application of the flotation process of concentration to gold ores is perhaps the outstanding development of the year in the metallurgical industry.

**ORE DRESSING.** Of dominant interest in the field of crushing and grinding has been the introduction of the Hadsel mill at a California gold property. This mill comprises a drum, in the original installation 24 feet in diameter, mounted on a horizontal axis driven by a motor at a speed of  $2\frac{1}{2}$  to 3 revolutions per minute. Buckets are arranged about the inside periphery of the drum, which scoop up the ore to be ground from a shallow pool of ore and water standing in the bottom of the drum and continuously fed from a nearby bin. The ore is thus elevated to the top of the machine where it falls out and drops on to anvil plates placed in the interior of the mill above the pulp level. The chunks are broken by impact, the smaller pieces of ore on the breaker plates being still further crushed to a fine powder by the falling pieces of ore rather than by steel balls as in the more common ball mill, or by steel rods as in rod mills. At one side of the drum of the Hadsel mill an overflow is provided. As quickly as ore particles are ground to a suitable fineness, which may be made as fine as 95 per cent through 200 mesh, these particles will remain in suspension in the agitated pulp in the mill and pass out in the overflow. The mill, therefore, allows an unusual size range between feed and product, chunks in the feed permissibly being as large as 2 feet thick, and thus lowers the capital investment required for crushing and grinding equipment. At the Georgetown, Calif., installation, the only one so far made, the 24-foot mill is driven by a 100-horse power motor and has a capacity of about 300 tons of ore per day. For this installation, the following data have been published: Power, 6.7 kilowatt-hours per ton; water, 1500 gallons per ton; steel consumption, not over 0.5 pound per ton; labor, about 3 cents per ton; and repairs, \$1000 per year. One of the largest manufacturers of mining equipment has acquired the rights to this mill and several more installations are planned for the coming year which will give a more accurate basis for estimating its importance as a piece of crushing and grinding equipment.

In the more conventional forms of crushing equipment, one of the types of gyratory crusher has been improved by adding a releasing device to prevent injury due to the presence of tramp iron in the feed. In one of the native copper mills in Michigan, standard crushing equipment is being placed in competition with the steam stamps that have been used for years locally in reducing that particular type of ore. Progress made in producing harder and tougher steels by the use of alloying materials and improved methods of heat-treating has received commercial application in better liners and grinding media in ball and rod mills. Also, such mills are more and more being used for a single stage of grinding, two or more units being installed for successively finer work where one was used before, with dependence on a high circulating load through a classifier to get the desired results.

Mechanical classifiers of the rake type have been installed with larger capacities and simplified head motions. An automatic control device to maintain a constant circulating load, based

on the use of a demand meter in the electric motor supply line, has been developed. Increased efficiency of separation between sand and slime has been achieved by the use of a small air-lift to put back into circulation border-line particles that accumulate in the bottom of a classifier bowl. Another manufacturer has developed a classifier with a double set of rakes, each operating on the sand in the same channel, thus giving more nearly continuous raking.

Research work has continued on the explosive shattering of minerals by saturating the pores with water followed by heating under pressure. When the pressure is suddenly released, the water changes to steam and blows up the mineral particles. A commercial machine operating on this principle is being designed.

In the field of ore concentration, minor improvements continue to be made in reagents and equipment for the flotation process, and its application in the metallurgy of gold is now important, particularly in California and Canada. At one plant, cyanidation precedes flotation, the cyanide tailing being floated to recover sulphides and tellurides which are reground and recyanided. At another plant, the ore is rather coarsely ground, floated, and the flotation concentrate reground and cyanided, thus eliminating the cyanidation of a large tonnage of ore that would otherwise be necessary. In one of the California plants, the gold is partly free-milling, and is first amalgamated. The amalgamation tailing is dewatered, reground, and subjected to flotation, making a lean tailing that can be discarded, and a small tonnage of rich concentrate that is cyanided. Introduction of flotation, rather than gravity concentration, in the California gold mills during the last year or two, has been instrumental in securing a great reduction of tailing losses. Reagents in general use include lime, xanthate, Aerofloat (dithiophosphate), copper sulphate, cresylic acid, and sometimes a little pine oil or starch, the latter being used to depress nonmetallic minerals such as graphite and talc. To date, flotation has by no means been considered of universal application in gold mills but practically all mills are considering its applicability to their local problems. Homestake, for instance, continues to rely on amalgamation and cyanidation; Hollinger on gravity concentration and cyanidation; and Dome flows the pulp from its tube mills over a form of corduroy blanket to remove the coarse gold preliminary to cyanidation.

The application of flotation to the concentration of nonsulphides other than gold also continues to expand. Pyrolusite is now successfully treated in this way in Cuba, and the flotation of phosphate in Florida is now general practice. The most complete treatise on the flotation process yet to appear was published during the year: *Flotation*, by A. M. Gaudin.

An interesting combination of ore-dressing and hydrometallurgical methods was devised and put into operation during the year by the Miami Copper Co., in Arizona, to treat mixed sulphide and oxide ores. No published account of the practice at the new plant has appeared but it is understood to include flotation of the sulphides, leaching of the nonsulphides, precipitation as cement copper, and flotation of this cement copper before sending it to a smelter.

**SMELTING.** Copper metallurgists have been faced with the problem of running their furnaces

to the best advantage on a greatly curtailed production basis, so much progress has been made in intermittent operation. At one plant reverberatories are operated virtually on a two-shift basis, being only lightly fired on the third shift, with little ore charged. Roasting furnaces are also shut down on the third shift, though the rables are occasionally moved a little to prevent them from sticking. Another plant shuts down a furnace for a month at a time but keeps it hot, and generates steam in the waste-heat boiler, by burning from 30 to 45 barrels of oil per day. This was a standard 25 by 120-foot furnace. Still another smelter makes a practice of running its reverberatory at full capacity continuously until the amount of copper scheduled to be produced for the month has been made; then to shut down the furnace and allow it to become cold. The smelting period is made continuous during the last part of one month and the first part of the next.

With the piping of natural gas to most of the smelting centres of the West, that fuel has been generally substituted for the fuel oil or pulverized coal formerly used, both in smelting and refining furnaces. It has several advantages, among them being its ready availability for immediate service, its ease of application, and the fact that the interior of a furnace thus fired is transparent, so that the operator may, with colored goggles, inspect the progress of smelting. On a heat-unit basis, it is believed that gas is not quite so efficient as other fuels. Natural-gas burners are commonly directed downward about 10 degrees so that the flame impinges on the surface of the molten bath. A modern reverberatory furnace installed in Arizona is 26 by 107 feet in interior dimensions, thus being slightly shorter than has been the general practice. It has a high arch to afford maximum combustion space for natural gas. Its capacity is 1000 tons of solid charge per day, with a fuel consumption of about 3,000,000 B.t.u. per ton.

New smelters have been completed in northern Rhodesia by the Roan Antelope and Rhokana companies, not because there was a dearth of copper smelting capacity in the world, but because of the developments of this important copper area that will soon supply a substantial proportion of the world's requirements at a lower cost than heretofore except in Chile. The charge at the new African smelters is exceedingly high-grade, at one of them being concentrate containing about 60 per cent copper. It is fed wet, without calcining, limestone and iron oxide being added for flux. The matte produced contains less than 1 per cent of iron, so the converter operation consists almost entirely in burning off sulphur. There is no converter slag and very little reverberatory slag but what there is contains 2 to 3 per cent copper. The smelting practice is thus quite different from that at any American plant. Even in Rhodesia curtailment in production has been made, the capacity of the 25 by 120-foot reverberatory being reduced by temporarily shortening it to 82 feet, rather than by intermittent operation.

A new type of waste-heat boiler installation has proved successful in Mexico, the boiler being installed close to the furnace, without a spare unit or bypass. It is of 800 horsepower and operates at 400 pounds pressure, higher than heretofore used in such an installation.

Lead smelting practice has witnessed even

more care in the preparation of the blast-furnace charge. Not many years ago, double sintering became the vogue, with the sulphur down to about 2 per cent and scarcely any matte production in the furnaces. This has been extended to a considerable amount of triple sintering, with crushing to about  $\frac{1}{4}$  inch between each operation for best results. This brings the sulphur down very close to 1 per cent. With a 48 by 202-inch furnace, a well prepared charge, without much fines, containing about 90 per cent sinter with high lead content, 350 to 450 tons per furnace-day is being secured.

Kettle-refining methods are being favored over furnace-refining practice. This trend is exemplified by the use of the Harris process and the chlorine dezincing process of J. O. Betterton, a patent for which was granted during 1932. Bismuth removal by the use of calcium is preferred to the use of the Betts electrolytic process. Welded steel kettles and improved designs of kettle settings have played a part in the increasing popularity of kettle refining.

The new Mount Isa lead smelting plant, in Australia, was extended during the year by the construction of additional Dwight & Lloyd sintering machines and a third blast furnace, the present capacity being 6000 tons of bullion a month. This is shipped to an English refinery where lead of exceptional purity, 99.994 per cent, is produced. The Mount Isa bullion averages about 99 $\frac{1}{2}$  per cent lead, 50 to 80 ounces of silver, 0.118 per cent antimony, 0.017 arsenic, 0.003 bismuth, and 0.128 per cent copper. Practically no other extensions to lead smelting capacity were made during the year, with the possible exception of Russia.

In zinc smelting, low prices and curtailed operation have resulted in the survival of the fittest. The continuous vertical-muffle retort plant has demonstrated its worth by the high quality of metal produced and the low operating costs. Average retort life is reported better than two years. Electrothermic smelting to zinc oxide has continued at the one plant in America, mentioned in the review for 1931. Electrolytic zinc production has practically ceased in the United States, orders having been taken care of almost entirely from accumulated stocks. Cessation of production of this grade is only temporary, however, and a new electrolytic zinc plant in Canada has continued in operation throughout the year.

Traveling-grate zinc oxide furnaces have definitely proved their worth; they have been handling higher burdens, and the quality of the oxide is much better than with the old hand-fired furnaces. The practice of fuming zinc from lead blast-furnace slag has stood the test of the depression, as well. A process for the continuous electroplating of zinc on iron wire, to take the place of, or supplement, galvanizing, has been put in commercial operation with success.

In the realm of the more uncommon metals, a metallurgical process has been worked out in Canada for the treatment of the rich radium ores from the newly discovered deposits at Great Bear Lake. Details have not been released but it is understood hydrochloric acid is used in a much simplified process. A plant has been built that went into operation at the end of the year. The Belgian Congo has for several years been the only source of importance for supplies of radium.

Beryllium has received increased attention; its metallurgy has been developed so that the

metal, in the form of an alloy with copper, is now available at \$25 per pound, compared with \$200 six years ago. Output is still small, and the processes used closely guarded, but experimental work on beryllium-copper alloys has been rather active, and the material has definite possibilities where resiliency and resistance to fatigue are desired.

The metallurgy of nickel production has changed but little, but the use of the metal has been extended in some directions, as in a long wearing cast iron containing 4½ per cent nickel, of especial application for rolls, and in a cast iron containing 14 per cent nickel, 6 per cent copper, and 2 per cent chromium. A nickel wrought iron is a new development.

An increased interest in the metallurgy of powdered metals has occurred. Metals can be combined in their powdered state, pressed in dies, and subsequently heat-treated. The process may be used for metal parts that would otherwise be cast or drop-forged, and some alloys are possible that could not be obtained by melting and mixing.

**METALS, POWDERED.** See CHEMISTRY, INDUSTRIAL.

**METEORITES.** See EXPLORATION.

**METEOROLOGY.** From time immemorial, there has persisted a widespread belief that the moon and other celestial bodies exert an influence on the weather; and those who have attempted to justify this belief on scientific grounds have often sought to show that the source of the alleged influence lies in atmospheric tides. The magnitude of the tides raised in the oceans by the gravitational action of the sun and the moon has frequently led to the supposition that, in the lighter and more mobile atmosphere, tides of much greater magnitude would be generated and would exert important influences on meteorological phenomena. Unfortunately for this hypothesis, however, the actual observational measurement of the magnitude of the atmospheric tides, as well as the theoretical calculation of this magnitude, shows the supposition to be in error; the tides in the atmosphere are in reality so small as to be almost unobservable, and are totally incapable of affecting the course of the weather.

Both the theoretical and the observational knowledge of atmospheric tides has been notably extended in recent years, especially by S. Chapman and J. Bartels; the latter has presented a readable summary of present knowledge in the *Scientific Monthly* for August, 1932. Tidal motions in the atmosphere are produced in two different ways—by the direct gravitational actions of the sun and the moon; and also by the periodic heating and cooling of the atmosphere by the sun. These influences result in several tidal motions, which cause small periodic fluctuations in the barometric pressure, and which may be detected by a mathematical analysis of long series of records from self-recording barometric instruments. The tides are so small that the pressure variations which they cause are completely masked by the very much larger and irregular fluctuations of barometric pressure due to other factors; it is only when the latter fluctuations are averaged out over a very long interval of time that the regular fluctuations due to the tides in the atmosphere can be found.

The intricate mathematical theory which has been worked out for oceanic tides is found to be largely successful in accounting for the observed

atmospheric tides. The latter are in some respects much simpler than the oceanic tides, partly because the atmosphere is not so completely divided into separate parts by obstructions as is the ocean, and partly because the atmosphere as a whole has a tendency to oscillate with the same periods which the tidal forces have, and this magnifies the world-wide oscillations and represses local irregularities.

Most of the atmospheric tides would not be large enough to be detected, were it not that they are considerably magnified by resonance. Our understanding of atmospheric tides still rests largely on the resonance theory of Kelvin, as subsequently developed by Rayleigh and Margules: The sun produces a traveling 12-hour tidal wave in the atmosphere, which causes a maximum barometric pressure at 10 a.m. and 10 p.m., local mean time, over the globe; the sun also causes a 12-hour standing wave between polar and equatorial regions, with fixed nodes in latitudes 35 degrees north and south; likewise, a traveling 8-hour wave, which reverses its phase from summer to winter; and, finally, a traveling 24-hour wave. The two 12-hour waves and the 8-hour wave would not be appreciable except for the fact that the earth's atmosphere chances to have free periods of oscillation of nearly these lengths, so that these waves are much magnified by resonance. The 24-hour wave is caused by the 24-hour temperature variation; the temperature variation is quite large, but the tidal wave it produces is very small because in this case it is not magnified much by resonance. The tides due to the direct gravitational action of the moon are not magnified appreciably by resonance, and hence are so small that only recently have they been detected at all, though long sought for; a small 12.4-hour wave, and a still more minute 24.8-hour wave have now been found in barometric records.

One of the most notable advances in meteorology during recent years is the development of the mathematical theory of the irregular turbulent motion of the lower atmosphere, and the application of this theory to explain a number of important meteorological phenomena. It is exceedingly difficult, however, to construct a uniformly satisfactory theory of all the phenomena due to turbulence, and much still remains to be done; O. G. Sutton has recently effected an improvement in the existing mathematical theory of turbulence, by developing a treatment based on the assumption that the irregular motion of a given mass of air is successively controlled by eddies of continually increasing size; the resulting formulae seem to give a good quantitative explanation of most of the observed facts about diffusion in the lower atmosphere.

In August, 1932, active work commenced on the international enterprise known as the Second Polar Year. This is a programme of systematic observation of magnetic, meteorological, and other geophysical phenomena at a network of stations over the globe for a period of thirteen months; about half the stations are in high latitudes, whence the name of the project. It is being carried out on the fiftieth anniversary of a preceding similar project. Half the stations are temporary, having been established for this especial purpose; thirty-three nations are taking part in the work. The data gathered should be of great value in aiding the solution of numerous outstanding problems in the geophysical sciences.

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**METEORS.** See ASTRONOMY.

**METHODISM, BRITISH.** Methodism had its birth at the University of Oxford, where John and Charles Wesley and the members of the Holy Club received the nickname Methodist and formed the first Methodist Society of England in 1739. The mother church of the movement was the Wesleyan Methodist Church, which held its first conference in London in 1744. Separatist bodies included the Primitive Methodist Church, commonly known as the "Camp Meeting Methodists," which was formed in 1810; the Independent Methodist Churches, which began in 1796 and united with other societies in 1806; the Wesleyan Reform Union, which separated in 1850 and organized as a separate body in 1859; and the United Methodist Church, which was formed in 1907 by the union of three denominations of Methodists which had hitherto been separate from and independent of each other—the Methodist New Connection, the Bible Christians, and the United Methodist Free Church.

The three major branches of British Methodism, the Wesleyan, Primitive, and United, held a meeting at Albert Hall, London, on Sept. 20, 1932, at which there was signed a deed of union under the name of the Methodist Church. The moving spirit behind this reunion was Sir Robert Perks, noted engineer, who had labored 54 years for its accomplishment. The Rev. John Scott Lidgett, a former president of the Wesleyan Methodist Conference (1908-09) and president of the uniting conference of the three branches, was chosen first president of the united church, the president designated for 1933 was the Rev. Luke Wiseman. The Methodist Church in 1932 had 1,542,936 members, 5782 ministers, 55,116 lay preachers, 20,892 churches, and 10,717 Sunday schools with an enrollment of 1,573,273 teachers and pupils. The remaining separatist bodies, the Wesleyan Reform Union and the Independent Methodist Churches, numbered together less than 25,000 members.

**METHODIST CONNECTION (OR CHURCH) OF AMERICA, WESLEYAN.** A branch of the Methodist Episcopal Church, organized in 1843 in Utica, N. Y., the outgrowth of controversy over what was termed "liberty of testimony and freedom of discussion" and also a protest against the exercise of ecclesiastical authority. The purpose of the new organization was a church that should be anti-slavery and non-episcopal. In doctrine, the church is in accord with the Methodist bodies generally. In 1932 the branch comprised 28 annual conferences. There were 630 churches, 801 ministers, and 24,350 members; the Sunday schools numbered 638, with 6382 teachers and officers, 40,160 pupils, and 6993 persons enrolled in the home department and on the cradle roll.

The different corporations of the church meet annually in February in Syracuse, N. Y. These corporations are: The Wesleyan Methodist Connection (or Church) of America; the Wesleyan Methodist Publishing Association; the Superannuated Ministers' Aid Society of the Wesleyan Methodist Connection of America; the Missionary Society of the Wesleyan Methodist Connection of America; and the boards of trustees of the following colleges maintained by the church,

Houghton College in Houghton, N. Y., Central College in Central, S. C., Marion College in Marion, Ind., and Miltonvale College in Miltonvale, Kans. The general conference (whose last meeting was held in 1931) elects quadrennially 17 representatives from all parts of the church who constitute what is known as the book committee, and these 17 representatives become in turn the board of trustees of each separate corporation. The president of the book committee is the Rev. J. S. Willett and the secretary, the Rev. E. D. Carpenter.

The foreign missionary department of the Missionary Society continued its work in Africa, India, and Japan, and the department of home missions and church extension among the American Indians, Mexicans, and mountaineers of the South. The *Wesleyan Methodist*, weekly, is the official organ of the church. The officers are: President, the Rev. E. D. Carpenter; first vice-president, the Rev. J. S. Willett; second vice-president, Joe Lawrence; and secretary, the Rev. E. F. McCarty. Headquarters are at 330 East Onondaga Street, Syracuse, N. Y.

#### METHODIST EPISCOPAL CHURCH.

Methodism in its widest signification and intention was a "revival of Christian earnestness, simplicity, and power." John Wesley had no intention of establishing a new church; his effort was to revive pure and undefiled religion. He taught the doctrines of the Church of England and "faithfully urged the people to attend its ordinances, to be present at its public assemblies, and to be interested in its prosperity." Had the authorities of the Church of England accepted some of Wesley's plans, in place of driving him away from them, the future of Methodism might have been quite different. Richard Boardman and Joseph Pilmoor, two of Wesley's workers, came to America in 1769 and were followed in 1771 by Francis Asbury who became the great leader of the infant church. The Methodist Episcopal Church was organized at the Christmas conference held in Baltimore in 1784.

The governing body of the church is the quadrennial general conference, composed of an equal number of ministerial and lay delegates who make all the rules and regulations and appoint commissions to carry on the work of the church. Such a conference was held in Atlantic City, N. J., May 2-25, 1932. Two important commissions were created on this occasion. one, composed of 10 laymen, 10 ministers, and 5 bishops, was to carry out an evangelistic programme to improve the spiritual life of the church; the other was to study the church's whole supervisory, administrative, and benevolence systems. There are held also annual conferences, presided over by the bishop of each area, at which all pastoral changes are considered and reports of the local churches are gathered and compiled. A local quarterly conference administers all matters pertaining to the work of the local church.

In 1932 there were in the United States and territories 95 annual conferences and missions, 375 districts, and 14,807 charges in 18 episcopal areas. Effective ordained ministers numbered 12,696 and local, or lay, preachers, 10,370. There were 4,544,797 church members, of whom 101,366 were preparatory and 3,907,119 full members, while 536,312 were on the inactive roll. The enrollment in 23,943 church schools was 3,983,518, including 378,716 officers and teachers. There were 543,004 Epworth League members. Conferences

outside of the United States in 12 episcopal areas included 5 in Africa, 10 in Eastern Asia, 21 in Europe and North Africa, 5 in Latin America, 3 in southeastern Asia, and 12 in southern Asia. The membership totaled 641,943; ordained ministers, 1892; and local preachers, 3064. Church schools numbered 1674, with an enrollment of 349,472, including 17,917 officers and teachers.

The administration of the missionary, educational, and philanthropic work of the Methodist Episcopal Church is committed to six general boards: Foreign missions; home missions and church extension; education; hospital, homes, and deaconess work; pensions and relief; and temperance, prohibition, and public morals. These boards cooperate in the world service movement, their budgets being fixed and their work correlated by the world service commission. On May 31, 1932, this commission reported total net receipts of \$4,831,902.

The board of foreign missions administers the missions of the church in Africa (Central and South), Europe and North Africa, Eastern Asia (China, Japan, Korea), Latin America (Mexico, Central America, South America), Southeastern Asia (Philippine Islands, Malaya, Sumatra), and Southern Asia (India and Burma). Its receipts for the fiscal year ending Oct. 31, 1932, totaled \$1,841,277. The board of home missions

and church extension administers the missions in the United States and its possessions, not including the Philippine Islands, and looks after weak churches in new and growing communities in the United States. During the fiscal year a total of \$1,047,631 was expended on home missions, while disbursements for church extension amounted to \$320,236. There are two women's missionary societies, the foreign and the home, which reported total receipts in 1932 of \$1,692,327 and \$1,969,816, respectively.

The educational system of the church, administered by the board of education, included, in 1932, 47 colleges and universities, 24 secondary and preparatory schools, 8 schools of theology, and 15 institutions for colored students. The board of hospitals, homes, and deaconess work administered, in 1932, 77 hospitals, 44 homes for the aged, 43 children's homes, 45 deaconess homes, and 27 homes for young business men and women. The board of pensions and relief reported in 1932 a connectional permanent fund amounting to \$1,376,825; endowments and reserves in trust, \$332,028; conference stewards' fund in trust, \$303,193; and ministers' provident annuity fund, \$614,751.

The board of temperance, prohibition, and public morals is responsible to the general conference, its purpose being "to make more effective

WORLD-WIDE METHODISM  
[From *The Methodist Year Book, 1933*]

	Year of report	Minis- ters	Lay Preach- ers	Members	Sunday Schools	S S officers and teachers	S. S. en- rollment incl. offi- cers and teachers	Churches
UNITED STATES								
African Methodist Episcopal (U. S.) . . . . .	1931	7,325	811	783,358	7,212	1,029	320,000	7,398
African Methodist Episcopal Zion (U. S.) . . . . .	1931	3,460	....	500,000	2,429	45,087	267,141	3,882
African Union Meth. Protestant (U. S.) . . . . .	1930	675	....	28,200	42	273	2,581	650
Colored Methodist Episcopal (U. S.) . . . . .	1929	2,081	....	347,911	2,543	....	192,800	3,666
Colored Methodist Protestant (U. S.) . . . . .	1930	33	....	533	24	125	1,016	3
Congregational Methodist (U. S.) . . . . .	1926	487	....	21,050	80	....	4,807	357
Free Meth. Church of North America (U. S.) . . . . .	1929	1,399	....	39,997	....	....	....	1,279
Holiness Methodist (U. S.) . . . . .	1926	....	....	459	7	....	531	7
Independent African Meth. Epis. (U. S.) . . . . .	1926	....	....	1,003	....	....	....	29
Methodist Episcopal . . . . .	1932	18,746	14,244	4,659,541	31,517	395,123	4,331,645	27,151
United States and Territories . . . . .		16,504	10,370	4,008,485	23,943	378,716	3,983,518	24,827
Foreign Fields . . . . .		2,242	3,874	651,056	7,574	16,407	348,127	2,324
Methodist Episcopal, South . . . . .	1931	8,127	4,329	2,621,900	15,339	175,740	1,930,552	17,272
United States and Territories . . . . .		7,964	4,156	2,595,131	15,017	174,232	1,913,307	16,965
Foreign Fields . . . . .		163	173	26,769	322	1,508	17,245	307
Methodist Protestant (U. S.) . . . . .	1931	2,104	293	191,768	1,812	16,668	174,970	2,104
New Congregational Methodist (U. S.) . . . . .	1926	25	....	1,229	3	18	126	26
Primitive Methodist (U. S.) . . . . .	1930	85	72	12,399	87	1,672	16,199	82
Reformed Methodist (U. S.) . . . . .	1932	15	9	383	12	....	373	14
Ref. Meth. Union Epis. (Colored, U. S.) . . . . .	1929	51	....	1,904	15	....	400	27
Ref. Zion Apostolic (Colored, U. S.) . . . . .	1926	54	....	4,086	36	212	1,508	58
Union Amer. Meth. Epis. (Colored, U. S.) . . . . .	1932	340	39	28,631	309	116	36,599	321
Wesleyan Methodist Connection (U. S.) . . . . .	1932	801	490	29,121	603	6,382	46,781	617
ABROAD								
Australasian Methodist . . . . .	1932	1,306	10,065	189,437	3,709	33,138	221,377	3,993
Brazil Methodist . . . . .	1930	63	47	12,437	223	1,003	11,942	97
Independent Methodist Churches (England) . . . . .	1932	400	....	10,786	164	3,136	22,574	163
Japan Methodist . . . . .	1932	227	111	37,451	625	2,507	50,707	350
Korean Methodist . . . . .	1930	191	99	21,997	981	8,524	43,485	878
Methodist Church, The . . . . .	1932	5,782	55,116	1,542,936	16,717	219,812	1,573,273	20,892
Wesleyan Methodists:								
Great Britain . . . . .		2,510	18,785	517,551	6,952	115,624	770,716	8,152
Ireland . . . . .		250	578	30,057	323	2,213	20,396	406
Foreign Missions . . . . .		683	8,768	289,221	2,970	10,401	158,375	4,298
French Missions . . . . .		24	65	1,411	21	95	641	48
South African Conference . . . . .		455	8,792	303,148	293	2,548	21,958	732
Primitive Methodists . . . . .	1932	1,181	12,896	222,021	4,006	52,457	377,792	4,356
United Methodist Church . . . . .	1932	729	5,232	179,527	2,152	36,474	223,395	2,900
Mexico, Methodist Church of . . . . .	1930	62	55	14,284	146	729	9,105	128
New Zealand Methodist . . . . .	1932	191	752	24,813	429	3,347	30,231	901
Wesleyan Reform Union (England) . . . . .	1932	80	497	18,919	235	2,585	26,255	231
Totals . . . . .		54,049	87,029	11,185,533	85,299	912,171	9,816,978	92,576

the efforts of the church to create a Christian public sentiment" and "to crystallize opposition to all public violations of the moral law and to all attempts to undermine and destroy civil and religious liberties."

The official publications of the church are the *Christian Advocate* (New York, Cincinnati, Chicago, Kansas City, San Francisco, and Southwestern editions); the *Epworth Herald* (Chicago); *Zion's Herald* (Boston); and *Der Christliche Apologete* (Cincinnati). The secretary of the general conference in 1932 was the Rev. John M. Arters, 700 Hammond Street, Bangor, Me. The editor of the denomination's *Year Book and General Minutes* was the Rev. Frank Wade Smith, 150 Fifth Ave., New York City.

**METHODIST EPISCOPAL CHURCH, COLORED.** This denomination was organized in Jackson, Tenn., in 1870 and was composed of the colored membership of the Methodist Episcopal Church, South. In 1932, it reported 4301 churches with 492,570 members; 3010 traveling preachers and 2068 local preachers; 3244 Sunday schools with an enrollment of 321,690 pupils; and 1812 Epworth Leagues with a membership of 47,460. The amount raised during the year for educational purposes was \$102,000 and about the same for missionary purposes. More than \$1,000,000 was also contributed for home maintenance. The church has 7 bishops and 12 connectional officers. The *Christian Index* is the official organ, while the *Eastern Index* and *Western Index* serve their respective sections. A quadrennial general conference was held in Louisville, Ky., in May, 1930. During the year 1931 a new publishing house was built at Jackson, Tenn., at a cost of \$145,000. Headquarters are in Jackson, Tenn.

**METHODIST EPISCOPAL CHURCH, SOUTH.** A separate branch of the Methodist Episcopal Church, formed in 1845 over the question of slavery. In 1932 there were 48 conferences and missions, of which 41 were in the United States and seven in foreign countries; 16,348 churches; 8075 traveling preachers and 4316 local preachers; and 2,665,504 church members. Sunday schools numbered 15,350, with an enrollment of 1,990,441 pupils; and Epworth League societies, 9612, with a membership of 291,415. Contributions for all purposes in 1932 amounted to \$23,930,866. The denomination sponsored 152 educational institutions, including 48 universities and colleges, 12 academies, and 92 mission schools. Important periodicals are the *World Outlook* and the *Christian Advocate*. The executive body is the college of bishops which in 1932 had 15 members. Headquarters of the church are in Nashville, Tenn.

**METHUEN, PAUL SANFORD METHUEN, THIRD BARON.** A British field marshal, died in London Oct. 30, 1932. Born in Nynehead, Somersetshire, Sept. 1, 1845, he was educated at Eton and Sandhurst, and entered the army in 1864 as a lieutenant of the Scots Fusilier Guards. He served on a special mission on the Gold Coast in 1873 and in the second campaign of the Ashanti War in 1874. In 1877 he became assistant military secretary to the commander-in-chief of Ireland, after which he served for four years as military attaché in Berlin. He was made assistant adjutant general and assistant quartermaster general for the Home District in 1881. During the Egyptian War of 1882 he was staff officer and quartermaster general and was present at the battles of Mahuta, Kassassin, and Tel-el-Kebir. In 1884 he

commanded Methuen's Horse, a unit of irregulars of the field force, in Bechuanaland, and in 1888 was made deputy adjutant-general in South Africa. He succeeded to the baronage in 1891 and the following year, having been made a major general, was selected to command the Home District. In 1897 he was sent to India where he served as press censor on the headquarters staff of the Tirah expedition.

On the outbreak of the Boer War in October, 1899, Methuen was put at the head of the first of Buller's three divisions of the 1st Army Corps and was sent to relieve Kimberley which had been besieged by a Boer force of 6000 under Prinsloo. His force for this purpose consisted of about 8000 men, the majority of whom were infantry, but after early successes at Belmont on November 23 and Enslin on November 25 he was checked in his attempt to cross the Modder River near the Riet and on December 11 in a frontal attack on Magersfontein lost nearly 1000 men. In May and June, 1900, however, with Hunter he formed the left in Lord Roberts's victorious movement on Pretoria. He was again humiliated when captured by De la Rey in a surprise attack at Klip Drift on Mar. 7, 1902, but was released a few days later and, on account of his wound, was allowed to return to England. His personal bravery in the firing line had caused a lot of the criticism of his outmoded methods of warfare to be discounted.

Methuen was commander-in-chief of the Eastern Command during 1903-08 and general officer commanding-in-chief in South Africa during 1907-09. In 1909 he was appointed governor of Natal, and in 1915 governor and commander-in-chief of Malta, holding the latter command throughout the World War. On his return to England in 1920 he was made constable of the Tower of London and was promoted to the rank of field marshal. He was a Companion of the Bath (1882), a Companion of St. Michael and St. George (1886), a Knight Commander of the Royal Victorian Order (1897), a Knight Commander of the Bath (1900), a Knight of the Grand Cross of the Bath (1902), and a Knight of the Grand Cross of St. Michael and St. George (1919).

**METROPOLITAN MUSEUM OF ART.** See ART EXHIBITIONS; ART MUSEUMS.

**METROPOLITAN OPERA COMPANY.** See MUSIC.

**MEXICAN ART.** See ART EXHIBITIONS; PAINTING.

**MEXICAN FRUIT FLY.** See ENTOMOLOGY, ECONOMIC.

**MEXICO.** A federal republic lying between the United States and Central America. Capital, Mexico City.

**AREA AND POPULATION.** With an area of about 767,198 square miles, the population at the census of May 15, 1930, was 16,404,030, or 2,069,250 (14.4 per cent) more than at the census of 1921. Of the 1930 population, 9,040,590 were of mixed race, 4,620,860 were Indian, 2,444,466 were pure white, 140,094 of unknown racial origin, and 158,000 (including about 14,600 citizens of the United States) were foreigners. About 1,791,000 Indians still spoke their native language. The population is overwhelmingly Roman Catholic, but the Church, under the Constitution of 1917, is separated from the state and strictly regulated.

The population of Mexico City, according to



the 1930 census, was 968,443 (752,194 in 1921). A decree of Aug. 24, 1931, extended the city boundaries to include slightly more than 1,000,000. Other leading cities, with their populations in 1930, are: Guadalajara, 150,000; Puebla, 111,791; Monterrey, 129,748; Mérida, 91,139; Tampico, 76,000; San Luis Potosí, 73,205; Vera Cruz, 70,000; and Torreón, 65,000.

**EDUCATION.** Primary education is free, compulsory, and secular in all official educational establishments. In 1930, there were 1,662,371 pupils enrolled in schools of all grades, including 663,170 in Federal schools, 824,349 in state and municipal schools; and 174,852 in private schools. The seven universities enrolled 9472 students on July 31, 1930. At the census of 1921, 65 per cent of the persons over 10 years of age were illiterate.

**PRODUCTION.** Agriculture supports the bulk of the population. Only about 24,000,000 acres, or 5 per cent of the total area, was under cultivation in 1931 (including 3,500,000 acres under irrigation), while an additional 73,000,000 acres were available for cultivation. There were 146,000,000 acres of pasture, and 43,933,000 acres of forest land. Under Mexican agrarian laws, estates of more than 2000 acres were being subdivided, some 16,000,000 acres of state and confiscated land having been distributed up to June 30, 1931. Production of the chief crops in 1931, and 1930, is shown in the accompanying table from the 1932 U. S. *Commerce Yearbook*.

MEXICAN CROPS: AREA AND PRODUCTION

Crop	Area <sup>a</sup>		Production <sup>b</sup>	
	1930	1931	1930	1931
Wheat . . . . .	1,216	1,501	11,446	16,226
Barley . . . . .	361	..	2,697	..
Corn . . . . .	7,599	7,939	54,201	75,962
Rice <sup>c</sup> . . . . .	90	83	3,657	3,281
Beans . . . . .	1,753	1,832	3,034	4,783
Tomatoes . . . . .	53	54	78 <sup>d</sup>	77 <sup>d</sup>
Tobacco . . . . .	35	..	24,198 <sup>e</sup>	..
Cacao beans . . . . .	18	..	2,134 <sup>e</sup>	..
Coffee <sup>f</sup> . . . . .	218	215	83,561 <sup>e</sup>	73,001 <sup>e</sup>
Cotton . . . . .	390	319	85,084 <sup>e</sup>	98,946 <sup>e</sup>
Sugar <sup>g</sup> . . . . .	..	..	524,700 <sup>e</sup>	529,000 <sup>e</sup>
Henequen . . . . .	185	..	88 <sup>d</sup>	..
Chick peas . . . . .	235	304	1,830	3,085

<sup>a</sup> Thousands of acres. <sup>b</sup> Thousands of units—bushels except as indicated. <sup>c</sup> Seasons ended following year. <sup>d</sup> Unit, metric ton. <sup>e</sup> Unit, pound.

Production of the chief crops was reduced in 1932 by drought and frost in various regions.

Mining ranks second to agriculture in importance. There were about 31,000 mining properties in 1930, of which 97 per cent were foreign-owned. Mexico normally produces about 40 per cent of the world's silver output. Production of petroleum declined to 33,039,000 barrels in 1931 from 39,529,913 in 1930, and 44,687,879 barrels in 1929. In 1930, there were 1186 oil concessions, occupying 30,866,894 acres. Mineral output in 1931, with 1930 figures in parentheses, was: Gold, 628,000 troy ounces (671,000); silver, 87,461,000 troy ounces (105,413,000); copper (metal content), 54,121 metric tons (73,370); lead (metal content), 226,629 metric tons (231,875); zinc (metal content), 120,292 metric tons (124,106); antimony (metal content), 5443 metric tons (2882); white arsenic, 6508 metric tons (10,128); graphite, 3122 metric tons (5853); mercury (metal content), 255 metric tons (166); coal, 808,000 metric tons (997,000); petroleum, 33,039,000 barrels (39,530,000).

The 1929 industrial census showed 44,216

manufacturing establishments, with 307,581 employees and an output valued at 890,394,138 pesos. Cotton textiles, tobacco products, woolen goods, foods, and iron and steel articles are the chief manufactured products.

**COMMERCE.** The value of general imports and exports for the years 1929 through 1931, in pesos and dollars (converted at average exchange rates) is shown in the accompanying table compiled from the 1932 U. S. *Commerce Yearbook*.

MEXICAN IMPORTS AND EXPORTS, 1929-31

Year	1,000 pesos		1,000 dollars	
	Imports	Exports	Imports	Exports
1929 . . . . .	382,843	590,633	184,454	284,567
1930 . . . . .	350,178	458,674	165,039	216,173
1931 <sup>a</sup> . . . . .	216,585	399,711	92,352	170,437
1932 <sup>a</sup> . . . . .	180,308	304,190	57,428	96,885

<sup>a</sup> Preliminary.

Mineral and vegetable products, including silver, lead, gold, zinc, copper, petroleum, coffee, winter vegetables, henequen (sisal), and bananas, comprised over 86 per cent of the total 1931 exports, as against 95 per cent in 1930. Machinery, foodstuffs, railway and tramway cars, iron and steel, bullion and specie, and mineral oils were the chief import items. According to United States statistics, imports from Mexico in 1931 were \$47,612,000 (\$80,300,000 in 1930) and exports to Mexico were \$52,366,000 (\$116,100,000 in 1930), or declines of 41 and 55 per cent, respectively, as compared with the previous year. The United States in 1931 took 61.2 per cent of all Mexico's exports (58.3 per cent in 1930) and supplied 66.8 per cent of all imports (68.2 in 1930). The United Kingdom took 11.9 per cent of the total 1931 exports; Germany, 8.3 per cent; and France, 5.4 per cent; their respective shares of the total imports were 7.2, 9.0, and 5.4 per cent.

**FINANCE.** According to provisional figures published in the January, 1932, *Boletín de Informaciones* of the Ministry of Finance, revenues during 1931 amounted to 224,620,006 pesos, or 39,134,566 pesos less than the budget estimate of 298,500,000 pesos. Expenditure estimates for 1931, as approved by Congress, totaled 299,490,480 pesos, but were further reduced by about 60,000,000 pesos through executive economies, according to a statement of the Minister of Finance. A deficit was thus indicated, although official returns were not available at the end of 1932. For 1932, revenues were estimated at 213,074,225 pesos and expenditure at 212,987,421 pesos; for 1933 the budget as presented to Congress calculated revenues at 215,050,000 pesos and expenditures at 215,014,754 pesos.

By the agreement of July, 1930, the principal of the direct foreign debt was fixed at \$267,493,250 and that of the Mexican National Railways at \$225,000,000. The internal debt was estimated by the Minister of Finance in 1931 at 600,000,000 pesos. In 1932, the moratorium on foreign debt payments was extended to Jan. 1, 1934. The peso, with a theoretical par value of \$0.4985, exchanged at an average of \$0.3549 in 1931 and \$0.4713 for the period July 30 to Dec. 31, 1930.

**COMMUNICATIONS.** The government-owned National Railways of Mexico operated 14,680 miles of line in 1931 and the various states operated 3439 miles. Highways extended 62,137 miles, of which some 380 miles were surfaced. A new highway between Mexico City and Laredo, Texas, was under construction in 1932 as part of an extensive road-building programme designed to

stimulate tourist traffic from the United States. Airlines linked the chief Mexican cities with the United States, and Central and South America. The Pan American Airways opened direct service between Panama and Mexico City on Apr. 14, 1932. On Oct. 22, 1932, the Central Mexican Airways Company inaugurated a tri-weekly passenger, mail, and express service between Mexico City and El Paso, Texas. Vera Cruz and Tampico are the chief ports. In 1930 a total of 20,316 vessels entered all Mexican ports and 20,869 vessels cleared.

**GOVERNMENT.** Under the Constitution of 1917, amended in 1929, executive power is vested in the President, elected by direct popular vote for four years and ineligible for reelection, and legislative power in a Congress of two houses—the House of Deputies, of 185 members, elected for two years by universal suffrage, and the Senate, of 58 members, composed of two members from each state, elected in the same manner. Congress sits from September 1 to December 31, and during the remainder of the year delegates its powers to a permanent committee consisting of 14 Senators and 15 Deputies appointed by the respective houses. President at the beginning of 1932, Pascual Ortiz Rubio, who assumed office Feb. 5, 1930 (for changes in 1932, see *History*). The Republic comprises 28 states, three territories, and the Federal District embracing Mexico City. The states have large powers of autonomy. The National Revolutionary party contained the group which had been in control of Mexico for over 10 years.

#### HISTORY

**THE STATE-CHURCH CONFLICT.** The revival of the conflict between the Mexican Federal government and the Church in 1932 had its origins in the events of 1931 (see 1931 YEAR BOOK). Federal authorities had refused to intervene when several of the states passed laws restricting the number of priests—in one case to one priest for each 100,000 persons. In December, 1931, the festivities at the shrine of the Virgin of Guadalupe, attended by thousands of pilgrims, aroused the National Revolutionary party to a new campaign against the Church. The Federal Congress then passed laws limiting the number of priests in the Federal District and the Territory of Lower California to one for every 50,000 inhabitants. A Presidential decree of Dec. 29, 1931, established non-sectarianism in Mexican public schools. In Mexico City the new legislation limited to 25 the number of priests and the number of churches in which services might be held. (There were about 200 churches in the capital city.) Numerous petitions for injunctions against the enforcement of this legislation were submitted to the district court of the city, but were rejected in January, 1932, on the ground that the legislation did not impair religious liberty.

Archbishop Francisco Orozco y Jimenez of Jalisco was exiled on January 25, following his arrest by government agents in Guadalajara on a charge of seditious activity. On January 31, Archbishop Pascual Diaz, acting upon instructions from Pope Pius XI, announced that the Church of Mexico would accept the new religious laws under protest. Peace negotiations were successfully completed and on February 17 the Papal Delegate, Archbishop Ruiz y Flores, advised Catholics to accept without criticism the

agreement, which had the sanction of the Pope. After being suspended for two months, services were resumed in some of the designated Mexico City churches on February 25.

The compromise proved of short duration. In May, the states of Michoacán, Mexico, and Orizaba adopted further restrictive legislation as a result of which most of the churches in these states were closed. Archbishop Ruiz y Flores was prevented from officiating in his own state of Michoacán. On July 9, the Mexican Supreme Court upheld the constitutionality of the law limiting the number of priests and churches within the Federal District.

The conflict entered a more acute phase on September 29, with the publication of the papal encyclical *Acerba Animi*, which charged the government with "persecution" and with action "contrary to the spirit in which the *modus vivendi* had been established" in 1929. The encyclical cited the imprisonment and expulsion of members of the clergy, the state laws restricting the number of priests, and the refusal of some states to recognize the authority of the Church in the nomination of priests for the government license, as provided by the 1929 accord. Finally, the encyclical urged Roman Catholics to comply formally with the religious laws but suggested continuing protests and efforts toward modification.

The encyclical was bitterly attacked by members of the government. "I am resolved," said President Rodriguez in a statement on October 2, "that if this vulgar and defiant attitude is continued, as outlined in the encyclical, the churches shall be converted into schools and factories for the benefit of the proletarian classes of Mexico." He declared the encyclical an open incitement to social upheaval. The following day, the Apostolic Delegate, Mgr. Ruiz y Flores, protested against the President's statement. He denied that the encyclical was an incitement to revolution or that the Pope could be properly called a "foreign power" "because it is through him that God and Jesus Christ rule over the world." The Delegate concluded with an appeal for conciliatory negotiations leading to "the reconstruction of the fatherland on the basis of peace and conscience."

The Federal Chamber of Deputies on the same day (October 3) voted to expel the Papal Delegate as a "pernicious foreigner." Although he was a native of Mexico, it was charged that his allegiance to the papacy, now a secular power, had annulled his citizenship. He was arrested by agents of the Interior Department on October 4 and sent by airplane to the United States. The presiding Archbishop of Mexico, Mgr. Pascual Diaz, was arrested also, but was later released on payment of a fine and compliance with the registration law. He immediately issued a pastoral letter cautioning Catholics to avoid any action that might be construed as resistance to the government. With this action, there followed a lull in the conflict which continued to the end of the year. The state, which over a period of 122 years had steadily deprived the Church of its prerogatives, appeared victorious in the latest phase of the century-old conflict.

**RESIGNATION OF ORTIZ RUBIO.** In some circles, the government's drastic measures against the Church was believed to have been motivated by a desire to solidify the National Revolutionary party behind the leadership of former President

Plutarco Elias Calles. This thesis received support from dissensions within the party, which reached serious proportions during 1931 (see 1931 YEAR BOOK). The 1931 crisis was solved by the return of General Calles to the Ministry of War, in place of the ambitious Gen. Joaquin Amaro. On Jan. 20, 1932, occurred another Cabinet reorganization, in which Calles retained the War portfolio. Gen. Juan José Rivas, formerly chief of the Presidential headquarters staff, succeeded Manuel M. Tellez as Minister of the Interior; Señor Tellez succeeded Genaro Estrada as Minister of Foreign Affairs; and Alberto Pani, Ambassador to Spain, resumed his former post as Minister of Finance in place of Luis Montes de Oca. The shakeup was attributed in some quarters to Calles' opposition to the Presidential ambitions of Luis Montes de Oca. Others attributed it to a dispute over anti-re-election laws and to dissensions over the government's religious policy. Later (July 30), General Calles turned over the Ministry of War to his friend and business associate, Gen. Abelardo L. Rodríguez, who was Minister of Industry, Commerce and Labor.

The primary elections held April 3 to choose candidates for Congressional and state offices and the final election on July 3 emphasized the factional disputes within the National Revolutionary party, which made a clean sweep of the contested positions. The agrarian and labor organizations were dissatisfied with Calles leadership of the party, and some of the state governments, dominated by anti-Calles elements, showed a growing disinclination to coöperate with President Ortiz Rubio, a Calles adherent.

In August the President became involved in a political feud with Gen. Vicente Estrada Cajigal, Governor of the state of Morelos and Chief of the Federal District. General Calles sided with Estrada Cajigal and Ortiz Rubio, realizing that he could retain the Presidency only through violence, presented his resignation on September 3. The newly assembled Congress on September 4 elected Gen. Abelardo Rodríguez to the Provisional Presidency out of four candidates nominated by the National Revolutionary party. The other nominees were Gen. Joaquin Amaro, Minister of Finance Pani, and Minister of Interior Juan José Rios. General Rodríguez was sworn in immediately to serve out the term expiring Nov. 30, 1934. On the same day Ortiz Rubio left for the United States, making his home at San Diego, Calif.

The new Cabinet appointed by Provisional President Rodríguez on September 5 contained only two new members, former President Emilio Portes Gil as Attorney General, and Dr. Gaston Melo as Minister of Public Health. The new President was reputed to be a strong personality, friendly to the United States, and favorably disposed toward American capital in Mexico. Like his predecessors, he took his orders from General Calles. On September 28, he announced his intention to press to a conclusion the Mexican agrarian programme and to take immediate steps toward the creation of national reserves of minerals, petroleum, and coal. On December 20, Foreign Minister Manuel Tellez resigned and was succeeded by Dr. José M. Puig Casauranc, the Mexican Ambassador to the United States. The Washington post was filed on December 29 by the appointment of Eduardo Suarez. On the same day Primo Villa Michel and Juan de Dios Bojor-

quez were appointed to the newly created cabinet posts of National Economics and Labor.

General Rodríguez had earned the hostility of labor by his policies as Minister of Labor and his policy of encouraging foreign investments was repugnant to the radical wing of his party. These elements found a leader in Gov. Adalberto Tejeda of the state of Vera Cruz, which had taken the lead among Mexican states in restricting clerical activities and appropriating private property. On October 5, Governor Tejeda advocated the ousting of foreign capital from Mexico, the nationalization of wealth, and the "proletarianization" of cultural endeavor. Shortly after (October 26), the Ruralists and Workers Syndicate in Vera Cruz inaugurated a Presidential boom in Colonel Tejeda's behalf. A few days later the Vera Cruz state legislature granted the Governor a leave of absence to undertake an important mission in Europe. Federal engineers engaged in parcelling out the lands in Vera Cruz found themselves increasingly obstructed by armed hands of agrarians believed to owe allegiance to Colonel Tejeda. By December 8 the possibility of trouble led President Rodríguez to announce that he would not tolerate further "anarchy" in the state of Vera Cruz and that trouble makers there would be energetically suppressed. Before the end of the year the Federal government sent more than 17,000 troops into the State and numerous bands of agrarians were disbanded.

NEW LEGISLATION. Numerous new laws, many of them of a decidedly nationalistic or radical character, were placed upon the national or state statute books during 1932. The most controversial of these measures were so-called expropriation laws enacted in the states of Vera Cruz, Hidalgo, and Michoacán. The Hidalgo law made private property liable to purchase "for public utility" upon payment of 3 per cent of its value with payment for the remaining 97 per cent spread over 20 years. It was first applied May 25, when the French-owned cement factory in Tula was expropriated and turned over to the workers. The Vera Cruz law was similar in context. The measures aroused a storm of opposition among business men and politicians throughout Mexico. On June 17, President Ortiz Rubio intervened with a statement that the laws in Hidalgo and Vera Cruz were unconstitutional and needed revision. The Governors, however, gave vague or evasive replies and when injunctions against application of the measures were obtained carried an appeal to the Mexican Supreme Court. On June 27 Finance Minister Pani attributed to these expropriation measures the decline in the exchange value of the peso to about half of normal.

Among other laws promulgated in 1932 were measures regulating the formation of agrarian communities, for which private lands not in cultivation for three years might be expropriated; providing for the formation of agricultural chambers of commerce; and authorizing the Secretariat of Communications and Public Works to regulate transportation and communication services of all descriptions. The Mexican civil code for the Federal District of Mexico City and the Territories, published in 1928, became effective Oct. 1, 1932. Consisting of 3044 articles, the code governed persons and corporations, domicile, the family, matrimony and divorce, property rights, contracts and obligations, etc.

A law effective Mar. 1, 1932, required that at least 90 per cent of the employees of industrial, financial, and commercial concerns in Mexico must be Mexican citizens. Other decrees promulgated in the capital discriminated in favor of Mexican-produced films and automobile parts. A liberal divorce law, effective in the state of Chihuahua in January, 1932, recognized mutual desire as sufficient ground for divorce in any case. A radical birth-control law became effective in the state of Vera Cruz Nov. 1, 1932.

In contrast to the general trend toward nationalistic legislation, the Mexican government was reported in the *New York Times* of Oct. 15, 1932, to be negotiating a \$10,000,000 tax loan from foreign oil companies operating in the country, in return for which the export tax on petroleum products was to be lifted. Of the \$10,000,000 loan, the Standard Oil Company of New Jersey, the Royal Dutch-Shell group, and the Standard Oil Company of California were to guarantee \$3,000,000 each, and the Consolidated Oil Corporation \$1,000,000. The advance was to be made to the Mexican government through the Chase National Bank and was to be amortized at about \$270,000 monthly through issuance of Mexican government certificates, which would be accepted by the government in payment of taxes by the oil companies.

**MONETARY AND BANKING REFORMS.** To check the decline in circulation of silver coins due to hoarding, a law was passed Mar. 9, 1932, making important changes in the law of July 25, 1931, under which the silver peso was established as the monetary unit. The Central Banking Commission, established in 1931, was dissolved and the function of regulating the national currency was restored to the Bank of Mexico. This government-controlled bank became the sole bank of issue, with powers of a central bank similar in many respects to the Federal Reserve Bank in the United States. The law provided for severe regulation of foreign banks in Mexico.

President Ortiz Rubio announced Jan. 11, 1932, that the Ministry of Finance and the International Committee of Bankers on Mexico had mutually agreed to an extension of the moratorium on Mexico's foreign debt to Jan. 1, 1934. The agreement was ratified by a special session of Congress on January 13. On June 29, the President promulgated another decree regulating general credit and banking operations. The act applied to foreign banks operating in Mexico the requirement, previously exacted of other foreign businesses, that they must submit themselves to the exclusive jurisdiction of Mexican courts in all business "effected within the national territory."

**FOREIGN RELATIONS.** Mexican foreign relations during 1932 were marked by the severance of diplomatic relations with Peru, an internal dispute over transfer of Clipperton Island (q.v.) to France, and the closing of the Mexican offices at the League of Nations, which Mexico entered in 1931. Mexico severed diplomatic relations with Peru May 14, after the Peruvian government had requested the recall of the Mexican minister in Lima, Juan B. Cabral, on the ground that he had "intervened in the internal politics (of Peru) and served plans of communistic elements to disturb the public order." Spain offered to mediate the dispute and on June 9 the two nations agreed to a resumption of diplomatic relations.

The cession of Clipperton Island, called for under the King of Italy's arbitral decision of January, 1931, necessitated alteration of the Mexican Constitution, which provided that national territory might not be ceded without such a step. Opponents of the cession seized upon this constitutional difficulty to postpone indefinitely the carrying out of the award. While the foreign relations committee of the Senate recommended approval of the award (Nov. 9, 1932), the Senate on November 14 postponed action on the committee's resolution indefinitely. It was indicated that, while Mexico had vigorously opposed the Monroe Doctrine, many Senators hoped the United States would invoke that doctrine to prevent France from taking possession of the island. However, Foreign Minister Tellez on November 15 urged the Senate to ratify the island's cession as a matter of national honor. The Senate finally ratified the cession on December 14. On December 16 the Senate adopted a resolution offering to buy the island from France.

The closing of Mexico's offices at Geneva, confirmed by Foreign Minister Tellez November 16, was an economy measure. The Foreign Minister indicated that this step did not necessarily imply Mexico's withdrawal from the League and that Mexico's affairs at Geneva might be handled through the Paris Legation. There were fewer irritations to Mexican-American relations than in the previous year. On January 8, President Ortiz Rubio rejected the offer of the Oklahoma Agricultural and Mechanical College to establish a scholarship in memory of the two Mexican students shot to death in Ardmore, Okla., in June, 1931, by two American deputy sheriffs. A bronze tablet to the memory of Ambassador Dwight Morrow was presented to the American Embassy in Mexico City by a group of Mr. Morrow's Mexican friends and dedicated on July 4, 1932. The U. S. State Department announced June 18 that the general and special claims conventions between the United States and Mexico, which expired in August, 1931, had been extended for two years. The extension was ratified by the Mexican Senate in October. On Dec. 19, 1932, the U. S. House of Representatives voted to pay \$30,000 to the Mexican government for the families of Emilio Cortez Rubio and Manuel Gomez, the two students killed in Oklahoma.

With the adjournment of the Italian-Mexican Claims Commission in October, 1932, only the claims of United States and Spanish nationals for damages suffered during the revolutionary period from 1910 to 1920 remained to be settled. The British, French, German, and Belgian claims were settled for a small fraction of the original demands. The Spanish claims against Mexico aggregated \$82,000,000, and those of American citizens more than \$900,000,000. The Chinese Minister to Mexico City on Feb. 20, 1932, protested against the wholesale deportation of Chinese from the state of Sonora.

Consult James Morton Callahan, *American Foreign Policy in Mexican Relations* (New York, 1932).

**MEYDUM.** See ARCHÆOLOGY.

**MIAMI UNIVERSITY.** A coeducational institution in Oxford, O., founded in 1809. The enrollment for the autumn of 1932 was 2222, distributed as follows: College of liberal arts, 771; school of education (four-year course), 671 (two-year course), 172; business administration, 460; fine arts, 102; graduate students, 46. The en-

rollment in two summer sessions was 841. The faculty numbered 166. The income from the State of Ohio, fees, gifts, and income on investments for 1931-32 was approximately \$1,300,000. There were 119,000 bound volumes in the library. President, Alfred H. Upham, Ph.D.

**MICHAELIS**, mi-kä-ä'lis, SOPHUS. A Danish author, died in Copenhagen Jan. 28, 1932. He was born in Odense May 14, 1865, and attended the University of Copenhagen. After traveling extensively he became a journalist. His earliest published works were his poems, mostly lyric verse which showed a French influence. Among these are: *Digte* (1888); *Solblomster* (1893); *Sirener* (1898); *Livets Fest* (1900); *Palmerne* (1904); *Digte* (1919); *Romersk foraar og andre digte* (1921); *Solblomster* (1926); and, with Ferreira d'Almeida, *Portugisiske og brasilianske Sonetter* (1927). His successful historical romance, *Åbelø* (1895), was followed by *Dodedansen* (1900); *Giovanna* (1901); *Den evige Sørn* (1912); *1812*, a romance of the Napoleonic wars (1912); *Hellener og Barbaren*, a novel of the Persian wars (1914); *Dommeren* (1921); and *Himmelskibet* (1921). Outstanding among his plays are: *Lægen* (1906); *Revolutionsbryllup* (1906), which furnished the libretto for the opera, *Der Revolutionshochzeit*, by Eugen d'Albert (q.v.); *St. Helena* (1911), and *Manden fra Elba* (1921), both based on Napoleon's downfall; and *Abailard og Héloise* (1926).

Michaelis edited *Kunst* during 1900-06 and was associate editor of *Danmarks Nationalhistorisk Literatur* during 1925-27. His translations of Flaubert's *Salammbô*, of *Aucassin et Nicolette*, and of *La Tentation de St. Antoine*, as well as of Goethe's *Faust* and the librettos of Wagner's *Parsifal* and Puccini's *Turandot*, were excellent. At the time of his death he was chairman of the Danish Authors' Union and president of the Danish Authors' Association. He was also a member of the consulting board of the Danish Ministry of Education and of the National Commission for International Intellectual Cooperation.

**MICHIGAN. POPULATION.** According to the Fifteenth Census, the population of the State on Apr. 1, 1930, was 4,842,325, as against 3,668,412 in 1920. Detroit, the chief city, had (1930) 1,568,662 inhabitants; Lansing, the capital, 78,397.

**AGRICULTURE.** The accompanying table shows the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod. Bu.	Value
Hay .....	1932	2,394,000	3,133,000*	\$17,190,000
	1931	2,433,000	2,580,000*	22,070,000
Corn ....	1932	1,463,000	43,279,000	13,518,000
	1931	1,407,000	40,944,000	15,149,000
Oats .....	1932	1,263,000	34,101,000	6,138,000
	1931	1,435,000	43,768,000	10,067,000
Wheat ....	1932	701,000	16,774,000	6,710,000
	1931	711,000	18,426,000	8,476,000
Potatoes ...	1932	260,000	29,900,000	7,774,000
	1931	250,000	23,750,000	7,362,000
Dry beans .	1932	479,000	4,254,000*	4,516,000
	1931	614,000	3,318,000*	5,670,000
Sugar beets .	1932	121,000	1,184,000*	(c)
	1931	58,000	581,000*	3,675,000
Barley ....	1932	328,000	6,560,000	1,968,000
	1931	278,000	7,228,000	2,819,000
Rye .....	1932	158,000	2,133,000	576,000
	1931	158,000	2,133,000	704,000

\* Tons.    ♢ 100-lb. bags.    † Not available.

**MINERAL PRODUCTION.** The coal-and-iron group of industries, taken as a whole, maintained

its lead in the diversified mineral activity of the State, but suffered much curtailment in 1931. There were mined in the State but 393,000 tons (estimated) of coal in 1931, as against 661,113 in 1930; by value \$2,323,000 (1930). By-product ovens' production of coke diminished to 2,436,630 short tons (1931), from 2,603,819 (1930); in value, to \$11,632,284 (1931), from \$14,222,856 (1930). The quantity of iron ore shipped from mines declined to 5,555,376 long tons (1931), from 11,154,773 (1930); the value of ore shipped, to \$15,986,273 (1931), from \$31,515,996 (1930). The output of pig iron likewise was curtailed, to 519,643 long tons (1931), from 711,224 (1930), by quantity; and to \$8,694,439 (1931), from \$12,859,820 (1930), by value. The production of the cement industry also shrank; 7,168,720 barrels were shipped by the producers in 1931, as against 10,817,994 in 1930, the value of the shipments declined to \$6,984,725 (1931), from \$14,897,439 (1930). There were mined in 1931, 105,222,177 pounds of copper, as against 142,985,522 for 1930, for which year the value of the copper produced was \$22,000,000, approximately; the lower copper prices of 1931 brought the value of that year's product to about half that for 1930. Producers of salt sold or used 2,053,980 short tons in 1931, as against 2,558,290 in 1930; by value \$5,760,001 for 1931 and \$7,884,072 for 1930. Petroleum output fell slightly to 3,789,000 barrels (1931), from 3,911,000 (1930) and more considerably in value to \$2,840,000 (1931) from \$5,160,000 (1930). Clay products attained the value of \$4,891,647 for 1930 and of \$6,217,018 for 1929; stone, of \$6,816,972 for 1930 and \$8,454,702 for 1929. The production of gypsum in 1930 was 519,225 short tons, in value \$3,755,631. The total value of the State's mineral product, duplications eliminated, was \$111,405,530 for 1930; for 1929, \$151,975,563.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 8020.33. During the year previous, about 54 miles of line were abandoned and about 2 put in operation.

**EDUCATION.** Figures bearing on public-school education throughout the State were not yet obtainable to cover the academic year 1931-1932. For the year 1930-1931, the number of persons of school age in the State was reckoned as 1,373,585. There were enrolled in the public schools 986,980 pupils. Of these, 832,523 were in common schools or elementary grades; in high schools, 187,341. The year's expenditures for public-school education totaled \$98,859,130, which was about \$1,000,000 in excess of the total that had been reported for the year before. The salaries of teachers averaged, by the month, \$174.49.

**CHARITIES AND CORRECTIONS.** The State Welfare Department, as operating in 1932, comprised a group of agencies, each exercising duties of central control and administration, over its corresponding group of State institutions for the care or custody of persons. The Institute Commission had charge of the State schools for special handicapped classes. The Corrections Commission, of juvenile reform schools. The Hospital Commission, of State hospitals and allied institutions. The Prison Commission, of the State prisons and reformatory. There were also a State Advisory Commission, a Welfare Commission (doing work not of institutional admin-

istration) and a Probation Commission. All were composed of appointees of the Governor, serving at his pleasure; save the Hospital Commission, which had seven members, each was composed of five members. The department had a single executive head, W. S. Carpenter, Director. In October a new receiving hospital, with 204 beds, was opened at Ionia; another, with 112 beds, at Wahjamega; a 200-bed hospital was under construction at Newberry.

The State maintained 17 institutions, which had, in November, 24,847 inmates or pupils. These, with their respective totals, were: Kalamazoo (2717), Pontiac (1755), Traverse City (2289), Newberry (1156), Ionia (715), and Ypsilanti (1248) State Hospitals, for mental cases; Farm Colony for Epileptics (931); Michigan Home and Training School (3489); State Prison, at Jackson (5743); Michigan Reformatory, Ionia (1794); Branch Prison, at Marquette (899); Boys' Vocational School (649); Girls' Training School (305); State Public School (449); School for the Deaf (477); School for the Blind (176); Employment Institute for the Blind (55).

The department handled funds obtained from the Reconstruction Finance Corporation, for the relief of the destitute.

**LEGISLATION.** The State Legislature was convened in special session on March 29 and adjourned on May 6. Its main work was to carry out measures of economy recommended by Governor Bruckner; his recommendation that a measure be passed to submit to the voters a proposal for an income tax was not followed. Among the measures of the session were those to permit the distribution of \$10,000,000 of highway funds for the relief of certain debts; to permit reduction of local tax budgets; to diminish the levy of the State tax for the ensuing fiscal year from an estimated \$29,000,000 to the neighborhood of \$23,500,000; amending the banking laws with a view to bringing about the earlier payment of receivership dividends; revising downward the State's budget for the ensuing fiscal year, chiefly by cuts, averaging about 15 per cent, in salaries. A committee was created, to study the proposal to guarantee bank deposits with a backing of State credit. A commission was created, to report to the next Legislature on plans for a civil-service system. As an effort to succor distressed mortgagors, there was passed a measure of disputed constitutionality extending by six months the period that must elapse before final judgment could be taken in foreclosures of land contracts, provided half of the due amounts were paid and taxes and insurance were not allowed by the debtor to go unmet. Banks were freed for one year, by resolution, of the requirement to provide surety bonds against public deposits, except those of the State. The operation of the Covert road law was suspended for five years. The proposed Federal Constitutional amendment to alter the dates of inaugurations and of initial sessions of Congress was ratified.

**POLITICAL AND OTHER EVENTS.** The effect of adverse times in the State was evidenced by the action of the State Board of Equalization, which on August 1 recommended reductions in the assessed valuations of property throughout Michigan by the aggregate of more than \$1,000,000,000. The total valuation at which the board arrived was \$6,819,420,207, as against previous valuation of \$7,853,514,000 for 1931 and \$8,564,

598,000 for 1929. Unemployment was severe in Detroit and other centres of the automobile-manufacturing industry. The city government of Detroit was embarrassed by extensive non-payment of taxes during the year. It was unable to meet on time in March and April the payments on the salaries of its employees. Repeated difficulty, moreover, was experienced in renewing the city's outstanding notes, which it could not meet as they matured. Apart from recent tax delinquencies, the city had itself bid in tax title, prior to the beginning of March, to property on which taxes of the total of some \$14,600,000 were more than 18 months in arrears. But though the theoretical value of such property was in the neighborhood of \$500,000,000 the city was unable to realize the amounts due it thereon by tax sales, there being too few purchasers. Mayor Murphy was instrumental in putting through the city council ordinances whereby municipal salaries were cut by 50 per cent for May and June and later were put on a permanently lower basis, by 14.5 per cent, than before the cuts, through the adoption of a 5-day working week with pay consequently less. The current year's city budget was cut in April to \$67,000,000, from \$76,000,000, largely by the aid of salary reductions.

A mob estimated to number some 3000 men beset the Ford Motor Company's plant in Dearborn on March 7, having marched out from Detroit with the intention of demanding work. They fought with the Dearborn police and the private police of the Ford plant and were repulsed only after four of their number had been killed by shots and a number of persons, including police had been wounded. The minimum wage rate at the Ford works was reduced to \$4 a day, on September 29, from \$5, with corresponding reduction in the higher rates.

**ELECTIONS.** The popular vote of November 8 upset the State's partisan traditions and favored the Democratic National ticket by more than 7 to 6. The vote cast for the Presidential candidates was reported as: Roosevelt (Dem.), 871,700; Hoover (Rep.), 739,894. A prevaingly Republican delegation was nevertheless elected to the House of Representatives of the Seventy-third Congress. William A. Comstock, Democrat, was elected Governor, defeating Gov. Wilber M. Bruckner, Republican, who ran for reelection. Democratic majorities were reported to have been elected to both houses of the State Legislature. A proposed amendment to the State Constitution, repealing the existing amendment that required prohibition, and permitting the Legislature to create a commission for the control of traffic in liquor, was adopted by a popular vote in the proportion of nearly 3 to 1. Another proposed amendment, to limit the rate of taxation on property to not more than \$15 on the \$1000, was approved. Proposals were rejected to allow an exemption of taxation on homesteads, up to \$3000, to prohibit executive clemency for murderers, and to impose a tax on oleomargarine. Detroit's voters rejected a proposed issue of \$2,000,000 of bonds with which the city was to have been put into the business of purveying natural gas.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, Wilber M. Bruckner; Lieutenant-Governor, Luren D. Dickinson; Secretary of State, Frank D. Fitzgerald; State Treasurer, Howard C. Lawrence; Auditor-

General, Oramel B. Fuller; Attorney-General, Paul W. Voorhies; Superintendent of Public Instruction, Webster H. Pearce; Highway Commissioner, Grover C. Dillman.

**Supreme Court:** Chief Justice, Henry M. Butzel; Associate Justices, George M. Clark; John S. McDonald; William W. Potter; Nelson Sharpe; Walter H. North; Louis H. Fead; Howard Wiest.

**MICHIGAN, UNIVERSITY OF.** A State institution for the higher education of men and women in Ann Arbor, founded in 1817. In 1931-32 the enrollment was 14,826. The registration in the 1932 summer session was 3757. The teaching staff was composed of 874 members, including 59 of the summer session staff not at the university during the regular year. For current expenses the State appropriated \$4,920,000, while approximately \$4,125,000 was derived from other sources.

During 1931-32 the construction of Hutchins Hall, the new building for the law school, was carried forward; the building was to be occupied in 1933. A building to house the editorial offices and printing plant of the student publications was erected at a cost of \$180,000 and was opened for use in June, 1932. Gifts valued at approximately \$385,000 were received during the year. The university libraries contained 839,338 bound volumes. President, Alexander Grant Ruthven, Ph.D.

**MICROBIOLOGY.** See SOILS.

**MICRO RAY.** See RADIO.

**MIDDLEBURY COLLEGE.** A coeducational, nonsectarian college in Middlebury, Vt., founded in 1800. For the autumn term of 1932, 638 students were registered as undergraduates and 23 as graduates; of these 346 were men and 202 women. The enrollment in the special summer schools of French, Spanish, German, and English, conducted by the college, amounted to 507. There were 74 members on the faculty, including administrative officers and those on leave of absence. The productive funds of the college in 1931-32 amounted to \$4,080,254, and the income for the year was \$400,447. Gifts to the college amounted to \$27,546. The library contained 60,000 volumes. President, Paul Dwight Moody, D.D.

**MIDDLE CONGO.** See FRENCH EQUATORIAL AFRICA.

**MIDTOWN TUNNEL.** See TUNNELS.

**MIDWAY ISLAND.** See HAWAII.

**MIGRATORY CHILDREN.** See CHILD WELFARE.

**MILDNER, POLDI.** See MUSIC.

**MILITARY PROGRESS.** GENERAL. The past year has seen many military developments in widely scattered portions of the globe. The world at large may be at peace, but rumblings of war are heard on many fronts. In regard to Disarmament the situation as the year closes is that Germany will participate in the Conferences, France has submitted a plan whereby all regular and conscripted troops will be replaced by national militia, a plan apparently having the support of Germany, and a disarmament plan is presumably reached by Germany and France. Further, Great Britain and the United States are now ready to agree to limit private manufacture of arms.

Specific military progress has been lessened by depleted appropriations. The statistics of military strength of the various countries have undergone but little change since those reported in

the YEAR BOOK for 1931, which may be relied on for this year.

In matters Asiatic much has been written and said upon the Manchurian situation. The old Chinese Province has become the State of Manchoukuo, dependency of Japan. Despite the Nine Power Treaty and the Kellogg-Briand Pact, Japan has formally recognized Manchoukuo.

On September 15, 1932, with her special envoy General Muto and the flourish of a tiny brush instead of the usual pen, she formally and officially recognized the State of Manchoukuo, the result of her successful military campaign in Manchuria last fall. According to the Associated Press from Chanchun the scene resembled a war conference rather than a peace conference, with Japanese military officials packing the room—generals, colonels, and majors resplendent in red, yellow, and gold uniforms.

Paragraph 2 of the Treaty affirmed is of military interest, as the contracting powers "agree to cooperate in the maintenance of their national security, it being understood that such Japanese forces as may be necessary for this purpose shall be stationed in Manchoukuo."

Soviet Russia acknowledged Manchoukuo's existence by recognizing the right of the new State to succeed to China's rights in the Chinese Eastern Railway, and by granting both the Japanese and Manchoukuo armies facilities of communication on the Russian Lines in Manchuria.

France has opposed any proposal for either diplomatic or economic sanctions against Japan over the question.

Japan's position now with the League of Nations is fraught with difficulties. She asked for a fact-finding commission, not one with power "to interfere with military arrangements" of either China or Japan. How she will act on the Lytton Report and what the League of Nations will do in the matter is of vital interest to the United States, declaring as she has that she will not recognize changes occurring in Manchuria in violation of the treaties referred to above.

The Lytton Report is one of the ablest documents ever issued on a difficult international situation. It does not evade the responsibility of assessing Japan's action in invading Manchuria as overstepping the boundaries of legitimate self-defense in her military action. It outlines a possible solution; a solution to be achieved not by international dictation but by direct negotiations, with international advice and under international umpires. Briefly, there must not be railway competition between China and Japan but rather cooperation and consolidation; an autonomous Manchurian government under China, supported by native gendarmerie, all other troops being withdrawn; the rights of the national government over these provinces as to taxes, customs, and foreign relations to be specified, with Japanese advisers; the maintenance of the open door; China's sovereignty to be honored in the creation of this government; a trade treaty between Japan and China dealing with boycotts; Japan to cooperate with other nations in maintaining a stable central government in China.

What is to be done about it now? Japan vigorously rejects it. Apparently the gestures of the League have come too late. The special League of Nations Assembly met to consider the Lytton Report and subscribed to the essence of the Lytton Report—that China and Japan should be brought together for the purpose of working out



a formula recognizing Japan's present claims and China's ultimate rights. But rather than take definite action it referred the controversy to a Conciliation Committee of nineteen nations. The Lytton Report is neither accepted nor rejected. A very dangerous situation has been avoided, temporarily at least, for had the resolution of the minor powers been adopted, and the League endorsed the findings of the Commission and pronounced Japan guilty of an unnecessary resort to arms, Article XVI of the Covenant would automatically come into force and the major European Powers would have had to show reason why they should not deem Japan "to have committed an act of war" against all of them. In that event boycott or the application of "sanctions" would have had to be the next step, and such application of economic "sanctions" upon Japan would have meant war.

The League of Nations Committee of Nineteen adjourned until early in 1933 without making the minimum of progress expected when it officially began its deliberations. The statement of the President, that emphasized the gravity of the situation to all nations and made it clear that the Committee of Nineteen is still firm for the substance of the resolution, warned that "conciliation may become impracticable" unless Japan proves more conciliatory. The position of China and Japan is really irreconcilable. Japan's programme is apparently to use Manchuria as a base economically and as a first line of defense militarily. Fighting steadily through the year for her objectives of raw materials and foodstuffs so essential in wartime, such as wheat, coal, iron, soya beans, rice, and wool, she may be said to have arrived.

According to George E. Sokolsky, special New York *Times* correspondent in the Far East, the first line of defense against Russia is the line running north and south through a point west of Taitsihar, a movement forward some 350 miles through the old theoretical line through Changchau. The Japanese refer to it economically as their "life line," strategically as their "first line of defense." In doing this Japan has declared a Japanese Monroe Doctrine, making Manchuria her protectorate.

CHINA. The New York *Times* special correspondent at Peiping under date of Sept. 19, 1932, stated that with the opening of the academic year in North China officers had been detailed to various educational institutions to drill students. Orders provided for immediately beginning the military training of students in accordance with a plan outlined by the Ministry in coöperation with military authorities in Nanking.

The Lytton Report in a clarifying discussion of conditions in China saw, among other things, "Communism in China . . . has become an actual rival of the National government. It possesses its own laws, army, and government, and its own territorial sphere of action. . . . Communist zones of influence cover a large part of China south of the Yangtze, part of the Provinces of Hupeh, Anhwei, and Kiangsi north of that river, with Shanghai the centre of communist propaganda. When a district has been occupied by a Red Army, efforts are made to sovietize it if the occupation appears to be more or less permanent. Any opposition from the population is suppressed by terrorism—a communist government is established."

JAPAN. The peace time strength of the Japan-

ese Army is about 230,000. Under date of Dec. 28, 1932, the special correspondent to the New York *Times* stated that the Japanese Army's project for modernizing and reconditioning mechanical equipment and advancing technical training was aimed, according to officers in Tokyo, to bring the standard up to that of the Soviet Army and of other nations, the new plan being to provide a smaller but more modernly equipped army at the lowest possible cost. The previous Ministry drafted the plan with the idea of gradual accomplishment, but events in Manchuria, and Japan's responsibilities there, have compelled the Japanese to expedite it. Increasing the number of her troops in Manchuria to 65,000 in two years will be effected by reducing the home terms of the divisions now serving until the full peace time strength is in Manchuria. According to the War Office spokesman: "Although the Soviet attitude towards Japan at present is friendly, it is impossible to forecast the future and we must bring our forces in Manchuria to a state of efficiency, modernization, and mechanization equal to that of the Red Army."

RUSSIA. Under date of Feb. 15, 1932, the military organ *Red Star* placed the man power of the Red Army of Soviet Russia of 1931 at 562,000. This organ gave no other details of Soviet strength and mentioned nothing about reserves. Its only comparison of neighboring states was that these had increased their strength three and one-half times since 1925 while that of Russia had not been changed.

An interesting item concerns the issuance of orders to the Red Army soldiers, compelling them to listen to radio broadcasts for one hour daily at specified periods; these broadcasts presumably relate to governmental and army affairs. It is apparent that Soviet Russia does not miss many features to make its army effective. (New York *Sun*, Oct. 15, 1932.)

MEXICO. According to American War Department sources the maximum Mexican Army on October 1, 1931, consisted of 62,857 actives and 29,779 reserves. Late in August, 1932, there were unofficial announcements of plans that the Mexican Government would reduce this number by 3000 officers and men—a reduction of 5 per cent in effectives and a saving of 3,000,000 pesos (\$865,000). On September 30, the Associated Press placed Mexico's standing Army at 295 generals, 8732 lesser officers, and 44,286 enlisted men as reported by the War Department. The total strength is 53,018 men, or one general for each 133 men.

SOUTH AMERICA. From the Far East we turn to South America where much fighting, regular and irregular, has been going on most of the year.

In Brazil civil war has finally been ended. During July and August more than 120,000 men were engaged and brought to a deadlock. Since that time not much progress toward stamping it out has been made. Government censorship has kept the world in ignorance of what is undoubtedly the most important military struggle in the history of South America. The struggle for the control of the railroads has been the main effort; with practically all of Brazil involved. The Federal Army invaded São Paulo from the state of Paraná, seized control of the Sorocabana railroad, forcing the rebels into a defensive position from which they were finally dislodged and surrendered early in October. It was civil war in all its meaning—generally, between the state of São



Paulo and the Federal Government—and brought about by a revolutionary government. See BRAZIL.

Paraguay and Bolivia are still at war over Chaco. Each country lays claim to the triangular area of swamps, plains, forests, and streams lying between the Paraguay and the Pilcomayo Rivers. Bolivia demands a part of the west shore of the Paraguay which would give her an outlet to the Atlantic. The two nations face each other along some fifty wooded forts, and intense fighting has been going on since July, 1932.

The conflict between Bolivia and Paraguay may be briefly summarized as follows: the first period resulted in the successful offensive of the Bolivians against the Paraguayans and the capture of several of their forts; the second resulted in the Paraguayan counter-offensive against Fort Boqueron and the loss of a succession of forts extending southward to Fort Saavedra; the third and present phase is that of Bolivia's rally against the effort of the Paraguayans to drive the Bolivians west of the sixty-first meridian.

The Bolivians' new drive in the Boqueron sector, with the object of retaking that fort, is under the impetus of Gen. Hans Kundt and so far has forced Paraguay to withdraw troops from Fort Saavedra and hurry them northward. The southern base of the Bolivians is at Fort Munoz. Troops had to be taken from there to reinforce the movement undertaken toward Boqueron. Bolivia seemed determined to continue her activities, and despite the rainy season pressed her advantages.

Under date of November 24, Asunción reported that Bolivia called up ten classes of reserves for the preparation of a new army of 30,000 men. At Fort Acre the Bolivian artillery apparently dominated the situation at Fort Saavedra but the terrain makes advances impossible as the Paraguayans fire upon the fort under cover of heavy growths of reeds and bullrushes some distance away. Operations were, therefore, confined to long range firing.

Under date of December 13 a General Staff communiqué announced that "in a counter attack at Fort Saavedra light tanks were used by the Bolivians successfully." On December 16 a Bolivian tri-motored plane, escorted by two scout planes, flew over the Paraguayan lines in the Gran Chaco between Saavedra and Platanillos, and returning dropped a few bombs without particular damage.

Under date of December 17, 1932, the Paraguayan Foreign Office rejected the proposal of the neutral commission to demilitarize the Gran Chaco, declaring the proposal unjust and openly favorable to Bolivia. This gave jurisdiction to Bolivia over the zone President Hayes awarded more than fifty years ago.

According to Clarence K. Streit (New York Times, Dec. 17, 1932), history's first official attempt to mobilize governmental opinion around the world by an appeal broadcast by radio against the continuance of war between two nations was made at Geneva that day. The appeal was made at the direction of the League of Nations Council over the League's own short wave station as part of the Council's efforts to induce Bolivia and Paraguay to accept the peace convention proposed to them by the commission of neutrals at Washington. The item is interesting as showing diplomatic possibilities at a cheapened cost. When the Chaco dispute first came before the League in 1928, the Council sought to accom-

plish the same result by a circular telegram sent to each member of the League, which cost \$26,000. The same publicity was accomplished by radio broadcast on Dec. 17, 1932, over a vaster field with much more subject matter at an estimated expense to the League of less than \$3. The broadcast consisted of a stenographic transcript of the Council's meeting, including the whole of the proposed convention.

Under date of Dec. 27, 1932, the Paraguayans began a retreat from Fort Saavedra, Aguatica, and Murgio, leaving Bolivia victorious in the Pilcomayo sector. This was after six weeks of rather intensive fighting during which they endeavored to push the Bolivians back to the sixty-first meridian.

Paraguay concentrated her forces at Forts Boqueron and Acre, toward which Bolivia was driving in a new offensive under Gen. Hans Kundt. These forces were to be reinforced by 20,000 fresh troops as soon as they could be transported to the Chaco by the Bolivian-Platanillos road. See map in article BOLIVIA.

The construction of this road has enabled Bolivia to conduct her offensive during the rainy season, to the apparent distress of the Paraguayans. With the additional reinforcements Bolivia will have about 60,000 troops. The offensive planned is against the railhead of the Chaco's longest railroad, running to Concepción, headquarters of the Paraguayan General Staff. The Bolivians are on higher and drier ground where transport difficulties will be lessened and they can assume an offensive operation after its long defensive one. (New York Times, December 27.)

Peru and Colombia are quarreling over the seizure by Peruvian civilians of the trading town of Leticia in the jungles of the upper Amazon. This frontier fighting getting out of control, as it has, of the two governments concerned, threatens the peace of these two countries. The Leticians refuse to recognize Colombia's sovereignty.

Under the Brazilian-Colombian treaty of 1907 Colombia is entitled to send warships up the Amazon. It is reported that a squadron of four gunboats is preparing to sail up the Amazon River to Leticia, provided that the Brazilian Government does not object. Also that two transports carrying troops are expected at Para soon. (New York Times, Dec. 1, 1932.)

Chile. Two years ago the Chilean unified Air Force had nearly 200 planes and was termed by experts the largest and strongest south of the United States. Lack of funds for repairs and new machines and other economies, the gradual rise of new anti-armament sentiment in many places, and internal troubles have done much to reduce this strength to probably not over 80 active fighting branch planes. The entire force is to be reorganized by a special commission of army, navy, and air officials.

Argentina has found it necessary to send three regiments to her northern boundary to guarantee her neutrality between Bolivia and Paraguay. Bolivia has a detachment of infantry to guard her frontier touching Peru.

All of this warfare is going on without war having been declared anywhere in South America. In these days declarations of war seem quite unnecessary.

EUROPE. We now turn to Western Europe to consider Germany and her demand for equality of armaments. Coming as it does now—with the Disarmament Conference adjourned, having ar-

rived nowhere—it seems impertinent again to discuss the actual strength of European armies.

At Geneva the following data showing the armaments of the various countries for war on land were recently published:

ARMAMENT OF NATIONS

	War strength	Machine guns	Guns	Tanks	Air- craft
France . . . . .	4,500,000	62,000	5,200	3,500	2,800
Russia . . . . .	6,500,000	16,000	8,000	350	1,700
Italy . . . . .	3,500,000	16,000	3,000	150	1,015
Poland . . . . .	3,200,000	38,000	5,436	350	800
Great Britain . . . . .	2,000,000	14,200	1,500	580	2,400
Japan . . . . .	1,800,000	21,000	1,930	40	1,000
United States . . . . .	1,420,000	85,000	4,010	2,100	3,100
Yugoslavia . . . . .	1,150,000	8,750	2,000	50	450
Belgium . . . . .	600,000	4,073	851	50	300
Czechoslovakia . . . . .	1,800,000	21,000	2,100	100	600
Germany . . . . .	100,000	1,926*	288	...	...

\* Light.

An examination of these data is not entirely illuminating because of the misconception of many people of what are the requirements of a modern army.

Two factors, according to Count Eberhard Westrap (New York *Times*, Sept. 11, 1932), influence the organization of modern armies, and a study of the military progress of the countries to be discussed reveals that the first requirement is a ready made army that can be brought into action within a few days, or even in a shorter time, and which carries the war into the enemy's country. The second factor is the result of the mechanization and motorization of the armies of today. The technical service and the application of machines on the battlefield require better and more intensive training for each individual. Longer active service prohibits training of a corresponding greater amount of recruits. The longer the active service the better the training, the shorter the active service, the greater the quantity of recruits. The longer service of professionals is to satisfy the demands of quality, while the shorter training of many recruits is to meet the requirements of quantity.

The organization of the French Army may be considered as the best example of quality against quantity. It consists of the field army, which is organized for use into two waves. In the first wave are 26 infantry divisions, of which 8 are white, 5 colored, and 5 cavalry divisions, which can be concentrated on the border after one or two days. Six of these divisions are quartered along the German frontier and in peace times almost at war strength.

In the second wave are 20 reserve divisions to be established within 6 or 8 days.

Within about three weeks' time further mobilization is expected to produce 20 more divisions, so that within this length of time about 70 infantry and 5 cavalry divisions, or 4,000,000 white and 750,000 colored men, with auxiliary troops and all necessary war equipment, would be available.

To produce this result there is one year's active service of the conscripts. Compulsory service in France lasts 28 years, every year 250,000 men being trained. The skeleton for the new units are taken from the 230,000 professional soldiers; that is, those serving longer than one year in the active army.

Now, in thinking of France one must also visualize her military alliance with Belgium, Yugoslavia, Poland, Rumania, and Czechoslovakia, with an aggregate peace strength of 639,000 and

trained reserves of 1,195,000. The aggregate then of peace time availables of about 1,400,000 trained men can be increased to a war strength of at least 10,000,000 men for France and her Allies.

Contrasting with this, Italy trains 180,000 men annually for 18 months, so that her standing army in summer time is greater than during the winter months. The number of her professional soldiers is limited to 15,000 officers and 14,000 non-commissioned officers. Her reserves consist of 200,000 officers and 3,500,000 men. Putting the limit for the compromise between quality and quantity high, Italy trains all men more or less alike.

The German defensive organization is one of a purely professional system. As is well known, only 100,000 officers and men are permitted under the Versailles Treaty. The training of the youth, reservists and their control, reserve stock of material, heavy artillery, anti-aircraft, tanks and armored cars, military airplanes, fortifications, special training of the general staff, preparation for gas war and mobilization, railroad construction in certain districts—offensive and defensive means—are prohibited thereunder.

Enlisted men have to serve 12 years, officers 25 years, and only 5 per cent may be released every year beyond the regular quota.

Germany trains every year not more than 10,000 men, who really are not reservists because dismissed from active service on account of disability or after 12 years' service, either being unable for military service or at least 32 years old. The peace and war strength of the German Army is 7 Infantry and 3 Cavalry divisions.

France and Poland pay their soldiers 1 cent a day, Germany 42 cents per day at present. According to our informant this is the thing Germany wants changed.

If allowed to have equality and it were possible to train 250,000 men per year, a simple calculation shows that it would take 18 years to reach an equality with France; that is, to overcome the 10,000,000 recruits already trained.

The statement of Baron von Neurath, German Foreign Minister, when making public the text of the German Memorandum to France upon Armament is as follows: "It is clear to-day that Germany cannot participate in further deliberations of the Disarmament Conference until the question of German equality has found fundamental clarification. . . . Our equality and not our armament is the point which is at stake. . . . What we demand by 'equality' is nothing else than certain modifications in our present régime of armaments—modifications which bear in mind the necessity of adapting the rigid system imposed on our country in its special political, social, and economic conditions."

Notwithstanding, Germany's demand is for equality of armament with France, nothing more. They are certain they must be freed from the Versailles inequalities to cover their self-respect. The French are equally convinced that the Germans want an armed force principally to further their militaristic designs. In connection with this it is interesting to recall that this equality plea is not unlike the plan of Marshal Foch and a committee of Allied Generals which would have given Germany an army of 200,000 men and nearly twice the supply of arms and war material finally permitted under the Versailles Treaty. Had that plan been adopted the German Army to-day would have had a reserve force of

2,500,000 trained men who would have served at least one year with the active units of the Reichswehr. Marshal Foch was the chairman of this committee composed of Gen. Tasker H. Bliss, Gen. Sir Henry Wilson, General Désouguettes, and General Cavallero of Italy.

The plan was based upon an estimate of the "forces necessary to insure order and police the interior of her (Germany's) territory." The terms recommended had the unanimous approval of the military experts. It did not abolish conscription in Germany. The civilian members of the Supreme War Council, however, did not approve. The writer believes that the Disarmament crisis confronting the world to-day is the direct result of the decision reached by this Supreme War Council in 1919. Also that Germany has some justification now to assert she has been deprived of the right to prepare for her own defense.

The French view of the German situation is well set forth in *Foreign Affairs* for January, 1932, in an article by General Réquin. According to this authority Germany has restored the essential foundations of her pre-war strength and continues to increase that strength for aggressive warfare. The Reichswehr has a more centralized command than had the Imperial Army. The General Staff has been restored, ready to serve as the framework about which will group "the nation in arms." The Reichswehr has been given new armament in recent years, i.e. the new rifle "Einheitsgewehr," a new light machine gun, a new mine thrower, new cannon, new howitzer, and the like. The trained reserves at the present time total about 8,000,000 young men. With these must be counted 1,000,000 trained ex-combatants, aged less than 32 years. Under cover of commercial aviation, the nuclei of military and naval aviation have been established. Forbidden arms are being studied and sometimes tried out or actually put into service. Military mobilization, in the full technical sense of the term, and industrial mobilization, both have been fully prepared.

As to effectives at the present time the masculine population of Germany which could be mobilized is about 11,000,000 men between the ages of 17 and 45 years of age. Of this total about four and one-half millions have received complete military training, as follows: 1,000,000 trained men under 32; 1,700,000 trained men 33-38 years of age; 1,800,000 trained men 38-45 years of age. The organization called the *Kuratorium*, attached to the Ministry of the Interior, is under the chairmanship of General von Stulpnagel, former commander of the Fourth Division. It has considerable financial resources, and about twenty camps distributed over the entire country will be made available for the Wehrsport training of the German youth. The following associations, according to the German press of September 21, joined the Kuratorium: Reichsbanner 220,000 men; Stahlhelm 100,000 men; Jungdeutscher Orden 100,000; Wehrwolf 440,000. The National-Socialist shock-troops joined on Oct. 1, 1932, bringing an additional 200,000 to 400,000 young men.

Does all this "sport" activity dissipate France's beliefs and suspicions? The writer takes it that it does not.

Germany has paid since the war an indemnity of over one thousand million pounds sterling, but she has borrowed at the same time two thou-

sand million pounds sterling with which to pay this indemnity and equip her factories. Lausanne freed her of all those reparations. Now her demand is that she shall be allowed to rearm. "Do not let us delude ourselves," says Winston Churchill, speaking in the House of Commons recently. "All those bands of splendid Teutonic youths marching to and fro in Germany with the light of desire to suffer for their Fatherland in their eyes are not looking for status. They are looking for weapons, and when they have the weapons, believe me, they will ask for the restoration of their lost territories and lost colonies, and when that demand is made it cannot fail to shake, possibly to their foundations, every one of those countries I have mentioned and some countries that I have not mentioned." (*New York Times*, Dec. 11, 1932.)

The Five-Power Declaration signed at Geneva on December 11 by the disarmament negotiators, pledging simultaneous equality of status to Germany and security to France, is surely a noteworthy success for Germany. The Versailles Treaty is being broached by the diplomacy of Germany, for twice this year she has succeeded in winning over to her side the negotiators; first, last June in the virtual cancellation of reparations in the Lausanne Conference, and now the theoretical recognition of Germany's right to equality of armaments. This revocation of part 5 of the Versailles Treaty, which rigidly limited the extent and nature of her military forces, has for years been the objective of German policy. Germany, Great Britain, France, and the United States signed the declaration.

In France, the creation of a new Technical Service is due to the belief that delicate mechanical devices make specialization necessary. It will be composed of a directorate of armament manufacturers and a corps of military technicians under the Ministry of National Defense. This service will do away with Arms Officers and takes on military technicians who have served at least eight years previously in the forces.

The slogan: "The Army as a public school," now brought about by the suggestion of Colonel Lebrun, in command of a recently recruited regiment at Beauvais, France, that France will possess another argument for maintaining her present military status irrespective of international guarantees for safety, seems to be seriously considered by the Ministry of War.

It was recently discovered in this regiment that of 400 conscripts enlisted 75 were unable to read or write, while 25 did not know the alphabet. There are infinite possibilities in the idea of creating classes and having the literates teach the illiterates. The Colonel believes that his task is to turn out good soldiers; a man who is an illiterate cannot fulfill this description beyond his mere fighting capacity. He must know how to handle words as well as arms.

Will such instruction help to vote military credits as well as to present a strong ethical argument against further disarmament?

GREAT BRITAIN. Aerial disarmament, which is held to be a very different thing from either military or naval disarmament, particularly for Great Britain, is a matter that is now agitating aviation experts. According to the *Morning Post's* aeronautical correspondent, plans for British aerial disarmament, if they are to receive the support of the British people, must be formulated with special reference to the work which

the air arm is now being called upon to perform in distant parts of the British Empire. The British air forces are used in a manner which differs radically from that of other countries, the essential feature being the emphasis placed upon mobility. Quoting: "Stations have been established in different parts of the Empire and squadrons have been allotted to them with the object of providing a strategic distribution of aircraft, enabling men and machines to be moved any place where action may be needed. Generally speaking, the aircraft, upon which the work of policing overseas stations falls, are those known as the bomber class. Their chief use is in carrying men and supplies, in reconnaissance, patrol, ambulance work, communications, and the dropping of messages."

The vast globe-spanning distribution of the Royal Air Force is revealed in the table of squadrons which has not heretofore been compiled for the public:

ROYAL AIR FORCE STRENGTH

<i>Squadrons</i>		<i>Squadrons</i>	
<i>United Kingdom</i>		<i>Palestine and Transjordan</i>	
Army Cooperation .....	5	Bomber .....	1 1
Fighting .....	13		
Bombing .....	16	<i>Egypt and Sudan</i>	
Cadre Squadrons .....	5	Army Cooperation .....	1
Auxiliary Air Forces .....	8	Bomber .....	4 5
Flying Boats ..	4		
Communications	1 52	<i>Singapore</i>	
		Flying Boat ..	1
		Torpedo Bomber	1 2
<i>Iraq</i>			
Bomber .....	3	<i>Malta</i>	
Bomber Transport .....	1 4	Float Seaplane .	1 1
<i>Aden</i>		<i>Basra</i>	
Bomber .....	1 1	Flying Boat ..	1 1
<i>India</i>		<i>Fleet Air Arm</i>	
Army Cooperation .....	4	Fighter .....	
Bomber .....	4 8	Reconnaissance ..	
		Torpedo Bomber	13½ 13½
		Total ...	88½

To make flights between the bases covered by the foregoing squadrons complete units are required, not only for the necessary exercise of the squadrons but also to maintain a fund of information about the routes and landing places, for strategic as well as commercial use. In the present year six flights have been made covering long distances. Shorter links have been established and maintained, and the result is that the aim of setting up a mobile defense system is on the way to realization. The working of this plan has been put to the test on a few occasions when the air force has been called upon to undertake operations in the form of punitive action against tribesmen, evacuation of civilians from beleaguered cities, the provisioning of troops on the march, or the conveyance of troops to areas of operations.

The application of the mobile principle in Iraq has led to a saving of 25,000,000 pounds sterling in ten years.

The types of machines in use for the Empire air defense are mainly of the bomber, general purpose, bomber transport, and troop transport types. They also include flying boats of various sizes, and attempts are being made to increase the range and seaworthiness of flying boats, with

the aim of improving their mobility still further. Strategic bases should be within aircraft range of each other but at the present time this is not possible.

The new Chief of the Imperial General Staff has been announced by the War Office. He is Gen. Sir Archibald A. Montgomery-Massingberd, Colonel-Commandant, Royal Artillery, Aide-de-Camp General, the appointment to go into effect early in 1933. General Montgomery-Massingberd rose to fame as Chief of Staff of the Fourth Army in France, and the outstanding part which this army played in the final stage of the war established the position of the man who had been Lord Rawlinson's right hand.

*India.* The Associated Press from Dehra Dun, India, announced the formal opening on Oct. 1, 1932, of India's "West Point," the first Military Academy exclusively for Indians. The course is to last three years. Aspirants who seek to qualify will be charged \$1200 for the course. The London Conference provided for this step in the long period, some thirty years, that it is expected it will take to build up a strong Indian Army of officers entirely Indian.

The Earl of Halsbury, in the *British Legion Journal*, reveals new details of the terribly potent gases which are already available for employment in the next war. "We cannot judge the nature of future wars from the known effects of chlorine or phosgene used in the World War. . . . Even air containing one part in 200,000,000 of the diphenylchlorine produces nasal irritation. One part in 50,000,000 causes marked symptoms, and with such a mixture, five minutes is said to be the limit of human endurance. The symptoms are intense mental distress and utter dejection. If severely gassed, people would be driven mad by the pain and misery, and would lose all mental control." Another gas is "lewisite," which aircraft could spray through hose pipes in liquid form. Defense squadrons cannot protect towns from aerial bombers. Air manoeuvres in 1927 were intended to reassure the public that the defenses of London against hostile aircraft were adequate, but actually proved that that city cannot be defended. One modern asphyxiant would kill every person within a radius of half a mile, the victims being driven so mad with irritation that they could not stand respirators.

*BELGIUM.* The programme of the Minister of National Defense calls for the very latest modern fortifications for Belgium's eastern frontier, patterned after the strong fortifications that France has constructed in Alsace and Lorraine since the World War. It is the right bank of the River Meuse that is to be defended to the limit of her strength in case of attack, with the front line of defense consisting of a chain of concrete dugouts along the frontier linking up the towns of Maeseyck, Arlon, Saintvith, Houffalize, Bastogne, and Martelange.

These dugouts, commanding all the international highways, will not be guarded in peace time by permanent garrisons, but will be either occupied or looked after by the rural gendarmery. In the event that surprise automobile raids by invaders force the defenders out of these dugouts, it will be possible hastily to destroy them so they will be useless to the enemy. Homberg, which the first German Uhlans passed through on Aug. 4, 1914, will be the centre of the fortifications.

The second line of defense, a system of the lat-

est improved types of concealed sunken batteries, each spreading out over about 30 or 40 acres, will be almost invisible on the surface. Strong forts are to be placed at Eben-Emael, Battice, and Pepinster of the same type adopted by France at Longwy on the Rhine. For the defense of the Meuse, a chain of nine forts around Liège and seven more at Namur will be depended upon. (*La Libre Belgique*, July 29, 1932.)

SPAIN. The Premier and Minister of War Azana recently stated to the correspondent of the *New York Times* that Spain plans a vast reorganization to make the Spanish Army a real fighting force. Notwithstanding her declaration against war as an international instrument, "we must be prepared in case the unexpected occurs to defend ourselves or maintain our neutrality. We have fliers, but we need planes. We particularly want a modern Spanish air force to make us a first-class power. In five years we shall spend \$15,000,000 on our air force." The Spanish Army is about 150,000 in numerical strength.

On December 28, 1932, the Spanish Government issued a decree that troops in North Africa will total 25,405 regulars, 9184 Moors, and 4404 members of the Spanish Foreign Legion. The troops will be on a war footing, fully equipped with war material. The remaining 10,000 troops there will be repatriated.

POLAND. The sorest spot in all Europe is without doubt the Polish Corridor, the narrow strip 23 miles wide at one point and widening to 150 miles at its extreme width. According to Frank Simmonds: "The programme of the German Republic, in the matter of the Polish Corridor, is that of Frederick the Great." To see that this is so, one has but to read any patriotic speech that refers to Poland or this Corridor. The two conceptions abroad, the immutable right of Poland to independence and the unquestionable right of Germany to unity, make the way of conciliation or combining justice to the Pole with satisfaction to the German a seeming impossibility short of war.

Dr. Julius Curtius, former German Foreign Minister, in an address at Town Hall called upon those "who want to save mankind from a new disaster like that of the World War to take early action in a united fight to undo the wrong done Germany by establishing the so-called Polish Corridor." Poland was adjudged the outlet to the sea known as the Corridor because the new state was carved out of lands which for centuries before the partition of Poland were part and parcel of the old Kingdom of Poland, and the so-called Polish Corridor, geographically known as "Pomerania," was included in these lands. See map in article POLAND.

SWEDEN. The question of national defense will be an important one when the Swedish Riksdag assembles in January, according to the Associated Press, Dec. 22, 1932. The new Socialist Cabinet is responsible for the movement to secure the reduction by the curtailment or suspension of compulsory military training as well as naval reductions. There is opposition to the movement by militarists and conservatives. Peace training of conscripts in Sweden is now 140 days for ordinary conscripts, 200 days for special arms, and 260 days for students during the first year. The second year conscripts must take part in general maneuvers. It is estimated that 10,000 young men would be affected the first year and

20,000 the second year if compulsory military training should be suspended.

UNITED STATES. Four field armies, embracing all Regular Troops, National Guard, and Organized Reserves divisions in the United States, recently created provide for the defense of the frontiers of the country.

The First Field Army, comprising all troops of the three components within the First, Second, and Third Corps Areas, is to defend the Northeastern and North Atlantic region;

The Second Field Army, protecting the Great Lakes region, will consist of the troops of the Fifth and Sixth Corps Areas;

The Third Field Army, charged with the defense of the Gulf region and the Southern frontier, is composed of the Fourth and Eighth Corps Areas; and

The Fourth Field Army, defending the Pacific Coast, will consist of the troops of the Seventh and Ninth Corps Areas.

A General Headquarters is announced with the Chief of Staff as Commanding General.

This further step in the organization of the peace time military establishment since the World War is for the purpose of preparation for the utilization of the fighting forces in possible theatres of operations.

This organization is a new departure in national defense, for it is the first time in our history that a military man commands the Armies and at the same time functions as Chief of the General Staff. The scheme is a purely defensive one, based upon the thought that in case of emergency the people of the country will have an effective plan of defense. The first set-up of the plan provides for officer training only and has for its purpose the carrying out of the provisions of the defense act for tactical control, development of mobilization, and procurement plans. The plan practically abolishes the three field armies now existing, and provides the four units instead.

In his annual report General MacArthur, Chief of Staff, terms America's preparatory programme for land defense far from adequate. During the year military activities comprehended little more than normal training and administration.

He advocates increase of the Regular Army to 14,000 officers and 165,000 enlisted men as soon as the Government's revenue permits, and calls attention to the Far Eastern situation and European disarmament difficulties as reasons for avoiding further reductions in our military forces. In regard to the former he states: "Untrustworthiness of treaties as complete safeguards of international peace was emphasized again by the Sino-Japanese conflict in Shanghai last winter (1931) and gave rise to a feeling of apprehension among portions of our population and was reflected in expressions of anxious concern as to the adequacy of our defense structure."

Concerning the latter, he continues: "Unquestionably there has been crystallized among important elements of our citizenry a strong sentiment in opposition to further weakening of American military strength unless accompanied by drastic and sweeping cuts in the Armies of other Nations." He discusses the effect of diminished estimates for War Department requirements, due to the economic depression, and American policy and the character of its military establishment. Specifically he states, the 1920

law provided for a small professional army and for limited training of civilians on a voluntary basis, through the National Guard, the Organized Reserves, the Reserve Officers' Training Corps, the Citizens' Military Training Camps, and the National Rifle Association. This system combines efficiency, economy, and respect for American ideals and traditions.

Among the nations of the world the United States ranks first in wealth and fourth in population, yet each of the 16 others maintains a military establishment exceeding in strength the aggregate of Regular Army, National Guard, and Organized Reserves.

Our expenditures for current military activities of the Army have amounted to between 6 and 7 per cent of the total federal disbursements. According to the best available figures, expenditures by some foreign countries for similar purposes are as follows: France 17.4 per cent; Great Britain 7.9 per cent; Italy 25.4 per cent; Japan 13.1 per cent.

Data concerning distribution of the Regular Army beyond the continental limits are as follows:

#### TERRITORIAL DISTRIBUTION OF U. S. ARMY

Station	Strength	
	Officers	Men
Hawaii .....	757	13,466
Panama .....	418	9,537
Puerto Rico .....	52	938
Philippines .....	633	11,111
China .....	45	719
Alaska .....	10	309
Total ... ..	1,915	36,080

This leaves for the continental United States approximately 10,850 officers and 89,170 enlisted men. On June 30, 1932, the numbers actually present in continental United States were about 9750 officers, 820 warrant officers, and 83,600 enlisted men. The National Guard's aggregate strength is approximately 190,000, and that of the Organized Reserves approximately 84,000 civilians.

As to mechanization and general munitions development in this country as well as in all foreign armies, the possibilities of increasing fighting strength and conserving man power through a maximum utilization of machines continue to be assiduously explored.

The distinction between the terms might again be stated: the inclusion in military units of motor driven vehicles purely as for transportation of troops and supplies is known as "motorization"; their employment on the battlefield as actual weapons is termed "mechanization." During the past year visible progress in the Army toward mechanization consisted in the procurement of seven combat vehicles of the "Christie" combination wheel and track type, at a cost of \$262,000, and 12 armored cars of the most modern design at an approximate cost of \$190,000. The Tank School and Tank Board were transferred and combined with the Infantry School at Fort Benning, Ga. There has been set aside for development as a laboratory one unit of Cavalry, for the purpose of developing applicable tactics and methods and testing of the machines as a mechanized unit of this branch of the fighting forces.

One of the most extraordinary recent advances in new equipment has been the production of a heavy bombing plane of vastly increased efficiency. It is capable of carrying 2000 pounds of

bombs and a crew of four men. It has a maximum speed of about 165 miles per hour, and a cruising radius of some 500 miles. Improvements in anti-aircraft fire-control instruments and guns have continued. American pilot models in this equipment are at least equal to any others now existing.

During the past year attention has been directed toward a redesign of the semi-automatic shoulder arm gun to permit employment of the standard calibre of ammunition used in the Army. The "Garand" is the latest model produced.

Attack aviation is a new departure in military aviation developed during the past ten years. The Third Attack Group, equipped with observation type planes, Douglas and Curtiss Falcons mostly, two place ships bristling with machine guns in the cockpits and along the wing, with attack pilots trained for just such observation, are really the infantry of the air. They strike at guns and supply trains, trenches, and moving bodies of troops on the road. To protect the attack machines, fast and maneuverable pursuits are essential.

"The Third Attack Wing, which is now the Third Attack Group," writes F. Trubee Davison, Assistant Secretary of War for Aviation, "will comprise approximately 300 officers and 1600 men, and 180 planes." At Barksdale, Louisiana, 20,100 acres of land owned by the government has a landing field 3 miles long and half a mile wide, to be completed a mile wide. The field when finished will be the only air field over which maneuvers can be held without any of the bullets going off government land.

The whole plan of war in the air has been changed since the World War. The day of the Knight of the Air is ended. Mass work has succeeded individual exploit. A pursuit group consists of three squadrons of 18 planes each. It regularly practices open and close order drill, as an infantry battalion does and for the same reasons of discipline and smartness. Infantry terms are creeping into the lexicon of the Air Corps. A group flight is divided almost the same way as an infantry force on the march, with its reserve, support, and striking force comparing with infantry advance guard. In this way it goes into action, maintaining formation rather than splitting up into single ship actions as during the war, and just as an infantry commander does if the enemy breaks up his unit, the new air leader withdraws in the best order, reforms, and again attacks.

Five additional pursuit squadrons have yet to be organized to complete the overseas air defenses in Panama and Hawaii. During the fiscal year ending June 30, four additional pursuit squadrons and two bombardment squadrons, together with certain auxiliary units were reconstituted. These permit the organization of two complete wings of the service, each consisting of a bombardment group and a pursuit group. One wing is stationed on the Pacific Coast, at March Field, California, and the other in the East, at Langley Field, Virginia.

An Attack Wing, consisting of an attack group of three squadrons with auxiliary units, will be organized from units already in existence, to be stationed eventually at Barksdale Field, Shreveport, La.

The United States ranks fourth in air power, an estimate based on the full power this country

could employ in a particular operation where Army, Navy, and Air Forces would be used to full capacity.

The 73d Congress, if called into special session after March 4, 1933, may be called upon to pass a bill amalgamating the War Department with the Navy Department into a Department of National Defense, supposedly in the interests of economy and efficiency. Anyone familiar with the operations of the two departments must realize the destructive effect upon service morale of such an amalgamation.

The Army's first motorized field artillery is to undertake a thirty days' test simulating war conditions from Fort Bragg, N. C., to West Point, N. Y. Speedy little trucks with rubber mounted trailers on which are mounted 75 millimeter pieces have replaced the horsedrawn gun mounts in the experimental battery, and judging from results in the way of experiments will replace the horses permanently. (*New York Times*, Dec. 31, 1932.)

**MILITARY TERRITORY OF THE NIGER.** See FRENCH WEST AFRICA.

**MILK.** See DAIRYING.

**MILLS COLLEGE.** A college for women in Oakland, Calif., founded in 1885. The enrollment in the autumn of 1932 was 490, while that for the summer session was 71. The summer session included courses in music, fine art, and physical education. The faculty numbered 79 members, plus 18 assistants below the rank of instructor. Preceptorial aid was furnished by 10 tutors who were in residence with the students. The total productive funds amounted to \$1,593,134, and the total assets to \$4,302,927, while the gross income for the year ending June 30, 1932, was \$660,569. The library contained 60,000 volumes. President, Aurelia Henry Reinhardt, Ph.D. LL.D., Litt.D., L.H.D.

**MILLWARD, JESSIE.** A British actress, died in London July 13, 1932. Born July 14, 1861, she made her first appearance on the London stage in 1881 as Constance in *The Love Chase*. The following year she was engaged by Sir Henry Irving on the strength of the success with which she portrayed the rôle of Alice Verney in *Forget-Me-Not*. She appeared with his company on both the British and American stage in *Much Ado about Nothing*, *The Lyons Mail*, *The Bells*, *The Merchant of Venice*, *The Bell's Stratagem*, *Louis XI*, and *King Richard III*. While in the United States during 1884-85 she appeared also in *Called Back* and *Scaled Instructions*. On her return to England she appeared intermittently with William Terriss in a series of popular melodramas until the tragic death of that actor in 1897. Among these were *The Harbor Lights*, *The Bells of Haslemere*, *The Union Jack*, *The Silver Falls*, *The Shaughraun*, *Roger La Honte*, *The Fatal Card*, *The Girl I Left Behind Me*, *The Swordsman's Daughter*, *One of the Best*, *Boys Together*, *Black-Eyed Susan*, *Secret Service*, and *In the Days of Drake*. She appeared also during 1892-94 with Sir Henry Irving in *Richelieu*, *Becket*, and *Faust*. In 1898 she returned to the United States for an extended stay, her outstanding successes being as Lady Algernon Chetland in *Lord and Lady Algy*, Lady Eastney in *Mrs. Dane's Defence*, and the Countess Zicka in *Diplomacy*. She later appeared in *There's Many a Slip* (1902), *The Taming of Helen* (1903), *A Queen's Messenger* (1904), and *The Hypocrites* (1906). Her versatility was further displayed by

her appearance in the musical comedies *The Girl in the Taxi* (1910) and *As a Man Sows* (1911). Her last appearance was on the London stage in *The Rosary* in 1914. In 1923 she published her reminiscences under the title of *Myself and Others*.

**MIMICRY IN ZOOLOGY, PROTECTIVE.** See ZOOLOGY.

**MINERALOGY.** Of importance in the progress in mineralogy in 1932 is the publication of the Fourth Edition of Dana's *Text Book of Mineralogy* under the revision of Dr. William E. Ford.

As Dr. Ford points out in his preface, the period of ten years which has elapsed since the Third Edition of this standard work has been one of unusual activity in mineralogical investigation, involving additions and changes which well justify the present new edition.

In recognition of the rapid progress made in the field of crystal structure, much valuable matter has been added in the section dealing with the general morphological relations of crystals. This revision balances and modernizes the text rather than exploits this relatively new province of mineralogy.

A discussion of the Origin, Mode of Occurrence and Association of Minerals, mainly taken with minor additions, from the 1929 Edition of Dana's *Manual of Mineralogy*, constitutes a valuable and significant contribution to the new matter of the Edition.

It is in the portion of the work devoted to Descriptive Mineralogy, however, that the bulk of the new matter has been added to this revision, about two hundred and twenty new species have been added to the science in the ten years that have elapsed since the last edition of this text and these have been included in Part V (formerly Part IV). The order of the species within groups has, in many cases, undergone rearrangement. In adjudging the importance and validity of species the editor holds to the practice, employed in former editions, of using heavy faced and small upper case type apparently to mark a difference in rationality of establishment of the species, although the reader is at a loss to find any explanation of the meaning of this use of type in the text. Small printers' errors have crept in, as would be expected in so large and complete a book. Perhaps the most inexcusable of these is the spelling of mallardite without the *r*, and the inclusion of mallardite and mallardite (two separate species) under mallardite in the index. Also, as would be natural, the critic is not always in accord with Dr. Ford regarding the use of the heavy-faced and upper case type above mentioned. But these are small matters which in nowise dim the achievement of a very notable and praiseworthy piece of work. The new species announced during 1932 are, in general, neither as important nor as sharply defined as those that have characterized recent years.

*Bultfonteinite*, a new fluorine bearing hydrous calcium silicate, was first found in the Bultfontein mine at Kimberley, but has later appeared elsewhere in South Africa. The mineral occurs in small radial spherulites of acicular triclinic crystals which are white to colorless and resemble *afwillite* (INTERNATIONAL YEAR BOOK, 1925).

A new zinc arsenate from Lampazos, Neuvo Leon, Mexico has been named *legrandite* in honor of Mr. Legrand, a former mine manager. It was



found in small, bright transparent monoclinic crystals deposited on sphalerite. The name *rosickyite* has been proposed for a monoclinic ( $\gamma$ ) phase of sulphur, new as a natural compound, in honor of Dr. V. Rosický of Prague. Rosickýite occurs in the cretaceous clay at Havirna, near Letovice, Moravia. *Glaucoocerinite*, a new hydrous zinc, copper, and aluminum sulphate, has been found at Laurium, Greece. It occurs in soft sky-blue, warty masses, resembling blue wax. A white or light yellow material of a powdery consistency, from the phosphatic deposits in a cave in Cioclovina, Transylvania, has been proved to be a double salt, a sulphate and phosphate of calcium. It has been named *ardealite* in recognition of the Rumanian name Ardealu, applied to the former principality of Transylvania. A vein of gneiss near Bald Knob in Alleghany County, North Carolina, has yielded two new manganese minerals. *Alleghanyite*, named from the locality,

is a manganese silicate occurring in pink grains, resembling garnet. *Galaxite* is a new manganese spinel, occurring in small black grains. The name of this species is derived from the town Galex in Virginia.

*Sanbornite*, a new barium dimetasilicate occurring in white or colorless triclinic plates in Mariposa County, California, has been named in honor of Mr. Frank Sanborn of the California Division of Mines.

**MINERAL PRODUCTION IN THE UNITED STATES.** The continued effect of the economic depression in 1932 drove the mineral industry to lower production records than it has experienced in many years. Except for gold (\$51,836,400) and a few mineral products of relatively minor importance the downward trend in values was general. Articles on individual minerals, metallic and nonmetallic, present production data for the year 1932 while the follow-

MINERAL PRODUCTS OF THE UNITED STATES, 1930 AND 1931 \*

Product	1930		1931	
	Quantity	Value	Quantity	Value
<b>METALLIC</b>				
Aluminum . . . . . pounds . . . . .	229,035,000	\$ 50,961,000	177,544,000	\$ 37,284,000
Antimonial lead <sup>b</sup> . . . . . short tons (2,000 pounds)	13,711	1,392,524	( <sup>b</sup> )	( <sup>b</sup> )
Antimony <sup>c</sup> . . . . . do . . . . .	1,685	258,500	964	129,600
Bauxite . . . . . long tons (2,240 pounds)	330,612	1,928,297	195,895	1,140,629
Cadmium . . . . . pounds . . . . .	2,777,762	1,777,768	1,050,529	409,706
Chromite . . . . . long tons . . . . .	80	1,905	268	3,509
Copper, <sup>d</sup> sales value . . . . . pounds . . . . .	1,894,889,327	181,271,000	1,042,711,178	94,887,000
Ferro-alloys . . . . . long tons . . . . .	650,240	51,900,220	398,295	30,764,549
Gold <sup>e</sup> . . . . . troy ounces . . . . .	2,285,608	47,247,600	2,395,878	49,527,200
Iron:				
Ore <sup>f</sup> . . . . . long tons . . . . .	55,201,221	145,619,059 <sup>f</sup>	28,516,032	74,123,910 <sup>f</sup>
Pig . . . . . do . . . . .	29,905,355	512,165,131	17,812,579	285,147,156
Lead (refined), <sup>d</sup> sales value . . . . . short tons . . . . .	573,740	57,374,000	890,260	28,879,000
Manganese ore (35 per cent or more Mn) . . . . . long tons . . . . .	67,035	1,437,465	39,242	699,121
Manganiferous ore (5 to 35 per cent Mn) . . . . . long tons . . . . .	785,390	2,401,605	281,414	976,549
Mercury:				
Metal . . . . . flasks (76 pounds net)	21,553	2,478,789	24,947	2,179,145
Ore . . . . . short tons . . . . .	( <sup>g</sup> )	( <sup>h</sup> )	( <sup>g</sup> )	( <sup>h</sup> )
Nickel . . . . . do . . . . .	308	213,803	373	202,406
Ores (crude), old tailings, etc.:				
Copper . . . . . do . . . . .	47,382,000	( <sup>h</sup> )	( <sup>i</sup> )	( <sup>h</sup> )
Copper-lead and copper-lead zinc . . . . . do . . . . .	246,000	( <sup>h</sup> )	( <sup>i</sup> )	( <sup>h</sup> )
Dry and siliceous (gold and silver) . . . . . do . . . . .	7,767,000	( <sup>h</sup> )	( <sup>i</sup> )	( <sup>h</sup> )
Lead . . . . . do . . . . .	8,080,000	( <sup>h</sup> )	( <sup>i</sup> )	( <sup>h</sup> )
Lead-zinc . . . . . do . . . . .	10,645,000	( <sup>h</sup> )	( <sup>i</sup> )	( <sup>h</sup> )
Zinc . . . . . do . . . . .	5,980,000	( <sup>h</sup> )	( <sup>i</sup> )	( <sup>h</sup> )
Platinum and allied metals (valued at New York City) . . . . . troy ounces . . . . .	43,502	2,048,824	36,205	1,274,029
Silver . . . . . do . . . . .	50,748,127	19,538,029	30,932,050	8,970,294
Tin (metallic equivalent) . . . . . short tons . . . . .	17	10,500	4	2,050
Titanium ore:				
Ilmenite . . . . . do . . . . .	( <sup>j</sup> )	( <sup>j</sup> )	( <sup>j</sup> )	( <sup>j</sup> )
Rutile . . . . . do . . . . .	( <sup>j</sup> )	( <sup>j</sup> )	( <sup>j</sup> )	( <sup>j</sup> )
Tungsten ore (60 per cent concentrates) . . . . . do . . . . .	702	509,000	1,404	928,000
Uranium and vanadium ores . . . . . do . . . . .	( <sup>j</sup> )	( <sup>j</sup> )	( <sup>j</sup> )	( <sup>j</sup> )
Zinc, <sup>d</sup> sales value . . . . . do . . . . .	489,361	46,979,000	291,996	22,192,000
Total value of metallic products (approximate) . . . . .		982,550,000		567,200,000
<b>NONMETALLIC</b>				
Arsenious oxide . . . . . short tons . . . . .	17,425	1,008,385	13,777	796,744
Asbestos . . . . . do . . . . .	4,242	289,284	3,228	118,967
Asphalt:				
Native . . . . . do . . . . .	702,777	4,463,092	503,883	2,930,451
Oil <sup>f</sup> . . . . . do . . . . .	2,273,546	21,570,439 <sup>f</sup>	2,200,337	16,539,894 <sup>f</sup>
Barite (crude) . . . . . do . . . . .	234,932	1,538,171	174,520	994,655
Borates (colemanite and naturally occurring sodium borates) . . . . . short tons . . . . .	177,360	5,351,999	172,600	4,761,295
Bromine . . . . . pounds . . . . .	8,462,800	2,109,974	8,935,330	1,854,650
Calcium-magnesium chloride . . . . . short tons . . . . .	116,160	2,207,800	86,156	1,687,166
Cement . . . . . barrels (376 pounds net)	160,846,850	231,249,287	128,325,382	142,528,789
Clay:				
Products <sup>k</sup> . . . . .		275,184,322		( <sup>h</sup> )
Raw <sup>f</sup> . . . . . short tons . . . . .	3,962,909	12,521,495 <sup>f</sup>	( <sup>f</sup> )	( <sup>f</sup> )
Coal:				
Bituminous <sup>l</sup> . . . . . do . . . . .	467,526,299	795,488,000	378,110,000	615,000,000
Pennsylvania anthracite . . . . . long tons . . . . .	61,950,747	354,574,191	53,153,000	304,203,000
Coke <sup>f</sup> . . . . . do . . . . .	47,972,021	209,137,263 <sup>f</sup>	33,483,886	161,608,724 <sup>f</sup>
Diatomite and tripoli <sup>m</sup> . . . . . do . . . . .	32,439	507,055	26,682	810,131
Emery . . . . . do . . . . .	555	5,996	512	5,557
Feldspar (crude) . . . . . long tons . . . . .	171,788	1,066,636	147,119	861,059

## MINERAL PRODUCTS OF THE UNITED STATES, 1930 AND 1931—(Continued)

Product	Quantity	1930	Value	Quantity	1931	Value
NONMETALLIC—continued						
Fluorspar . . . . .	short tons..	95,849	1,746,648	53,484	931,275	
Fuller's earth . . . . .	do.	385,644	4,326,705	288,400	3,055,570	
Garnet for abrasive purposes . . . . .	do.	5,008	314,129	2,946	193,015	
Gems and precious stones . . . . .	do.		( <sup>a</sup> )		( <sup>a</sup> )	
Graphite:						
Amorphous . . . . .	short tons..	1,941	20,525	( <sup>a</sup> )	( <sup>a</sup> )	
Crystalline . . . . .	pounds..	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	
Grindstones and pulpstones . . . . .	short tons..	18,700	770,571	8,724	342,149	
Gypsum . . . . .	do.	3,471,393	27,051,484	2,559,017	20,801,357	
Lime . . . . .	do.	3,387,880	25,616,486	2,710,000	18,506,000	
Magnesite (crude) . . . . .	do.	129,320	1,033,130	73,602	499,289	
Mica:						
Scrap . . . . .	short tons..	6,732	109,100	6,621	99,415	
Sheet . . . . .	pounds..	1,465,485	177,307	962,953	111,830	
Millstones . . . . .	do.		17,702		5,330	
Mineral paints:						
Natural pigments <sup>a</sup> . . . . .	short tons..	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	
Zinc and lead pigments <sup>c</sup> . . . . .	do.	147,948	18,420,436	123,963	15,225,300	
Mineral waters . . . . .	gallons sold..	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	
Natural gas . . . . .	M cubic feet..	1,948,421,000	416,090,000	1,637,000,000	350,000,000	
Natural gasoline . . . . .	gallons..	2,210,494,000	128,160,000	1,831,918,000	65,964,000	
Oilstones, etc. . . . .	short tons..	651	137,184	870	81,951	
Peat . . . . .	do.	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	
Petroleum . . . . .	barrels (42 gallons)	898,011,000	1,070,200,000	851,081,000	550,830,000	
Phosphate rock . . . . .	long tons..	3,926,392	18,996,880	2,534,959	9,288,485	
Potassium salts . . . . .	short tons..	56,610	2,986,157	63,770	3,086,955	
Pumice . . . . .	do.	56,843	336,099	68,819	338,586	
Pyrites . . . . .	long tons..	347,512	1,028,680	330,848	974,820	
Salt . . . . .	short tons..	8,054,440	25,009,480	7,358,070	21,541,012	
Sand:						
Glass . . . . .	do.	1,849,101	\$ 3,210,973	1,600,000	\$ 2,600,000	
Molding, building, etc., and gravel . . . . .	do.	195,202,625	111,965,570	153,400,000	85,400,000	
Sand-lime brick <sup>a</sup> . . . . .	thousands	191,198	1,950,709	146,514	1,269,405	
Silica (quartz) . . . . .	short tons..	13,156	121,289	7,851	69,103	
Slate . . . . .	do.	463,610	7,911,618	368,420	5,498,336	
Stone . . . . .	do.	126,996,340	178,948,611	96,200,000	131,248,000	
Sulphur . . . . .	long tons..	1,989,917	35,800,000	1,376,526	24,800,000	
Sulphuric acid (60° Baumé) from cop- per and zinc smelters . . . . .	short tons..	1,188,316	9,544,288	862,729	6,491,515	
Talc and soapstone <sup>c</sup> . . . . .	do.	179,385	2,108,338	163,752	1,852,472	
Total value of nonmetallic prod- ucts (approximate) . . . . .			\$3,773,400,000		\$2,605,500,000	
SUMMARY						
Total value of metallic products . . . . .			\$ 982,550,000		\$ 567,200,000	
Total value of nonmetallic products (ex- clusive of mineral fuels) . . . . .			1,008,900,000		719,700,000	
Total value of mineral fuels . . . . .			2,764,500,000		1,885,800,000	
Total value of "unspecified" (metallic and nonmetallic) products (partly esti- mated) <sup>a</sup> . . . . .			8,850,000		7,300,000 <sup>a</sup>	
Grand total approximate value of mineral products . . . . .			\$4,764,800,000		\$3,180,000,000	

<sup>a</sup> In this general statement certain of the figures represent shipments rather than quantity mined, and some of the figures for 1931 are estimates. The reader is referred to the articles on the various mineral products for information in greater detail than it seems practicable to give here.

<sup>b</sup> From both domestic and foreign ores. As the result of a change in method of statistical presentation, comparable figures for 1931 are not available; estimate of value of antimony and lead contents of antimonial lead from domestic sources included in total value of metallic products.

<sup>c</sup> Figures represent antimony content of antimonial lead. Value excluded from metallic total as the value of the antimony is included in the antimonial lead value.

<sup>d</sup> Product from domestic ores only.

<sup>e</sup> Value, \$20.671834625323 an ounce.

<sup>f</sup> Value not included in total value.

<sup>g</sup> Figures not available.

<sup>h</sup> Figures showing values not available.

<sup>i</sup> Figures for 1931 not yet available.

<sup>j</sup> Value included in total value of metallic products; Bureau of Mines not at liberty to publish figures.

<sup>k</sup> Figures obtained through cooperation with Bureau of the Census. Figures for 1931 not yet available; estimate of value included in total value of nonmetallic products.

<sup>l</sup> Includes brown coal and lignite, and anthracite mined elsewhere than in Pennsylvania.

<sup>m</sup> Figures represent tripoli only. Value of diatomite is included in total value of nonmetallic products, Bureau of Mines not at liberty to publish figures.

<sup>n</sup> No canvass. Estimate of value included in total value of nonmetallic products.

<sup>o</sup> Value included in total value of nonmetallic products; Bureau of Mines not at liberty to publish figures.

<sup>p</sup> Canvass discontinued after 1915. Value of iron ore sold for paint included under last item ("Unspecified").

<sup>q</sup> Sublimed blue lead, sublimed white lead, leaded zinc oxide, and zinc oxide.

<sup>r</sup> Equivalent as K<sub>2</sub>O.

<sup>s</sup> According to Bureau of the Census.

<sup>t</sup> Figures represent talc only. Value of soapstone is included in total value of nonmetallic products; Bureau of Mines not at liberty to publish figures.

<sup>u</sup> Includes for 1931 the value of bismuth, cadmium compounds (\$331,119), chats (\$368,000), cobalt ore, columbite (\$490), flint lining for tube mills and pebbles for grinding (\$26,211), optical fluorspar (\$1,230), iodine, iron ore sold for magnets, iron ore sold for paint (\$29,759), lithium minerals, new ingot magnesium (\$199,633), natural magnesium salts (\$982,814), calcareous marl (\$65,935), greensand marl, micaceous minerals, molybdenum (\$1,577,000), selenium (\$386,255), silica sand and sandstone (finely ground) (\$749,171), sodium salts (carbonates and sulphates) from natural sources (\$1,421,676), sulphur ore, tellurium, and an estimate of the value of miscellaneous mineral products, statistics for which are not collected annually by the Bureau of Mines.

ing paragraphs, based on the Annual Summary for 1931 of the U. S. Bureau of Mines, present the situation for that year, and emphasize the trend that was continued in the succeeding year.

The U. S. Bureau of Mines stated the aggregate value of all mineral products in 1931, \$3,180,000,000, was the lowest since 1915. As compared with the total for the preceding year, the 1931 value represented a reduction of 33 per cent. This large drop followed a decrease of 19 per cent in the 1930 aggregate value. Compared with 1929, the 1931 total value shows a reduction of 46 per cent, or the largest decline in value for any two consecutive years since the beginning of the statistical record in 1880. Only in two previous instances—1883 and 1884, 1927 and 1928—were declines registered in the total value of mineral products in consecutive years, and these declines were relatively very small. Moreover, although the value of mineral products dropped 40 per cent in the postwar depression year 1921 as compared with 1920, yet the reduced value recorded for 1921 was about a billion dollars more than that reported for 1931.

Comparisons of the various individual products show only a few scattered departures from this common tendency, and no notable increases were recorded. As in 1930, however, the intensity of the decline was far from uniform, and some branches of the mineral industry suffered much more than others, as shown in the accompanying tabulation on pages 514 and 515.

Among the metallic products, striking declines in values ranged from 44 to 54 per cent for the important industrial metals, copper, pig iron, lead, silver, and zinc, while the total value of metallic products decreased about 42 per cent from that in 1930. Gold, the standard price of which was not affected by the business depression, again showed an increase in 1931 with a gain of 4.8 per cent in output and value. Relatively large gains in the production of tungsten ores and chromite were accompanied by much smaller proportionate increases in values. The output of mercury and nickel gained about 16 and 23 per cent, respectively, but the total values were less than in the preceding year. These two products were the only ones except for gold, tungsten ores, uranium and vanadium ores, rutile, and chromite (which enjoyed increased total realizations) in the entire metallic group to show value declines of less than 20 per cent.

The mineral fuels as a group decreased about 32 per cent in value of total products. Less bituminous coal was produced in 1931 than in any year since 1908, and the anthracite output was smaller than in any year free from labor difficulties after 1900. Moreover, average unit realizations were slightly lower than in immediately preceding years. Petroleum output decreased for the second consecutive year after steady increase from 1925 to 1929; the output in 1931 dropped only 5 per cent below that in 1930, but the value declined about 49 per cent. Production of natural gas declined about 16 per cent and was accompanied by a sharp decline in value; the output of natural gasoline fell about 17 per cent below that in 1930 and brought barely one-half the total value reported for 1930.

The total value of nonmetallic products (not including fuels) fell 29 per cent. This was considerably less than the decrease recorded for the value of metals but only slightly below that reported for the value of mineral fuels. Except for

potassium salts and pumice the declines in values were wide sweeping. A gain in the output of bromine was offset by prices low enough to result in a reduced total value. In spite of road and public-building programmes the demand for non-metallic structural materials declined sharply. As compared with 1930, total values of all the important nonmetallic building materials—stone, gravel, gypsum, lime, cement, asphalt, slate, mineral paints, sand-lime brick, and clay products—decreased 17 to 38 per cent in 1931.

**MINERALS.** See GEOLOGY.

**MINES AND MINING.** See METALLURGY.

**MINING AND METALLURGICAL ENGINEERS,** AMERICAN INSTITUTE OF. An organization founded in 1871 and incorporated under the laws of New York State in 1905 "to promote the arts and sciences connected with the economic production of the useful minerals and metals and the welfare of those employed in these industries." It is made up of 27 local sections and has 47 affiliated societies in American colleges. On Nov. 15, 1932, there were 8620 members, distributed as follows: Honorary, 16; members, 6276; junior members, 366; associates, 882; student associates, 576; Rocky Mountain members, 127; and junior associates, 377. The income for 1932 is estimated at \$139,000.

In addition to the monthly meetings of the local sections and regional meetings held in various important mining or metallurgical centres, an annual meeting, or four-day convention beginning on the third Tuesday in February is held in New York City. The medals and prizes awarded by the society during 1932 for notable work in the field of mining and metallurgy were: The James Douglas Medal to Champion Herbert Mathewson; William Lawrence Saunders Gold Medal to F. W. Bradley; Robert W. Hunt Prize to Howard Scott, and the J. E. Jonson, Jr. Award to Ora E. Clark. The Institute publishes *Transactions*, an annual in several volumes containing the best papers of the year on mining and metallurgical subjects; *Mining and Metallurgy*, a monthly magazine; the *Directory*, which constitutes a "Who's Who" in the profession; *Technical Publications*, a series of individual technical pamphlets; and special volumes from time to time. In connection with three other societies it maintains the engineering societies library and an employment bureau. The officers elected at the 1932 convention were: President, Scott Turner; vice presidents, Frederick M. Becket and Paul D. Merica; directors, Erle V. Daveler, Eugene McAuliffe, Harvey S. Mudd, J. B. Umpleby, and Charles C. Whittier; secretary, A. B. Parsons; and treasurer, Karl Eilers. Headquarters are in the Engineering Societies Building, 29 West 39th Street, New York City.

**MINNESOTA.** POPULATION. According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 2,563,953, as against 2,387,125 in 1920. Minneapolis, the most populous city, had (1930) 464,356 inhabitants; St. Paul, the capital, 271,606.

**AGRICULTURE.** The table on page 517 shows the acreage, production, and value of the principal crops for 1932 and 1931.

**MINERAL PRODUCTION.** Looking to its iron mines for nearly nine-tenths of its mineral output in normal years, Minnesota's mineral industry suffered severely by the curtailment of demand for iron ore in 1931. The iron mines shipped only 17,063,591 long tons of ore (1931),

Crop	Year	Acreage	Prod. Bu.	Value
Corn	1932	4,847,000	176,916,000	\$24,768,000
	1931	4,896,000	115,056,000	37,968,000
Oats	1932	4,575,000	164,700,000	18,117,000
	1931	4,575,000	128,525,000	23,470,000
Hay	1932	4,445,000	5,564,000*	30,210,000
	1931	4,812,000	4,088,000	30,601,000
Barley	1932	1,968,000	47,232,000	8,502,000
	1931	1,874,000	37,480,000	11,619,000
Wheat	1932	1,867,000	19,506,000	7,412,000
	1931	1,224,000	18,011,000	9,186,000
Potatoes	1932	372,000	29,016,000	6,384,000
	1931	361,000	28,880,000	9,819,000
Flaxseed	1932	620,000	5,704,000	5,134,000
	1931	861,000	6,027,000	7,293,000
Rye	1932	310,000	4,960,000	1,042,000
	1931	365,000	5,475,000	1,588,000

\* Tons

as against 34,165,777 (1930); though the price of ore was not affected, the year's total by value fell by almost one-half, to \$46,020,269 (1931), from \$90,835,451 (1930). The blast furnaces' production of pig iron, by the use of non-native coal, fell off to 17,878 long tons (1931), from 266,622 (1930). Of manganiferous ores there were shipped 243,819 long tons in 1931, as against 698,244 in 1930; by value \$733,788 (1931), and \$1,812,171 (1930). The stone quarries, for which data were not available to cover 1931, produced 562,130 short tons of stone in 1930, and 517,720 in 1929; by value, \$3,923,372 for 1930 and \$4,460,383 for 1929. Clay products attained the value of \$1,647,007 for 1930 and \$2,085,697 for 1929. The total value of the State's mineral product, duplications eliminated, was \$103,931,377 for 1930; for 1929, \$136,349,610.

**FINANCE.** State expenditures in the year ended June 30, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments \$38,755,553 (of which \$10,441,037 was for local education); for interest on debt, \$4,183,329; for permanent improvements, \$20,989,252; total, \$63,928,134 (of which \$23,574,904 was for highways, \$4,414,251 being for maintenance and \$19,160,743 for construction). Revenues were \$65,662,908. Of these, property and special taxes furnished 19.2 per cent; departmental earnings and compensation to the State for officers' services, 9.2; sale of licenses, 49.7 (in which was included a gasoline sale tax that produced \$7,328,457). Funded debt outstanding on June 30, 1931 (exclusive of county-reimbursement road bonds), totaled \$71,151,759, of which \$9,000,000 was for highways. Net of sinking-fund assets, the debt was \$14,221,200. On an assessed valuation of \$2,341,848,744 the State levied in the year ad-valorem taxes of \$11,060,642.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 8778.04.

**EDUCATION.** The State distributed, in 1932, a new curriculum of secondary public-school education. It was reported at the end of the year that the public schools would continue their complete services, despite the pressure of adverse times. There were enrolled in the public schools, in the academic year 1931-1932, 558,148 pupils. Of these, 434,458 were in the common schools or elementary grades; in separate classes for defectives, 7839; in the regular courses of the high schools, 114,446; in the high schools also, but taking special courses, 1405. For the school year 1930-1931, the latest for which the financial total had been rendered, the expenditures for pub-

lic education totaled \$54,615,401, of which \$45,629,084 was for maintenance and operation. The salaries of teachers averaged, for men, \$173.61 a month in 1932; for women, \$112.34.

**CHARITIES AND CORRECTIONS.** The State Board of Control, a body created by an act of 1901, had in 1932 general control over 18 State institutions for the care or custody of persons. It also supervised county tuberculosis sanatoria, purchased for the institutions that it controlled, paroled and discharged from the reform schools, conducted prison manufactures of binder twine and farm machinery, clothing and woodworking products, operated prison quarries, collected charges for maintaining the insane, inspected jails, poorhouses, and infirmaries, and performed duties as to children, the blind, and veterans.

State institutions under the board's control, with their populations of Nov. 1, 1932, were: Anoka State Asylum, 1096; Hastings State Asylum, 1060; Willmar State Asylum, 1223; Fergus Falls State Hospital, 1809; Rochester State Hospital, 1562; St. Peter State Hospital, 1843; School for the Feeble-Minded, Faribault, 2214; Colony for Epileptics, Cambridge, 645; School for the Blind, Faribault, 110; School for the Deaf, Faribault, 329; State Public School, Owatonna, 508; State Training School for Boys, Red Wing, 366; Home School for Girls, Sauk Center, 310; State Reformatory for Women, Shakopee, 58; State Reformatory, St. Cloud, 1100; State Prison, Stillwater, 1356; Sanatorium for Consumptives, Ah-gwah-ching, 275; Hospital for Crippled Children, St. Paul, 230.

**POLITICAL AND OTHER EVENTS.** The Federal Supreme Court, in a decision of April 11 (opinion by Chief Justice Hughes), ruled that the nine Representatives allowed the State under the reapportionment of 1930 must be elected at large, the State's redistricting measure of 1931, vetoed by Governor Olson, being invalid. It was impossible to elect under the previous redistricting law of the State, as the number of Representatives for the State had been reduced by one. Governor Olson refused to call a special session to pass a new redistricting law. Accordingly candidates for the House of Representatives were chosen at large in the party primaries on June 20. Eighty-eight names were presented; the voters chose 27; nine apiece for the Republican, Democratic, and Farmer-Labor parties. Governor Olson was renominated on the Farmer-Labor ticket; Earle Brown of Minneapolis gained the Republican nomination for Governor; the Democratic nomination went to John E. Regan, of the party wing opposed to the Presidential nomination of Franklin D. Roosevelt. This wing later made an unavailing effort in the Democratic National Convention to supersede the previously named pro-Roosevelt delegation of the State with a delegation of its own.

The State's so-called gag law, for the suppression of objectionable newspapers, had been declared unconstitutional by the United States Supreme Court in 1931 with regard to its provision for suppressing scandalous and defamatory newspapers, was declared still valid, by a decision of Federal Judge Guilford at Minneapolis on August 6, with regard to the suppression of publications for obscenity. The Court refused to interfere with a move on the part of the State authorities to confiscate the Minneapolis *Public Press*. Wilbur B. Foshay and H. H. Henley, heads of a \$50,000,000 combination of companies that

had failed in 1929, were convicted at Minneapolis on March 21 of violation of a Federal law by using the mails to defraud; both received 15-year sentences. Governor Olson appointed a committee on land utilization, chiefly to study the problem of abandoned lands in the northern counties, soon to revert to the State for tax delinquency.

**ELECTIONS.** The popular vote of November 8 was prevailingly Democratic, in the proportion of almost 5 to 3 as to the National tickets, but the Farmer-Labor candidates gained the chief vote for other important offices. Gov. Floyd B. Olson, Farmer-Laborite, was reelected, defeating Earle Brown, Republican, and John E. Regan, Democrat. Five members of the Farmer-Labor party, 3 Republicans, and 1 Democrat were elected to the House of Representatives for the Seventy-third Congress. All nine were elected at large, because of the invalidation of the State's re-districting measure by the Federal Supreme Court. The vote for President as officially reported was: Roosevelt (Dem.), 600,806; Hoover (Rep.), 363,959. A constitutional amendment to permit the Legislature to enact a law creating a State income tax was defeated.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, Floyd B. Olson; Lieutenant-Governor, Henry Arens; Secretary of State, Mike Holm; State Treasurer, Julius A. Schmald; Auditor, Stafford King; Attorney-General, Henry R. Benson; Commissioner of Education, James M. McConnell.

**Supreme Court:** Chief Justice, Samuel B. Wilson; Associate Justices, Homer B. Dibel; Andrew Holt, Clifford L. Hilton, Royal A. Stone, I. M. Olsen, Charles Loring.

**MINNESOTA, UNIVERSITY OF.** A coeducational State institution for higher learning in Minneapolis, founded in 1851. The 1932 autumn registration was 11,708, while the summer session enrollment for the same year was 5058. The university staff on a full-time basis, including professors, associate professors, assistant professors, and instructors, numbered 611. The income for the year ending June 30, 1932 amounted to \$9,462,879. The permanent university fund was increased by \$325,448.

Gifts received during the year include \$25,000 from the Carnegie Corporation of New York and \$75,000 from the Rockefeller Foundation, for an economic and social study of unemployment and a study of the reeducation of the unemployed; \$10,000 from the American Association for Adult Education for the study of University Extension class students under the special supervision of a special subcommittee of the Committee on Educational Research. The new Dentistry building was completed in 1932 at a cost of \$409,507. The library contained 788,011 volumes. Chancellor, Lotus Delta Coffman, Ph.D., LL.D.

**MINORITIES.** See LEAGUE OF NATIONS; POLAND, YUGOSLAVIA, CZECHOSLOVAKIA, BELGIUM, and SPAIN under *History*.

**MISSIONS INQUIRY, LAYMEN'S FOREIGN.** This inquiry, sponsored during 1931-32 by laymen of seven leading Protestant denominations—Baptist (Northern), Congregational, Methodist Episcopal, Presbyterian Church in the U. S. A., Protestant Episcopal, Reformed Church in America, and United Presbyterian—was a result of the growing conviction that the Protestant mission enterprise was at the crossroads and that to continue the work momentous decisions

in regard to aim, scope, personnel, and attitude toward other faiths were necessary. It was restricted to the Far Eastern mission field—India, Burma, China, and Japan—the first stage of the study being entrusted to the Institute of Social and Religious Research which late in 1930 sent a corps of research workers to the designated fields under the supervision of Galen M. Fisher, general director. The group in India and Burma was headed by C. Luther Fry, that in China by H. Paul Douglass, and that in Japan by Harvey H. Guy. The facts collected by these workers were then submitted to the commission of appraisal. Leaving the United States in September, 1931, this commission spent three months studying conditions in India and Burma, two and a half months in China, and six weeks in Japan. Its report, entitled *Rethinking Missions: A Laymen's Inquiry after One Hundred Years*, was published in September, 1932.

The commission of appraisal consisted of 15 prominent churchmen of the various denominations, with William Ernest Hocking, Alford professor of philosophy at Harvard University, acting as chairman and Frederic C. Woodward, vice-president of the University of Chicago, as vice-chairman. The other members were: Clarence A. Barbour, president of Brown University; Edgar H. Betts, business man and banker of Troy, N. Y.; Arlo A. Brown, president of Drew University; Charles Phillips Emerson, professor of medicine and dean of the medical school of the University of Indiana; Mrs. William E. Hocking, founder of Shady Hill School, Cambridge, Mass.; Henry S. Houghton, dean of the medical college of the University of Iowa; Rufus M. Jones, professor of philosophy at Haverford College; William Pierson Merrill, pastor of the Brick Presbyterian Church, New York City; Albert L. Scott, president of Lockwood Greene Engineers, Inc., New York City; Harper Sibley, lawyer and business man of Rochester, N. Y.; Mrs. Harper Sibley, religious leader and speaker of Rochester, N. Y.; Henry C. Taylor, agricultural economist of Washington, D. C.; and Miss Ruth F. Woodsmall, specialist in work for women, Young Women's Christian Association, New York City.

The principal conclusions of the commission, as set forth in *Rethinking Missions*, are as follows:

*The Continuance of Missions.* To any man or church, possessed of religious certainty, the mission in some form is a matter not of choice but of obligation.

*Their Aim.* The message of Christianity presents a way of life and thinking which the Christian conceives, not as his way alone, but as a way for all men, entering without violence the texture of their living and transforming it from within. . . . The aim of Christian missions today, in our conception, would take this form: To seek with people of other lands a true knowledge and love of God, expressing in life and word what we have learned through Jesus Christ, and endeavoring to give effect to his spirit in the life of the world.

*Their Scope.* Nothing can displace, or minimize the importance of, a true and well-qualified evangelism. But the Christian way of life is capable of transmitting itself by quiet personal contact and contagion, and there are circumstances in which this is the perfect mode of speech. . . .

We believe that the time has come to set the educational and other philanthropic aspects of mission work free from organized responsibility to the work of conscious and direct evangelism. We must work with greater faith in invisible successes, be willing to give largely without any preaching, to coöperate whole-heartedly with non-Christian agencies for social improvement, and to foster the initiative of the Orient in defining the ways in which we shall be invited to help.

*Their Attitude toward Other Faiths.* The mission of to-day should make a positive effort, first of all, to know and understand the religions around it, then to recognize and associate itself with whatever kindred elements there are. It is not what is weak or corrupt but what is strong and sound in the non-Christian religions that offers the best hearing for whatever Christianity has to say.

It is clearly not the duty of the Christian missionary to attack the non-Christian systems of religion—it is his primary duty to present in positive form his conception of the way of life and let it speak for itself. . . . The Christian will therefore regard himself as a co-worker with the forces within each such religious system which are making for righteousness.

*The Men and Women in Missions* The task of the missionary is an extremely difficult one. It calls not only for a self-sacrificing spirit and an utter devotion but for moral courage, a high order of intelligence, and a love of adventure. Perhaps more than for any of these it calls for the capacity truly to understand and genuinely to love and sympathize with the people among whom he works.

The commission is convinced that a much more critical selection of candidates should be made, even at the risk of curtailing the number of missionaries sent out. Those appointed should have the benefit of a carefully planned training for their work: great pains should be taken in the designation of appointees to specific tasks and locations. Whenever possible, nationals should have a voice in their selection and retention, and if feasible the early years of their service should be of a probationary nature.

*Concentration of Effort.* The number of weak Christian institutions and of merely nominal Christians throughout Asia is a reproach to the missionary enterprise. Denominational interests, institutional pride, and lack of coöperative planning have contributed to the development of conditions which should no longer be tolerated. We are convinced that one of the most urgent needs in all fields is the rigid enforcement of a policy of concentration of personnel and resources. Experience shows that this cannot be accomplished by the missionaries in the field; the forces which make for a continuance of the present status are too strong for them. Vigorous and determined action on the part of the mission boards, and the denominations behind them, is imperative.

*Transition from Temporary to Permanent Character.* A mission, by definition, is intrinsically temporary; the time comes when established centres of religious life must be left to develop according to the genius of the place.

Missions should now be preparing for the transition from the temporary work of church planting, pioneer work in medicine, education, and the training of leaders—to the permanent function of promoting world understanding and unity on a spiritual level through the ambassadorship of

relatively few highly equipped persons, and through institutions for the study of theology and civilization, and the emerging needs of the adopted land.

*The Transfer of Responsibility—Devolution.* The goal of the mission must be the transfer of its responsibility to the hands of the nationals. Answerable for the integrity of its work, the mission cannot realize the idea of the indigenous church by simply letting go. The desire to make himself unnecessary is a mark of the true missionary; but in achieving that end, the transfer of responsibility must follow thorough training of nationals: devolution should be real—not nominal; and gradual—not abrupt.

*Administrative Unity and Cooperation.* The commission believes that the time has come for a plan of administrative unity on a comprehensive scale, and proposes a single organization for Christian service abroad in place of the complex, costly, and duplicative machinery which now exists.

If a new alignment of forces, rising above denominational and doctrinal barriers, can evoke creative missionary statesmanship at home and abroad, can command the enthusiasm of the finest and most adventurous type of Christian young men and women, and bring the whole enterprise to new levels of accomplishment, we are convinced that the churches of America will have a great part in the making of a better and happier world, but not otherwise.

**MISSISSIPPI.** POPULATION. According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 2,009,821, as against 1,790,618 in 1920. Jackson, the capital, had (1930) 48,282 inhabitants.

**AGRICULTURE.** The accompanying table shows the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod. Bu	Value
Cotton . . .	1932	3,830,000	1,150,000 <sup>a</sup>	\$37,375,000
	1931	4,032,000	1,761,000 <sup>a</sup>	54,239,000
Corn . . .	1932	2,414,000	32,589,000	11,732,000
	1931	2,299,000	42,532,000	17,013,000
Hay . . .	1932	356,000	407,000 <sup>b</sup>	2,892,000
	1931	358,000	482,000 <sup>b</sup>	4,497,000
Sweet potatoes	1932	79,000	7,900,000	3,160,000
	1931	63,000	5,544,000	4,047,000

<sup>a</sup> Bales. <sup>b</sup> Tons.

**MINERAL PRODUCTION.** There occurred a sharp reduction in the production of brick and tile in 1930, bringing the total value of the State's clay products for that year down to \$613,350, from \$1,189,142 for 1929. The output of natural gas, though still small, rose to 179,000 M cubic feet for 1930, from 90,000 M for 1929; and to the value of \$86,000 (1930), from \$32,000 (1929). The production of sand and gravel, to the value of \$1,050,579 for 1930, furnished the greater part of the yearly mineral total. The value of the State's entire mineral product was \$1,774,621 for 1930; for 1929, \$2,572,616.

**FINANCE.** State expenditures in the year ended Sept. 30, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments \$16,297,681 (of which \$5,710,822 was for local education); for interest on debt, \$1,499,365; for permanent improvements, \$4,882,914; total, \$22,679,960 (of which \$6,193,183 was for highways, \$2,926,391 being for maintenance, and \$3,266,792 for construction). Revenues were \$19,084,386. Of these,

property and special taxes furnished 38.4 per cent; departmental earnings and compensation to the State for officers' services, 8.1; sale of licenses, 31.8 (in which was included a gasoline tax that produced \$2,899,836). Funded debt outstanding on Sept. 30, 1931, totaled \$32,905,799. Net of sinking-fund assets, the debt was \$32,721,661. On an assessed valuation of \$692,655,464 the State levied in the year ad valorem taxes of \$5,541,244.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 4170.15. During the previous year about 39 miles of line had been abandoned.

**EDUCATION.** Supporters of the public-school system made unusual exertions early in the year to prevent its services from being cut down on account of the deficiencies of public revenue. A mass meeting of about 5000 persons, held at Jackson, adopted a resolution in favor of the State's making provision to keep public schools open for at least eight months of the year in every county. The attitude of this group lent impetus to Governor Conner's successful recommendation that the Legislature create a sales tax. For the latest period as to which the figures were obtainable, the academic year 1930-1931, the number of persons of school age in the State was reported as 873,665. There were enrolled in the public schools 584,011 pupils. Of these, 529,284 were in common schools or elementary grades; in high schools, 54,727. For the year 1929-1930, the expenditure for public-school education totaled \$14,952,699. Salaries for colored teachers attained the medium figure of \$226 a year; for white elementary teachers, of \$720; for those in high-school classes, of \$1060.

**LEGISLATION.** The State Legislature, in its regular biennial session, was impelled by Governor Conner to pass measures to bring a degree of order into the public finances. It enacted a general sales tax designed to bring in about \$1,000,000 a year. This tax applied to retail sales of almost all articles. It went into effect on May 1. Under its provisions sellers, most sorts of public utilities included, must pay 2 per cent of gross annual receipts, from sales, above \$1200; likewise persons practicing a licensed trade or profession must pay in the same proportion from trade incomes. On clay products, cement, bottled soft drinks, automobiles sold, and sales of industrial power 1 per cent was laid. The legislature authorized the funding of the floating State deficit, an accumulation of several years, by the sale of \$12,000,000 of 6 per cent State bonds, which might be offered below par; the excess of this issue over the amount needful to cover such deficit might be used to refund maturing State bonds. The rate of the State's tax on sales of gasoline was set at six cents a gallon, by a gasoline-tax act containing strict provisions against elusion of the tax; a tax of a cent a gallon was placed on kerosene. Ratification of the proposed Federal Constitutional Amendment to alter the dates of inaugurations and of initial sessions of Congress was voted. An act was passed to redistrict the State into seven districts for the election of Federal Representatives, in place of eight, in accordance with the Federal reapportionment of 1930; it united the old 7th and 8th districts to form a new 7th district.

**POLITICAL AND OTHER EVENTS.** Martin S. Conner was inaugurated Governor on January 19. In his inaugural address he urged corrective

measures for the State finances, a "complete reorganization" of the administrative machinery, and the legislative voting of revenues in advance of appropriations. Poverty throughout the State had led to something approaching a collapse of revenue from direct taxation. It was reported that on April 4 39,699 farms, comprising 16.2 per cent of the agricultural land, were offered at sheriffs' sales for non-payment of tax, in addition to some 15,000 farms previously forfeited for the same reason. A sale of State bonds to retire outstanding warrants was partly successful on September 10, \$6,000,000 of principal, par value, being sold, to bear interest at 6 per cent, at the price of 96 per cent of the par value, out of an offering of \$11,500,000. Revenues from the general sales tax (see Legislation, above) met expectations soon after the outset and did much to meet the State's requirements of revenue.

A flood of the Tallahatchee River broke levees on January 15 and entered the Tippecanoe Basin, driving some 30,000 people from their homes. The American Red Cross administered relief to the refugees. The redistricting act of the Legislature of 1932, reducing the number of districts for the election of Federal Representatives to 7, from 8, was rendered ineffective by an injunction granted at New Orleans by a special three-judge Federal Court; the Court's order did not prevent the holding of nominating primaries by districts under the new law. But the Federal Supreme Court, in a decision of October 18, sustained the redistricting law, on the ground (opinion by Chief Justice Hughes) that the Federal reapportionment act of 1911, requiring compact and approximately equal districts, which the consolidation of the old 7th and 8th Mississippi districts might have infringed, was superseded by the Federal act of 1929, which made no provision on the subject, the old restriction as to districts therefore having lapsed.

**ELECTIONS.** The State's vote of November 8 was overwhelmingly for the Democratic National ticket: for Roosevelt (Dem.), 140,168; for Hoover (Rep.), 5170. The seven Democratic Representatives were reelected.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, Sennett Conner; Lieutenant-Governor, Dennis Murphree; Secretary of State, Walker Wood; Attorney-General, Greek L. Rice; State Treasurer, Lewis L. May; State Auditor, Joseph S. Price; Superintendent of Education, W. F. Bond; Commissioner of Agriculture, J. C. Holton.

**Supreme Court:** Chief Justice, Sydney Smith; Associate Justices, W. D. Anderson, James G. McGowan, George H. Etheridge, W. H. Cook, V. A. Griffith.

**MISSISSIPPI RIVER.** See FLOODS AND FLOOD PREVENTION.

**MISSOURI. POPULATION.** According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 3,629,367, as against 3,404,055 in 1920. St. Louis had (1930) 821,900 inhabitants; Kansas City, 399,746; Jefferson City, the capital, 21,596.

**AGRICULTURE.** The table on page 521 shows the acreage, production, and value of the principal crops for 1932 and 1931.

**MINERAL PRODUCTION.** There was a great decrease in the production of the lead and zinc mines subsequent to 1929. In the case of lead the production, by quantity, however, rose slightly to 199,032 short tons for 1930, from 198,469



Crop	Year	Acreage	Prod. Bu	Value
Corn . . .	1932	6,122,000	188,721,000	\$35,477,000
	1931	6,184,000	170,060,000	54,419,000
Hay . . .	1932	2,676,000	2,423,000 <sup>a</sup>	13,175,000
	1931	2,922,000	2,919,000 <sup>a</sup>	19,579,000
Wheat . .	1932	1,332,000	14,926,000	5,672,000
	1931	1,497,000	29,833,000	11,073,000
Oats . . . .	1932	1,809,000	34,371,000	5,499,000
	1931	1,865,000	50,355,000	11,078,000
Cotton . . .	1932	890,000	285,000 <sup>b</sup>	8,265,000
	1931	848,000	289,000 <sup>b</sup>	6,979,000
Potatoes	1932	52,000	5,200,000	2,652,000
	1931	51,000	3,927,000	2,827,000
Tobacco .	1932	7,000	7,175,000 <sup>c</sup>	861,000
	1931	7,500	7,125,000 <sup>c</sup>	720,000

<sup>a</sup> Tons    <sup>b</sup> Bales.    <sup>c</sup> Pounds.

for 1929; but the total by value fell to \$19,963,200 (1930), from \$25,007,094 (1929). The curtailment as to quantity, consequent upon lower prices, was evidenced thereafter. In the case of zinc, the quantity produced fell to 10,811 short tons (1930), from 11,017 (1929); the total by value, to \$1,037,856 (1930), from \$1,454,244 (1929).

Production of coal likewise declined, to 3,269,000 short tons for 1931, from 3,853,150 for 1930; by value also it declined sharply from the \$8,967,000 of 1930. With regard to cement, a drop to producers' shipments of 5,103,287 barrels (1931), from 8,030,528 (1930) was accentuated as to values by a lower level of prices, the totals by value being \$5,052,840 for 1931 and \$11,470,751 for 1930. Production of lime declined moderately to 225,000 short tons (estimated) for 1931, from 265,771 (1930); by value, to \$1,518,000 (estimated, for 1931), from \$1,861,105 (1930).

Clay products attained the value of \$12,517,707 for 1930, as against \$14,994,548 for 1929. Quarries produced 3,910,060 short tons of stone in 1930, as against 4,397,800 for 1929; by value, \$6,007,531 for 1930 and \$7,085,323 for 1929. The total value of the mineral product of the State was \$69,074,500 for 1930; for 1929, \$78,948,484.

FINANCE. State expenditures in the year ended Dec. 31, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments, \$28,586,826 (of which \$5,621,172 was for local education); for interest on debt, \$4,135,920; for permanent improvements, \$31,887,670; total, \$64,610,416 (of which \$30,417,628 was for highways, \$5,650,705 being for maintenance and \$30,766,923 for construction). Revenues were \$51,484,545. Of these, property and special taxes furnished 27.5 per cent; departmental earnings and compensation to the State for officers' services, 11.7; sale of licenses, 43.9 (in which was included a gasoline sale tax that produced \$9,154,688). Funded debt outstanding on Dec. 31, 1931, totaled \$104,864,896, of which \$88,500,000 was for highways. Net of sinking-fund assets, the debt was \$103,005,394. On an assessed valuation of \$4,566,442,883 the State levied in the year ad valorem taxes of \$5,479,731.

TRANSPORTATION. The total number of miles of railroad line under operation on Jan. 1, 1932, was 7970.02. During the year previous, 82.88 miles of line had been put in operation; 9.52 miles abandoned.

EDUCATION. A county-redistricting board was organized, to perform the work of mapping the larger public school districts, optional as to adoption, within the county school system, thus carrying forward plans adopted in the legislation of 1931. For the academic year 1930-1931, the

latest for which statistics were obtainable, the number of persons of school age in the State was given as 948,220. There were enrolled in the public schools 660,306 pupils. Of these, 191,911 were in rural schools, 337,430 in elementary grades, and 130,965 in high schools. The expenditure of the year for public-school education was \$42,730,104. Salaries of teachers averaged, by the year, \$653 for men and \$614 for women in rural schools; in high-school districts, \$1479 for men and \$895 for women.

POLITICAL AND OTHER EVENTS. The course of the General Assembly of 1931, in making appropriations some \$5,000,000 in excess of anticipated revenue, under the mistaken hope that economic improvement might bring revenue from the income tax far above expectations, left the State in a bad financial plight toward the end of 1931. Governor Caulfield dealt with it by demanding, in December, 1931, that all State departments and institutions reduce their expenditures by 25 per cent for the biennium then nearly half over. This signified, for practical purposes, a cut of nearly 50 per cent in expenditure for which these governmental branches had not yet become engaged. Public opinion supported the Governor, and the heads of departments and institutions agreed to comply, with the exception of State Superintendent of Schools Lee, who declared that expenditure required for education under the laws of the last session prevented any such cut. The Federal Supreme Court by a decision of April 11 (opinion by Chief Justice Hughes) declared the attempt to carry out the vetoed State redistricting act of 1931 invalid; this had the effect of compelling the election of all Representatives of the State to Congress in November at large, i.e. each one by the vote of the entire State; for the State's representation having been reduced to 13, and the Governor failing to call a special session to pass a new act, election by districts was impossible. The nomination of 15 candidates for members of the State's electoral college, however, was not affected, the Governor creating special districts therefor, as the law of the State prescribed, in the absence of an act. At the primary elections on August 2, the Republicans nominated Henry W. Kiel of St. Louis for United States Senator and the Democrats nominated Col. Bennett C. Clark, a son of the late Champ Clark; both men stood outright for the repeal of Federal prohibition. For Governor, Edward H. Winter was nominated by the Republicans and Francis M. Wilson by the Democrats. Wilson died on October 12 and the Democratic State Committee named Judge Guy B. Park of Platte City to take his place on the ticket.

ELECTIONS. The popular vote of November 8 was cast for the Democratic National ticket in the proportion of about 11 to 6. The reported totals were: for Roosevelt (Dem.), 1,025,406; for Hoover (Rep.), 564,713. Col. Bennett C. Clark, son of the late Senator Champ Clark, was elected to the United States Senate on the Democratic ticket, defeating former Mayor Henry W. Kiel of St. Louis, Republican, by a plurality of some 200,000. Judge Guy B. Park, Democrat, was elected Governor, defeating Edward H. Winter. Because the State's redistricting measure had not been supported by the courts, the 13 members of the State in the House of Representatives of the Seventy-third Congress were elected at large: all the 13 elected were Democrats.

OFFICERS. The chief officers of the State, serv-

ing in 1932, were: Governor, Henry S. Caulfield; Lieutenant-Governor, Edward H. Winter; Secretary of State, Charles U. Becker; Auditor, L. D. Thompson; Treasurer, Larry Brunk; Attorney-General, Stratton Shartel; Superintendent of Public Schools, Charles A. Lee.

**Supreme Court:** Chief Justice, Frank E. Atwood; Associate Justices, William T. Ragland, Berryman Henwood, Earnest S. Gantt, William F. Frank, John Turner White, George R. Ellison.

**MISSOURI, UNIVERSITY OF.** A State institution of higher education in Columbia and Rolla, Mo., founded in 1839. The enrollment for all divisions for the first semester of 1932-33 was 3828, of whom 2791 were men and 1037 women. The total enrollment for the 1932 summer session was 2323, of whom 1142 were men and 1181 women. The total annual enrollment of all classes of students, including those in correspondence and extension courses was 8692. There were 390 faculty members. The endowment of the university was approximately \$2,500,000, and the total income from all sources was approximately \$3,511,392. The libraries contained 291,819 volumes. President, Walter Williams, LL.D.

**MIXED CLAIMS COMMISSION.** See MEXICO under *History*.

**MIYATOVICH, CHEDOMILLE, COUNT.** A Serbian diplomat, died in London May 14, 1932. Born in Belgrade in 1842, he attended the Universities of Munich, Leipzig, and Zurich, and in 1865 became professor of political economy at the High College of Belgrade. Four years later he was appointed general secretary in the Ministry of Finance and in 1873 assumed the portfolio of Finance and Commerce. Among the reforms which he instituted were the establishment of the National Bank of Serbia, the introduction of the dinar as the first official Serbian currency, and the passage through parliament of a taxation law by virtue of which there could not be seized from any Serbian peasant for any debt whatever his house, a yoke of oxen, his plow, and 5 acres of land. He was thrice accredited Serbian minister to the Court of St. James's, the first time being in 1884. He was recalled in 1886 to serve as Serbian plenipotentiary for the conclusion of peace with Bulgaria. This peace, which was largely secured through the intervention of Austria-Hungary, was the shortest ever written, consisting of one sentence: "Peace between Serbia and Bulgaria is restored." In spite of the routing of the Serbians by the Bulgarians there were no territorial changes, no war indemnity, and no humiliation for the defeated nation. Miyatovich was again appointed Minister to Great Britain in 1895. In 1899 he was Serbian delegate to the Peace Conference at The Hague. Transferred to Constantinople the following year, he was returned to London in 1902. He retired from the diplomatic service on the assassination of King Alexander and Queen Draga in 1903 but thereafter continued to make his home in London. He was an authority on the history of Serbia in the fifteenth century, his *Life of Georg Brankovitch*, the last king of the Serbs in that period, being crowned by the Royal Serbian Academy of Science. He was also the author of several Serbian novels and of works in that language on political economy, finance, and commerce. His works in English include: *Ancestors of the House of Orange* (1892); *A Royal Tragedy* (1906); *Serbia and the Serbians* (1908);

and *The Memoirs of a Balkan Diplomatist* (1917).

**MODERN ARCHITECTURE.** See ARCHITECTURE.

**MODERN ART. MUSEUM OF.** See ART MUSEUMS.

**MODERN LANGUAGE STUDIES.** See PHILOLOGY, MODERN.

**MOLDAVIAN SOVIET SOCIALIST REPUBLIC.** See UKRAINE.

**MOLLISON, CAPT. JAMES A.** See AERONAUTICS.

**MOLLISON, MRS. AMY JOHNSON.** See AERONAUTICS.

**MOLUCCA ARCHIPELAGO.** See NETHERLAND INDIA.

**MOLYBDENUM.** See GEOLOGY.

**MONACO, mōn'à-kō.** A principality on the Mediterranean coast, surrounded on the land sides by the French Department of Alpes Maritimes. Total area 149 hectares (about 370 acres); population (1928 census) 24,927. Monaco, the capital, had 2085; Monte Carlo, 11,055; La Condamine, 11,787 inhabitants. Revenue is mainly derived from the gambling concession, which is leased for about \$450,000 annually. Receipts of the gambling resort, the Monte Carlo Casino, for the fiscal year ended Mar. 31, 1931, totaled \$5,250,000 and gross expenditures were nearly \$3,000,000.

Under the constitution promulgated, Jan. 5, 1911, the government consists of the Prince, assisted by a council of state, and a national council elected by universal suffrage. Ruler in 1932, Prince Louis II (June 26, 1922). A decree issued by Prince Louis, Dec. 26, 1930, dissolved the Council of State, and National Council and suspended some of the constitutional guarantees (see 1930 YEAR BOOK).

**HISTORY** The financial condition of Monaco became difficult during 1932, as a result of the world depression, which caused a slump in the receipts of the gambling casino. It was reported on November 8 that Monaco had agreed to give France supervision of its customs and finances in return for 13,000,000 francs (about \$520,000) in cash and a perpetual annuity of 3,750,000 francs (about \$150,000). The proposed treaty, it was understood, would end the freedom from taxation long enjoyed by citizens of Monaco and would authorize France to fortify the Monaco rock. A treaty with France, embodying these provisions, was approved by Maurice Bouilloux-Lafont, Minister of State of Monaco, and was awaiting consideration by the French parliament. On Nov. 12, 1932, Monaco's budget deficit was placed at \$78,400.

**MONEY.** The table on page 523 from the annual report of the director of the United States Mint shows the distribution of the stock of money in the United States on June 30, 1932, June 30, 1931, June 30, 1930, Oct. 31, 1920, Mar. 31, 1917, June 30, 1914, and Jan. 1, 1879.

**MONEY RATES.** See FINANCIAL REVIEW.

**MONGOLIA.** A huge and vaguely defined region lying west of Manchuria and south of the Siberian territories of the Soviet Union. It is divided politically into Inner Mongolia, which is administratively a part of China, and Outer Mongolia, an independent soviet republic in close relations with the Soviet Union. The total area is roughly estimated at from 1,367,000 to 1,875,000 square miles and the population at about 2,000,000, mostly half-nomadic Mongols and Kalmyks,



with a small proportion of Chinese and Russians. The Mongols and Kalmuks live mainly by stock-raising, and furs, skins, hides, horns, and wool are the principal exports. The naturally fertile soil needs irrigation to be productive. Gold, iron, coal, copper, silver, and tin are found, but not extensively worked.

**INNER MONGOLIA.** In 1928, the Nationalist Government at Nanking made Provinces of the former special administrative districts of Jehol, Suiyuan, and Chahar into which a large part of Inner Mongolia and portions of adjacent Provinces in China had been divided (see CHINA and MANCHOUKIO under *Area and Population*). Chengteh, Kueihuacheng, and Kalgan are the respective provincial capitals. A steady influx of Chinese has extended the area under cultivation.

**OUTER MONGOLIA.** Established as an independent republic along Soviet lines in May, 1924, Outer Mongolia has an area of about 714,000 square miles and a population estimated in 1928 at about 676,000, of whom 579,000 were Mongols, 90,000 Russians, and 7,000 Chinese. The capital, Urga (or Ulan Bator Hoto), had about 60,000 inhabitants. Since 1924, Outer Mongolian trade has shifted to a large extent from China to the Soviet Union. Motor transportation was being developed and there was an air-line between Urga and Verkhneudinsk on the Trans-Siberian railway. Under the soviet régime, all lands, forests, minerals, waterways, and marine products were owned by the public, a strict monopoly of foreign trade was established, and the Mongol nobles and lamas (monks), were deprived of their privileges. Lamas comprised over 30 per cent of the total male population.

**HISTORY.** The situation in Outer Mongolia attracted increased attention during 1932, as a result of the consolidation of Japanese power in Manchuria. High Japanese officials explained that Japan's policy in Manchuria was in part designed to forestall a possible soviet attack from the Russian sphere of Outer Mongolia. They encouraged the establishment of a special Mongol-controlled province (Barga) in that part of Heilungkiang Province west of the Khingan Mountains, to serve as a buffer state between the Soviet Union and Japan. In August, 1932, it was reported that large Tibetan armies had advanced northward into Inner Mongolia with the object of overthrowing the Chinese administration there, and the soviet régime in Outer Mongolia, and forming a great Central Asia state. The campaign was said to have been inspired by the religious zeal of the Tibetans to free their fellow Buddhists in Outer Mongolia from soviet control. At the same time, riots and disorders were reported in Outer Mongolia. While Japanese sources on December 22 reported that an anti-soviet revolt had been successful, refugees arriving in Kalgan from Outer Mongolia toward the end of the month declared that soviet officials at Urga had frustrated an uprising in eastern Outer Mongolia and had crushed another rebellion in the West after heavy fighting. In order to pacify the region of the Altai Mountains, the sovietized Mongol leaders were said to have abandoned the Communist collectivization programme.

**MONTANA. POPULATION.** According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 537,606 as against 548,889 in 1920. Helena, the capital, had (1930) 11,803 inhabitants.

**AGRICULTURE.** The accompanying table shows

the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod. Bu.	Value
Wheat . . . .	1932	4,070,000	55,610,000	\$16,683,000
	1931	2,182,000	14,478,000	7,239,000
Hay . . . . .	1932	2,458,000	3,101,000 <sup>a</sup>	16,714,000
	1931	2,038,000	1,929,000 <sup>a</sup>	17,080,000
Oats . . . . .	1932	408,000	10,075,000	2,116,000
	1931	183,000	3,202,000	961,000
Sugar beets .	1932	56,000	765,000 <sup>a</sup>	( <sup>c</sup> )
	1931	54,000	617,000 <sup>a</sup>	3,706,000
Potatoes . .	1932	22,000	2,244,000	920,000
	1931	19,000	1,615,000	904,000
Dry beans .	1932	24,000	259,000 <sup>b</sup>	307,000
	1931	37,000	355,000 <sup>b</sup>	576,000
Corn . . . . .	1932	215,000	2,580,000	903,000
	1931	123,000	1,722,000	913,000
Barley . . .	1932	195,000	8,900,000	936,000
	1931	139,000	2,085,000	771,000
Flaxseed . .	1932	285,000	998,000	758,000
	1931	178,000	463,000	500,000

<sup>a</sup> Tons. <sup>b</sup> 100-lb bags. <sup>c</sup> Not available

**MINERAL PRODUCTION.** The aggregate value of the product of the five metals, copper, silver, zinc, lead, and gold, furnishing much the greater part of the yearly value of the State's mineral output, again declined greatly, for 1931. It fell by some 45 per cent, to about \$18,073,000; further, it fell to an estimated \$6,667,957 for 1932. The copper output diminished to 184,555,000 pounds (1931), and 84,717,000 (estimated 1932) from 196,187,523 (1930); in value, to \$15,312,000 (1931), from \$25,504,378 (1930). Zinc production decreased to 11,550,000 pounds (1931), from 52,841,108 (1930); in value, to \$438,900 (1931), from \$2,536,373 (1930). Lead production was reduced to some 8,610,000 pounds (1931), from 21,316,044 (1930); in value, to about \$310,400 (1931), from \$1,065,302 (1930). The silver output was cut to 4,076,872 ounces for 1931, from 8,596,966 for 1930, by value, to \$1,182,293 (1931), from \$3,309,832 (1930). For 1932 it was estimated at 1,671,000 oz.; in value, \$471,222. That of gold, to 40,901 oz. (1931), from 46,900 (1930); and in value, to \$845,500 (1931), from \$969,500 (1930). Gold production was estimated, for 1932 at \$823,773.

There were mined in 1931, 2,210,000 short tons of coal, as against 3,022,004 for 1930, the value of the product of 1931 declining similarly from the \$6,043,000 of 1930. Production of petroleum wells fell to 2,830,000 barrels (1931), from 3,349,000 (1930); by value, to \$2,730,000 (1931), from \$5,420,000 (1930). The output of natural gas, for which figures were not obtainable beyond 1930, rose to 10,060,000 M cubic feet (1930), from 9,659,000 M (1929); in value, to \$2,990,000 (1930), from \$2,377,000 (1929). A production of 12,680 short tons of arsenious oxide in 1930 was valued at \$732,886. The total value of the State's mineral product was \$50,995,123 for 1930; for 1929, \$93,842,135.

**FINANCE.** State expenditures in the year ended June 30, 1931, as reported by the U. S. Department of Commerce, were, for maintaining and operating governmental departments: \$7,375,734 (of which \$1,553,318 was for local education); for interest on debt, \$421,620; for permanent improvements, \$6,314,758; total, \$14,112,112 (of which \$7,181,215 was for highways, \$1,048,969 being for maintenance and \$6,132,246 for construction). Revenues were \$13,514,114. Of these, property and special taxes furnished 17.1 per cent; departmental earnings and compensation to the State for officers' services, 6.4; sale of licenses, 33.8 (in which was included a gasoline

sale tax that produced \$3,006,605). Funded debt outstanding on June 30, 1931, totaled \$5,588,735. Net of sinking-fund assets, the debt was \$2,985,712. On an assessed valuation of \$453,080,548 the State levied in the year ad-valorem taxes of \$2,056,831.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 5212.46. During the year previous, about 20 miles of line had been abandoned; about 4 miles put in operation.

**EDUCATION.** Though the districts were heavily hampered during the year by reduced revenues it was reported in December that 98 per cent of the public schools had up to that time maintained their terms on the basis of nine months a year. The number of persons of school age in the State was reckoned as 161,133. There were enrolled in the public schools 119,134 pupils. Of these, 90,040 were in common schools or elementary grades and 29,094 were in high schools. Expenditures of the academic year 1931-1932 for public-school education totaled \$13,331,192. The prevailing rates, by the year, of teachers' salaries were between \$600 and \$900 for rural schools; for those in towns and cities, from \$900 to \$1500.

**ELECTIONS.** The popular vote of November 8 was cast for the Democratic National ticket in the proportion of about 11 to 7. The reported totals were: Roosevelt (Dem.), for President, 127,286; Hoover (Rep.), 78,078. Gov. John E. Erickson, Democrat, was reelected, defeating Frank A. Hazelbaker, Republican candidate. One Democrat and one Republican were elected Representatives to the Seventy-third Congress.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, John E. Erickson; Lieutenant-Governor, Frank A. Hazelbaker; Secretary of State, W. E. Harmon; Treasurer, F. E. Williams; Auditor, George P. Porter; Attorney-General, L. A. Foot; Superintendent of Public Instruction, Elizabeth Ireland.

**Supreme Court:** Chief Justice, Lew L. Callaway; Associate Justices, John A. Matthews, Albert J. Galen, S. C. Ford, Albert H. Angstman.

**MONTANA, STATE UNIVERSITY OF.** A State institution for the higher education of men and women in Missoula, Mont., founded in 1895. The enrollment for the autumn of 1932 was 1457. In the 1932 summer session 710 students were registered, of whom 269 were men and 441 women. The faculty had 102 members. The productive funds and income for the year amounted to \$625,000. There were about 200,000 volumes in the library, including government documents. President, Charles H. Clapp, Ph.D.

**MONTE CARLO.** See **MONACO.**

**MONTENEGRO,** mōn'tā-nā'grō. A former Balkan kingdom incorporated in Yugoslavia in 1921. See **YUGOSLAVIA.**

**MONTSERRAT,** mōnt'sē-rāt'. One of the presidencies of the Leeward Islands. See **LEEWARD ISLANDS.**

**MONUMENTS, NATIONAL.** See **PARKS, NATIONAL.**

**MOON.** See **ASTRONOMY.**

**MOORE, ELIAKIM HASTINGS.** An American mathematician, died in Chicago, Ill., Dec. 30, 1932. He was born in Marietta, O., Jan. 26, 1862. After receiving his A.B. degree from Yale University in 1883 and his Ph.D. degree in 1885, he attended the University of Berlin, being ap-

pointed on his return in 1887 tutor in mathematics at Yale. In 1889 he was called to Northwestern University as assistant professor of mathematics, being advanced to associate professor in 1891. The following year he accepted a professorship at the University of Chicago, and from 1896 until his retirement as professor emeritus in 1931 was head of the mathematics department at that institution. He edited the *Transactions* of the American Mathematical Society from 1899 to 1907, and was president of that society during 1901-03. He served also as vice-president of the International Congress of Mathematicians in Cambridge in 1912 and as president of Section A (mathematics) of the American Association for the Advancement of Science in 1921. He was a member of the National Academy of Sciences, an associate fellow of the American Academy of Arts and Sciences, and a fellow of the American Association for the Advancement of Science.

**MORAVIA AND SILESIA.** A Province of Czechoslovakia. See **CZECHOSLOVAKIA** under *Area and Population.*

**MORAVIANS.** A religious denomination comprising, in the United States, three branches: The Moravian Church (Unitas Fratrum); the Evangelical Union of Bohemian and Moravian Brethren in North America; and the Independent Bohemian and Moravian Brethren Churches. It was formed in Bohemia in 1457 under the leadership of John Huss and Jerome of Prague, and opposed the efforts of Austria and the Roman Catholic authorities to suppress it. In 1741 Moravians, settling at Bethlehem, Pa., founded the first Moravian church in the United States. The doctrine is evangelical, without a creed peculiar to itself, and in its polity the denomination follows a modification of the episcopacy, having a ministry of three orders: Bishops, presbyters, and deacons.

**THE UNITAS FRATRUM,** the largest branch, is organized in the United States in two coordinate provinces: the Northern, with a provincial synod meeting every fifth year; and the Southern, of which the provincial synod meets every third year. The church maintains the following four educational institutions: Linden Hall, Lititz, Pa., Moravian College and Theological Seminary, and Moravian Seminary and College for Women, Bethlehem, Pa.; and Salem Academy and College for Women, Winston-Salem, N. C. Missionary workers are maintained in southern California and Alaska, and in Nicaragua, Honduras, the West Indies, Jamaica, Labrador, Surinam, South America, the Himalayas, Unyamwesi, Central Africa, and South Africa. The official periodical, *The Moravian*, is published weekly in Bethlehem, Pa.

On Jan. 1, 1932, there were in the United States 149 churches; 170 ministers; 27,396 communicant members, although the actual membership was estimated at 37,677; and 137 Sunday schools with 24,292 pupils. The five "home provinces" of the American and European branches had a total membership of 57,714. In Europe there were also affiliated societies, known as "Diaspora," with a membership of about 30,000. The foreign missions had a membership of 143,191. A world conference of Moravians was held in Herrnhut, Saxony, in June and July, 1931, for the purpose of reestablishing the International Moravian Church (Unitas Fratrum) on a somewhat different administrative basis than heretofore.

**MORMONS.** See LATTER-DAY SAINTS, CHURCH OF JESUS CHRIST OF.

**MOROCCO.** Occupying the northwestern corner of the continent of Africa, Morocco is divided into three zones: First and most important, the French protectorate, including approximately 85 per cent of both area and population, with Rabat as the political capital and Casablanca as the leading port and commercial centre; second, the Spanish protectorate, a narrow strip of land extending for about 300 miles from the Atlantic Ocean along the Mediterranean, with Ceuta, Melilla, and Tetuan as the principal localities; and third, the international Tangier zone administered in accordance with the terms of the Paris protocol of July 25, 1928, adhered to by France, Great Britain, Spain, and Italy. The total area is about 213,350 square miles divided roughly as follows: French Zone, 200,000; Spanish Zone, 13,125; Tangier Zone, 225.

**FRENCH MOROCCO.** The area effectively occupied by the French in 1931 was about 162,162 square miles, in which the census of 1931 showed 5,057,449 inhabitants, compared with 4,229,146 at the census of 1926. In 1929 births numbered 8141 and deaths 6625. The population of the chief cities in 1931 and 1926, respectively, was: Marrakech, 191,936 (149,263); Casablanca, 160,418 (106,608); Fez, 106,858 (81,172); Rabat, 53,000 (38,044). The population consisted of 4,230,000 Islamized Berbers and Arabs, 120,000 native Jews, and 150,000 foreigners. The total school enrollment in 1930 was 50,453, of whom 27,086 were in European schools, and 11,914 in Israelite schools.

**Production, Etc.** Farming and stock raising are the chief occupations. In 1929-30 there were 8,885,000 acres of arable land (8 per cent of the total area), 281,000 acres of trees, shrubs, and bushes, 11,614,000 acres of grazing land, and 4,942,000 acres of woods and forests. Wool production from 6,613,000 sheep was 21,867,000 pounds in 1931 (19,300,000 pounds in 1930). Other livestock were (1931) 1,965,000 cattle, 3,195,000 goats, 91,000 swine, 209,000 horses, 680,000 mules, and 116,000 camels. Production of the chief crops in 1931 was: Wheat, 29,684,000 bushels; barley, 58,619,000 bushels; oats, 1,660,000 bushels; corn, 5,326,000 bushels; linseed, 932,000 bushels; wine, 7,925,000 gallons; olive oil (in 1931-32), 2,628,000 gallons. Although iron ore, coal, zinc, lead, and manganese deposits exist, phosphate is the principal mineral exploited; production in 1931 was 900,723 metric tons (1,779,000 tons in 1930). The phosphate industry is a state monopoly. Manufacturing is relatively unimportant.

There is normally a large excess of imports over exports. In 1931, imports and exports were valued at \$81,665,000 and \$30,029,000, respectively, as compared with \$86,572,000 and \$28,195,000, respectively, in 1930. Manufactured products, consisting principally of cotton goods, automobiles, gasoline, oils, cement, and rails, are the chief imports, while eggs, palm fibre, wheat, and other agricultural products are the chief exports. France furnished 59.7 per cent of the imports and took 40.9 per cent of the exports in 1930. The ordinary budget for the fiscal year ended Mar. 31, 1932, placed receipts at 921,725,000 francs (franc equals \$0.0392) and expenditures at 921,312,000 francs. The public debt on Jan. 1, 1932, stood at 1,750,210,000 francs (\$68,608,000), as against 1,030,624,000 francs

(\$40,400,000) on Jan. 1, 1931. The debt increase was due to the action of the government in guaranteeing private loans for railway and port developments. Railways, extending 1433 miles (1929), reported gross receipts equivalent to \$5,912,000 in 1930. There were 2764 miles of motor highways. Vessels entering the ports in the foreign trade in 1930 numbered 2208, of 3,482,000 net registered tons.

**Government.** While nominal authority is vested in the Sultan of Morocco, who resides in the French Zone, usually at Rabat, effective authority is exercised by the French Resident General, who possesses the power of veto over all the Sultan's edicts and decrees. Local administration is supervised by native caids and French agents, or controllers. Sultan in 1932, Sidi Mohammed. French Resident General, M. Lucien Saint, appointed Jan. 2, 1929.

**SPANISH MOROCCO.** The Spanish Zone (area, about 13,125 square miles) had an estimated population of 600,000, including some 38,000 Europeans and 11,000 native Jews. The chief towns are Tetuan (the capital), 38,000; Melilla, 61,000; Ceuta, 52,000; Larach, 26,800. Agriculture and tunny fishing are the chief industries, although some iron ore is mined in the Melilla district and exported. European colonization is spreading into the fertile Guis valley. Eggs, livestock, iron ore, and farm products are the chief exports; wines, textiles, tea, sugar, and candles the chief imports. In 1930, imports were valued at 88,033,000 gold pesetas and exports at 30,609,000 gold pesetas (peseta equaled \$0.1929 at par). In order to balance the budget accounts, the Spanish government normally contributed almost half of the total expenditures. The budget for 1929 balanced at 59,184,799 pesetas. Peseta exchange (par \$0.193) averaged \$0.0954 in 1931, \$0.1167 in 1930, and \$0.1468 in 1929. Daily boat services connect Melilla and Ceuta with the Spanish cities of Algeciras and Malaga. There are about 530 miles of hard surfaced highways. The administration is actually controlled by a Spanish high commissioner resident at Tetuan, but nominal authority is vested in a Khalifa, chosen by the Sultan of Morocco from a list of two candidates chosen by the Spanish Government. Khalifa in 1932, Sidi Muley Hassan Ben el Mehedi, Spanish High Commissioner, Luciano Lopez Ferrer, appointed June 20, 1931.

**TANGIER.** See separate article on TANGIER.

**History.** In pursuance of plans to unite Morocco and Algeria and to tap the reputedly rich mining districts of the South Atlas by a railway from the port of Agadir, the French during 1932 continued their combined military and political operations in the southern part of the Atlas Mountains. The submission of some 15,000 tribesmen, after serious fighting, was reported from Rabat on September 16. An unauthenticated report from Madrid to the *New York Times* (October 28) stated that 100,000 troops had been engaged in the summer's operations and had forced the submission of 80,000 families. The escape of some of the rebellious tribesmen into Spanish Morocco led to an agreement between the French and Spanish authorities to cooperate in forcing their surrender.

Early in the year the republican government at Madrid announced its policy with regard to Spanish Morocco. Instead of withdrawing from Morocco, as had been rumored, Spain would proceed vigorously to develop the territory, but un-

der a programme of rigid economy. It was officially stated that the Spanish Foreign Legion in Morocco would be disbanded and that Spain would police the turbulent region by soldier-colonizers, who would be encouraged to take up land and establish themselves permanently there. A revolutionary plot in Spanish Morocco, headed by Abd-el-Krim's lieutenant, Adselam Ben ad, was frustrated on December 19, according to the Colonial Office at Madrid. Notwithstanding this, the Spanish government on December 28 ordered the withdrawal of some 10,000 troops from Morocco, leaving a force of 25,405 regulars, 9184 Moors, and 4404 members of the Spanish Foreign Legion. This indicated that the Foreign Legion had not been wholly disbanded.

**MORPHOLOGY.** See BOTANY.

**MORTALITY RATES.** See VITAL STATISTICS, and each country under *Arca and Population*.

**MOSLEM CONGRESS.** See PALESTINE under *History*.

**MOTHERS' AID.** See CHILD WELFARE.

**MOTHS.** See ENTOMOLOGY, ECONOMIC.

**MOTION PICTURES.** In at least one way, the course of the cinema in 1932 was an almost complete reversal of what occurred in the preceding year. Where in 1931, the bankers were busy ousting the veteran amusement magnates and assuming active control of production in the industry, last year found them just as busily engaged in getting out of the business of production and restoring it to its former owners. Audiences at the film theatres continued to fall off rather sharply and there was much talk in Hollywood about the need for retrenchment, the cutting of pre-depression salaries, and the curtailing of unnecessarily lavish expenditures, even though little actually was done in the field of economy. Yet, if the motion picture industry faced a particularly difficult year financially, the cinema as a distinctive dramatic medium did show definite signs of progress.

For one thing it provided evidence of developing a social conscience. Perhaps the most important American photoplay of the year was *I am a Fugitive from a Chain Gang*, adapted from Robert E. Burns's autobiographical account of prison conditions in the South. It possessed a grim, realistic directness that was both dramatically impressive and rather chillingly credible, and it had a very definite quality as an editorial document. Less powerful, but in the same tradition of social criticism, were such pictures as *The Man I Killed*—also called *Broken Lullaby*—which dealt with pacifism and national hatreds, and *The Wet Parade*, an inferior photoplay which attempted to present fairly both sides of the controversy over prohibition, and in its endeavor to be reasonably impartial, failed rather dismally. In addition there were works devoted to political satire (*The Phantom President*); indignant contemplation of political conditions (*Washington Merry-Go-Round* and *Washington Masquerade*); earnest exposés of shyster lawyers (*The Mouthpiece*) and even grave considerations of the possibilities of evil in college athletics (*The All-American* and *Sport Parade*).

There was developed, too, an interest in picturesque biographies of recent figures of minor, but racy, historical interest. In *The Match King* a mild and feeble attempt was made to dramatize the career of that late international adventurer, Ivar Kreuger. More successful was the

picture in *Silver Dollar* of H. A. W. Tabor, one of the founding fathers of the city of Denver. Here was a brisk and hearty portrait of a man, who was made to stand as a symbol of his epoch. *Silver Dollar* was of chief interest as representing one of the most successful efforts of the cinema to dramatize the robust annals of pioneer America, and it seemed to many observers that, without making any effort to be lavish and spectacular, the film recaptured more of a period than such an elaborate photoplay as *Cimarron*, of a year ago, was able to achieve.

Another favorite subject of the screen during 1932 was its own native habitat of Hollywood. As if to display its sportsmanship, the motion picture made a relentless version of *Once in a Lifetime*, that contemptuous comic assault on the dignity of the cinema and its practitioners, which was one of the great recent Broadway stage hits. More sympathetic in its treatment, but possessing its traces of satire, was *What Price Hollywood*, a fresh and lively canvas, which managed quite dexterously to be both a defense of the cinema capital, and a humorous contemplation of its frailties. The other films upon the subject were negligible, since they were never able to maintain their attempted balance between praise and condemnation, and rambled heavily.

The year showed definite signs of marking the close of two important cinema cycles—those of the gangster picture and the horror pictures. Photoplays were still manufactured in these once-popular moods, but there was evidence that they belonged definitely to outmoded schools. It was *Scarface*, the long-delayed and wholesalely homicidal gang melodrama, which handled the subject with such completeness that it seemed to make no further word on the subject necessary for a while. It was this, rather than any disapproval on the part of the censorious, which caused the producers to cut down on the flow of the machine gun melodramas. The horror cycle lingers on, chiefly because of the popularity of Boris Karloff, the successor to the late Lon Chaney as the screen's specialist on grotesque disguises, but since the production of a particularly clumsy work called *White Zombie* these nightmare films have appeared to be less prevalent. One of the best was *Freaks* which took place in a circus sideshow, and which dealt with torture and mutilation.

There were not many musical comedy films produced, but at least two of them seemed to most of the critics among the highest spots reached by this difficult and rather hybrid medium. René Clair, the French director who is the recognized master of satirical musical pictures, was represented by *A Nous la Liberté* and Rouben Mamoulian, who followed in his tradition, directed what is perhaps the most effective American photoplay of this manner in *Love Me To-Night*. The excellence of this work was due in considerable part to the lively and engaging musical score arranged for it by Richard Rodgers and Lorenz Hart. Ernst Lubitsch's *One Hour with You* was another brilliantly managed musical comedy film.

Lubitsch, one of the recognized masters of his craft, stepped out of his customary field to make the poetic drama called originally *The Man I Killed*, which has already been referred to. Adapted from a play by the Frenchman, Maurice Rostand, this drama of a sensitive young French soldier, who felt that war had made him a mur-





"MAEDCHEN IN UNIFORM"



"SILVER DOLLAR"

Edward G. Robinson and Aline MacMahon

MOTION PICTURES



"MAEDCHEN IN UNIFORM"



"SILVER DOLLAR"

Edward G. Robinson and Aline MacMahon

MOTION PICTURES



"CAVALCADE"  
Clive Brook and Diana Wynward



"I AM A FUGITIVE FROM A CHAIN GANG"  
Featuring Paul Muni

on Lake St. Clair at Detroit over the Labor Day week-end, when *Miss England III's* twin motors broke down. Wood had a mere run-around of the course to win. Two weeks later, out on the St. Clair River, at Algonac, Mich., Wood opened the throttle of his huge power plant of 6500 horse power and whirled over the measured mile in better than two miles a minute speed. She set the mark for all time unlimited hydroplanes at 124.86 m.p.h.

The Gold Cup and the President's Cup speed-boat races drew small fields, and were won, as has been the case in recent years, by rejuvenated craft, previously tagged for the scrap pile. *Delphine IV*, owned by Horace Dodge and driven by Bill Horn, set a 30-mile heat record of 59.21 m.p.h. and a total race record of 57.77 m.p.h. in winning the Gold Cup at Montauk Point, L. I. in August. She was a seven-year-old boat, and *El Lagarto*, runner-up, was eleven. *Delphine IV* also won the president's Cup, after *El Lagarto*, George Reis's defending champion, had taken the first heat and had then become disabled in a trial spin.

In outboard competition speed records were also hoisted and several drivers were able to race their boats to 50 m.p.h. or better. Art Sauerberg of St. Louis, in a time trial, drove his boat at 58.915 m.p.h., the fastest speed ever attained by an outboard. Charles Cabot of New Haven, Conn., won the annual Albany to New York race, in which there were 97 entries. Yale won the intercollegiate outboard championships at Lake Skaneateles, N. Y., beating Princeton by thirteen points, 5459 to 5446. Yale's team was composed of Chester Wickwire, Dudley Rockwell, and Paul Sawyer. George H. Townsend, president of the American Power Boat Association, offered a medal for high score among the outboard drivers of the United States and it was won by Jack Maypole, of River Forest, Ill., with 11,738 points.

**MOTOR CARS, BUSES, TRUCKS, ETC.** See AUTOMOBILES; RAILWAYS; ROADS AND STREETS; TAXATION under *Vehicle and Gasoline Taxes*.

**MOTOR RACING.** See AUTOMOBILE RACING.

**MOTORSHIPS.** See SHIPBUILDING.

**MOTOR VEHICLES.** See AUTOMOBILES.

**MOTOYAMA, HIKOCHI.** A Japanese publisher, died in Osaka, Dec. 30, 1932. Born in Kumanoto in 1853, he attended the Keio-gijuku and began his career as an official of the Hyogo prefectural government. From 1882 to 1886 he was financial director of the Osaka newspaper, *Jiji Shimpō*, and from 1886 to 1892 an executive of the commercial firm, Fujita Gumi, for which he directed reclamation work in Kojima Bay. He then acquired the Osaka *Mainichi* and a few years later the Tokyo *Nichi-nichi*. At the time of his death the combined daily circulation of these papers, and of their English edition, exceeded 3,000,000. The Osaka *Mainichi* published also the Japanese Sunday *Mainichi*, a weekly; the *Economist*, a bi-monthly; and the Braille *Mainichi*, a weekly for the blind. He was influential in the industrial life of Japan, being a director of the Nankai Railway Co., the Meiji Life Insurance Co., and other concerns. Among the philanthropic enterprises which he established were the Mainichi Charity Corps, which gave free medical treatment to the poor; the Better Farming Society, which devoted itself to the improvement of agriculture; and a hospital ship for welfare work among the inhabitants of the coastal villages. The Emperor honored him by making him a mem-

ber of the House of Peers and by conferring on him the Second Order of Merit.

**MOUNTAIN CLIMBING.** See EXPLORATION; POLAR RESEARCH.

**MOUNT HOLYOKE COLLEGE.** An institution for the higher education of women in South Hadley, Mass., founded in 1837. The registration for the autumn session of 1932 was 1006. The faculty, including professors, associate professors, assistant professors, instructors and chief administrative officers, numbered 137, and there were 54 assistants, graduate assistants, curators, and secretaries. The endowment funds amounted to \$4,520,083 and the income for the year was \$1,234,688. The total amount of gifts and bequests during the year 1931-32 was \$552,166. There were 126,000 volumes in the library. President, Mary Emma Woolley, Litt.D., L.H.D., LL.D.

**MOVABLE BRIDGES.** See BRIDGES.

**MOVING PICTURES.** See MOTION PICTURES.

**MOZAMBIQUE (PORTUGUESE EAST AFRICA),** mō'zām-bēk'. A colony of Portugal, occupying the east coast of Africa between Tanganyika Territory and the Union of South Africa. Area, 287,756 square miles; total (1930) population 3,514,602 including about 17,842 Europeans. The colony is divided into the state-administered Province of Mozambique (area, 235,700 square miles) and the territory of Manica and Sofala administered from Beira by the Mozambique Company under royal charter; area, 52,056 square miles; population, 313,927 (3616 Europeans) in 1928-29. Lourenço Marques (population, 37,307) is capital of the Province.

The chief products are sugar, maize, cotton, and minerals. For 1929, imports into the Province totaled 14,001,545 escudos gold; exports, 11,335,517 escudos gold (1 escudo gold equals \$1.08). Imports and exports of the chartered territory (1928) were 6,336,000 and 2,436,000 escudos, respectively. The budget of the Province in 1931-32 was estimated to balance at 313,618,127 escudos. In the chartered colony receipts for 1928 totaled about 64,758,000 escudos and expenditures about 44,570,000 escudos.

The principal ports are Mozambique, Beira, Lourenço Marques, Porto Amelia, and Quelimane. In 1930, 838 vessels of 3,887,669 tons entered and 833 vessels of 3,863,571 cleared the port of Lourenço Marques; 432 vessels of 1,644,271 tons entered and 433 of 1,645,192 tons cleared the port of Beira. The Province is under a governor-general, assisted by a governor in each of the six districts. There is a military force of about 3900 men (2400) natives. Governor-General in 1932, José Cabral.

**MUNICIPAL GOVERNMENT.** Overshadowing all other events in the municipal field was the financial plight of the cities during the depression. This began to be acute in some cities in the latter part of 1931 but it was not generally realized until 1932. Even then the officials of many cities were slow to institute retrenchments, notwithstanding the urgent demands of taxpayers. As the year went on city, county, and State taxpayers' associations were organized in rapidly increasing numbers until by the close of the year there were thousands of these organizations. Their pleas for the reduction of budgets and taxes were supplemented by chambers of commerce and other bodies, commercial and civic. Surprisingly little heed was given to these demands until the cities were brought up short by

their inability to get money to meet their expenses. While these had been running higher and higher tax collections had fallen off, and bonds for permanent improvements initiated in better times became unsalable, thus stopping construction work and adding to the unemployed. It became harder and harder to raise money for operating expenses. Loans were negotiated with difficulty and in numerous instances denied. Beginning early in the year and continuing to its end bankers insisted on reductions in budgets and on retrenchment after the budgets had been adopted. Notable instances of such bankers' pressure were afforded by New York City, Newark, N. J., Philadelphia, Detroit, and Chicago.

In *New York City* the financial emergency was so great in January that the bankers, after insisting on retrenchments, made a short-term loan of \$100,000,000 at the high rate of 6 per cent and agreed to provide a revolving fund of \$150,000,000 more, at 5½ per cent. The retrenchments consisted of stopping the construction of public improvements totaling scores of millions. As the year drew toward a close the city again found itself at the end of its financial rope. It had adopted a budget somewhat under the large one of the previous year, but reduced chiefly by protracting the time of repayment of subway bonds. It had failed to reduce salaries, after two attempts. Again, the bankers took a hand. They called attention to the fact that the city authorities had failed to carry out an economy resolution adopted to obtain financial aid in January. The bankers agreed to loan money needed for the present and immediate future provided the city would appeal to the Governor to call a special session of the Legislature to authorize reopening the 1933 budget, with the understanding that cuts totaling \$40,000,000 would be made, about equally divided between salaries and other expenses. The needed legislation was obtained and at the close of the year the city authorities had taken steps to cut salaries of \$2000 and over on a sliding scale representing 5 per cent on salaries between \$2000 and \$3000 and on up to 25 per cent in salaries of \$15,000 or more.

At *Chicago* complications arising from tax assessment methods have added to all the difficulties incident to the depression. Necessity for a re-assessment of property threw the tax bills two years or so behind; then a lawsuit over the validity of 1928 and 1929 tax assessments held up tax collection and cast doubts on the validity of the 1930 taxes as well. Meanwhile tax strikes were organized. The Legislature set up new tax assessment machinery. The court sustained the legality of the 1928-1929 assessments, so the situation was much improved at the close of 1932. But through the year salaries were in arrears and where salary warrants or scrip had been issued they were cashed at heavy discounts.

With variations due to local conditions, a number of other large cities and hundreds of smaller ones were financially embarrassed during the year. Reductions in budgets and tax rates were common. These were effected by curtailing services and cutting salaries. Early in the year there was much resistance to salary cuts but the emergencies confronted lessened the resistance as the year wore on. The greatest resistance came from policemen, firemen, and school teachers, who in more prosperous times had obtained local and State action increasing their pay and forbidding its reduction. To overcome this resist-

ance the method commonly employed was to get the consent of the protected to deductions from their pay with the understanding that it would not permanently reduce their salaries or affect their pensions. In the case of New York City, already mentioned, recourse to the Legislature was necessary to set aside mandatory salaries.

Few Legislatures met in 1932 but most of them will be in session in 1933 when salary and other legislation tying the hands of cities in controlling their expenses is likely to be attacked. The necessity of this becomes evident when it is understood that the combined debt service and salary payments of most cities make up half or more of their total expenses. Debt service already incurred must be met. Salary cuts are therefore the main possibilities in efforts to cut expenses to meet decreasing revenues.

The decrease in city revenues arises not only from decreased collection of taxes levied but also from a decline in tax payments due to shrinkage in assessed valuations and to reductions in tax rates. Of 256 cities of 30,000 population or more 112 increased and the same number decreased their tax rates for 1932 as compared with 1931 while 32 reported no change. The average for the 256 cities was \$35.03 in 1932 against \$34.99 in 1931, a rise of 4 cents. These figures are actual tax rates. Readjusted to a 100 per cent valuation there was an increase from \$25.39 to \$26.31 or 92 cents. Of the 256 cities, 149 increased their rates, 95 reduced theirs, and 12 reported no change. The increase in the average rates are attributed to higher ratios of assessed to the legal basis of valuation, and to reduced assessments. As to the latter, only 40 of the 256 cities increased their valuations in 1932 while 149 reduced them and 67 reported no change. At least 115 of the 256 comparable cities reduced their total tax levy in 1932. (For a more detailed comparison, and for the actual figures, see Rightor "Comparative Tax Rates for 277 Cities in 1932," in the *National Municipal Review* for December, 1932.)

Offsetting salary cuts and other reductions in expenses was the enormous increase in unemployment relief and other aid to the impoverished. Expenditures for these purposes in 125 cities of 50,000 or more population were 87 per cent higher in July, 1932, than for the same month in 1931, the total payments being \$21,700,000 in July, 1932, in this group of cities containing one-fourth of the population of the United States. In 20 cities showing large increases in July, 1932, over July, 1931, the percentages ranged from 75 in Boston to 2150 in Wilmington, Del. Because of lack of funds, the Los Angeles area showed a decrease of 71.2 per cent; Detroit area, 23.5; Philadelphia, 54.3 per cent. (See Bane, "Feeding the Hungry," in the *National Municipal Review*, for November, 1932.)

In contrast with the bitter conflicts over salary and wage reductions in scores of cities and the sometimes arbitrary and generally haphazard methods of scaling them down, is the method in vogue at St. Paul, Minn., where readjustments have been made from time to time in the past 10 years on the basis of the cost-of-living index numbers of the U. S. Bureau of Labor Statistics. The adoption of this method was preceded by a standardization of salaries and wages under 27 classifications which include the entire civil service of the city. In the earlier years, the readjustments were upward. In 1931, a slight cut

was indicated and made. When a second and higher cut was indicated for 1932 a moratorium was asked and granted, but for the last half of the year a cut was made. (For the history of the St. Paul plan and its workings in detail see Herbert, "St. Paul's Fair Wage System," in the *National Municipal Review* for October, 1932.)

Statutory limitations on tax rates have existed in many States for years but probably none so drastic as those enacted by Indiana and Michigan in 1932. Indiana fixed a rate of \$1.50 per \$100 on all taxable real estate and personal property—\$0.15 for the State and \$1.35 for counties, cities towns, and school districts. The average rate for State and local taxes in 1931 was \$2.80 on a combined valuation of five billions. Reappraisements cut the valuation to four billions for 1932. The net result of the new tax limit and the reduced valuation is to cut the amount payable from \$28 to \$12 per \$1000. Realizing the impossible situation thus created, the statute permits a higher but unstated rate in case of emergencies, to be fixed on request of the taxing district by the county board of adjustment—on which the cities, towns, and school districts have no representative. In Michigan a constitutional amendment was adopted limiting tax rates for all purposes to 1½ per cent of the assessed valuation, but providing that it may be raised for a limited period to not over 5 per cent if authorized by referendum vote.

In some cities payment of taxes by installments in place of the general method of yearly or semi-yearly payments was authorized during the year. Thus, at Portsmouth, Va., taxes formerly became due November 1 and delinquent December 1, with a 5 per cent penalty, and with 6 per cent interest beginning January 1. This was changed to permit payment in installments, as frequently as weekly if desired, with 6 per cent interest credit on the advance payments until the tax-due date. By this means the amount to be raised by tax-anticipation loans was reduced.

Changes in the framework of city government through new or amended charters, including adoptions of the city manager plan, were fewer than in earlier years. Two California counties voted in November on the adoption of the manager plan. The plan was voted down in Mendocino County. San Mateo County, adjoining San Francisco, adopted a county-executive charter, 16,541 to 8592. Five county supervisors will be elected at large, one from each of five districts. They will appoint a county executive from a list submitted by a "qualification board" of five, of whom two will be supreme court judges selected by the presiding judge, one the superintendent of schools, one chosen by these three, and one selected by the county supervisors but not a supervisor. The county executive appoints the members of the health and welfare board, an engineer and surveyor, a building inspector, a coroner, the tax collector, treasurer, purchasing agent, recorder, and recreation commissioner—all for terms of four years. All these appointments are subject to confirmation by the supervisors who also fix the salaries of the appointees. Of the other executives and administrative officers, some are appointed by the supervisors and some are elected. Altogether the set-up is not true to the manager type. The charter becomes fully effective July 1, 1933.

Two attempts to recall a mayor were defeated, one at Atlanta and the other in Los Angeles. In

both cases one of the charges was ridicule brought on the city by the mayor in refusing to drink a toast while on a tour of mayors in France. The Atlanta recall was also sponsored by labor leaders and others opposed to salary cuts advocated by the mayor. Los Angeles was one of the early cities to adopt the recall. It recalled a mayor in 1909. In New York, James Walker resigned as mayor at the close of a hearing before Governor Roosevelt on various allegations made by Samuel Seabury, counsel for a legislative committee appointed in 1931 to investigate the government of the city. Late in the year, three plans for a new charter for New York were made public: one laid before the investigating committee by Ex-Gov. Alfred E. Smith; one formulated by Mr. Seabury; the third tentatively outlined by a committee created by Mayor-elect O'Brien.

A number of cities and special districts applied to the Reconstruction Finance Corporation (see UNITED STATES) for self-liquidating loans for public improvements.

At the close of 1932 there were 445 municipalities with or about to have city managers; 428 in the United States; 1 in Puerto Rico; 13 in Canada; 3 in Ireland. For distribution by States and cities and other details see *City Manager Year Book*, 1933 (Chicago).

**BIBLIOGRAPHY.** Notable books of the year were: Forbes, *Purchasing for Small Cities* (New York); Industrial Conference Board, *Cost of Government in the United States* (New York); Ridley and Nolting, *City Manager Year Book*. Consult also a series of articles on municipal costs and administration and the demand for tax reduction in the time of depressions, by various specialists, in *Engineering News-Record*, February 25, March 3, 10, and 31, July 7 and 14, and December 22; Honay, "Austrian Cities in the Financial Crisis," Hodges, "The Depression in German Cities," and Betters, "The Crisis in German Municipal Finance," in *National Municipal Review*, May, October, and November.

**MUNICIPAL LEAGUE, NATIONAL.** See NATIONAL MUNICIPAL LEAGUE.

**MUNICIPAL OWNERSHIP.** *New York City* began the operation of its Eighth Avenue rapid transit subway in September, greatly increasing its municipally-owned subways and starting to operate this one with its own equipment and personnel. The other lines are leased and privately operated. Construction was begun in 1925. The line put in use extends from Chambers Street to 207th Street, a distance of 12.3 miles. Extensions nearly completed will carry the line into Queens and also into Brooklyn Borough. See RAPID TRANSIT.

The city-owned Cincinnati & Southern railway from Cincinnati to Chattanooga, 339 miles, came to the front through a lawsuit brought by Cincinnati taxpayers against the lessee, the Southern Railway, to prevent the removal of some of the railway offices to Atlanta. The city has owned this railway for over half a century. It receives a yearly rental of \$1,200,000 for the line. An unusual municipal enterprise is the St. Paul (Minn.) City Bank, established some years ago. Early in 1932 a total of \$9,662,000 of "participating certificates" in the profits of the bank were held by 8000 investors. The bank owned \$9,700,000 of St. Paul city bonds, generally bearing 4 and 5 per cent coupons. Certificate holders are now paid 3 per cent, a reduction from 4 per cent paid earlier.

Cities in *Germany* are suffering from deficits in municipally-owned utilities and other services acquired since the War. These include electric and gas works, airplane fields, hospitals, bath houses, museums, theatres, hotels, information bureaus, and advertising signs, "to mention only a few," says a writer in the *National Municipal Review* for September, 1932. With the depression came deficits from the operation of many of these activities. Some of the services have been reduced and some abandoned.

Of 10,789 water works in the United States, according to statistics gathered by R. E. McDonnell, 7853 were publicly and 2936 privately owned, or 73 and 27 per cent, respectively. Municipal ownership prevailed in the 20 largest cities of the United States and in all but 9 of the cities that had a population of 100,000 or more in 1930.

**BIBLIOGRAPHY.** Bird, *The Management of Small Municipal Lighting Plants* (New York); McDonnell, *Rates, Revenues and Results of Municipal Ownership of Waterworks in the U. S.* (Kansas City, Mo.); Raver and Sumner, *Municipally Owned Electric Utilities in Nebraska* (Chicago).

**MUNICIPAL PLANNING.** See CITY AND REGIONAL PLANNING.

**MURAL PAINTING.** See PAINTING.

**MURDER.** See CRIME.

**MUSEUM OF THE CITY OF NEW YORK.** See ART MUSEUMS.

**MUSEUMS.** See ART EXHIBITIONS; ART MUSEUMS.

**MUSICIANS SYMPHONY ORCHESTRA.** See MUSIC.

**MUSIC.** GENERAL NEWS. As during the two preceding years, the unfavorable economic conditions prevailing throughout 1932 had their effect upon musical activities. In the United States, where most of the major musical institutions had hitherto been able to weather the economic storm, the Chicago Civic Opera and the Philadelphia Grand Opera Company decided to give no performances in 1932-33. This left the Metropolitan Opera of New York as the only organization of this type still giving an extensive season in this country. In Europe the principal institutions, for the most part, held their own, although some of the state-directed opera companies had to face reductions of subsidies.

In New York, where there was an especially large number of unemployed musicians, the Musicians Emergency Aid, organized in December, 1931, conducted a campaign to obtain \$300,000 for their relief. It continued its activities after this goal had been reached in the spring, deciding to become a permanent relief organization under the title of the Musicians Emergency Foundation. Funds were raised both through individual contributions and large-scale benefit concerts. There as elsewhere, relief in several cases took the form of providing employment for musicians rather than giving direct financial aid.

The 200th anniversary of the birth of Josef Haydn (March 31), was observed by musical organizations both in America and Europe. Vienna held a Haydn festival in April, and, in connection with it, opened a Haydn exhibition at the Municipal Museum. Haydn festivals or special observances were also held in the smaller cities of Austria and elsewhere in Europe. In America, there was no specially designated Haydn festival, but many organizations and individuals commemorated the anniversary by giving Haydn's music a considerable place in their programmes;

his oratorios *The Creation*, and *The Seasons* were performed in several of the important American spring festivals. A little known comic opera by Haydn, *Life on the Moon* was given in March at Schwerin, Germany, in an arrangement by Mark Lothar.

The centennial of Goethe's death also found observance in many points by performances of music inspired by or based upon Goethe's works. The twenty-fifth anniversary of the foundation of the MacDowell Colony at Peterborough, N. H., was observed throughout America in the autumn, when orchestras and other organizations featured MacDowell's music on their programmes.

In January the Berlin Symphony Orchestra under Ernst Kunwald performed an early incomplete violin concerto by Beethoven with Juan Manen, who had finished and arranged the solo. A recently discovered quartet by Schubert for guitar, flute, viola, and cello had its first performance in Madrid in April. A more modern rediscovery was *Pinotta*, an opera written by Mascagni at the age of seventeen, which was performed at San Remo in the spring under the composer's direction. He had left the score with his landlord as security for a debt, and the work was not brought to light until 1931.

In Paris, the unveiling of a monument to Debussy was accompanied by special ceremonies on June 17, including a concert at the Champs-Élysées Theatre conducted by Philippe Gaubert, Gabriel Pierné, and Arturo Toscanini.

The winning number in an Italian national song contest, Ennio Porini's *Traccas* for tenor and piano, was first performed at Milan in the spring, and described as by long odds the strongest new work that had come to light of late in Italian concert halls. Two hundred singers and violinists took part late in the spring in an international contest in Vienna. Karoly Szenassy, a Hungarian, and Giconda de Vito, an Italian, were the winning violinists. The first prize for singers was divided among five aspirants.

In America the \$1000 Hollywood Bowl composition prize contributed by Kathryn Yarnell was won by H. Waldo Warner with his *Hampton Wick*, after Martin Chuzzlewit. Hans Jelinek, a young Viennese composer, won the \$500 prize offered through the New York Association of Music School Settlements for a work suitable for educational purposes. In Russia a prize contest, closing in March, 1933, was arranged to celebrate the fifteenth anniversary of the Revolution, with awards offered for operas, ballets, and orchestral works.

The National Broadcasting Company held a \$10,000 prize contest for a short orchestral work by an American composer. The first prize, \$5000, was won by Philip James, of New York, with his *Station WZZB*, a humorous depiction of activities in a broadcasting station. Max Wald, Carl Eppert, Florence Galajikian, and Nicolai Bere-zowsky were the other winners. The announcement of the awards was made May 8, when the five prize-winning works were played in New York in a radio concert under Eugene Goossens' direction.

In accordance with the policy of giving performances in two years out of every three, there was no Wagner Festival at Bayreuth in the summer of 1932. According to an arrangement to go into effect with the 1933 festival, Heinz Tietjen had been engaged as artistic director and Wil-



helm Furtwaengler as musical director. But, in June, Mr. Furtwaengler resigned this position, stating that he was unwilling to submit to the dictatorship of Mme. Winifred Wagner, and Arturo Toscanini was engaged as one of the directors for the 1933 series.

Mr. Toscanini's reengagement was unexpected, as, after his disagreement with Mme. Wagner over the festival's artistic policy in 1931, it was thought unlikely that he would be willing to return.

On March 12, the Congregation of the Council at the Vatican issued a decree discouraging the use of modern sacred music in Catholic churches and forbidding its use when the question of royalties to the composer or publisher was concerned.

A Congress on Oriental Music was held in Cairo from March 29 to April 3 as a result of the initiative of King Fuad. Among the problems discussed were the development of a standard scale and methods of teaching.

**ARTISTS.** Egon Petri, a Dutch pianist well known in Europe, made his American debut in a New York recital on January 12, winning warm praise as an "artist wholly absorbed in his task of re-creation," to quote Lawrence Gilman in the New York *Herald-Tribune*. He returned for a second American tour in the fall, when he appeared as soloist with several of the principal symphony orchestras. A seventeen-year-old Austrian pianist, Poldi Mildner, made a striking impression in her first New York recital on November 19, exhibiting an extraordinary technical talent, élan, and bravura, although critical praise was coupled with the reservation that the young pianist still had something to learn in the matter of style and interpretation.

Another Austrian artist heard in New York for the first time in 1932 was Lotte Lehmann, soprano, then a member of the Chicago Opera. In her first recital on January 7, she was praised as a singer of appealing personality and interpretive ability. Georges Enesco, Rumanian composer-violinist, and Guiomar Novaes, Brazilian pianist, returned to the United States for concert tours after absences of several seasons.

Although seventy-one years old, Ignace Jan Paderewski made another American tour in the winter and early spring, and accomplished an innovation in New York concert history by giving the first solo recital to be heard in the vast spaces of Madison Square Garden. There, on February 8, 16,000 persons heard the pianist, who was giving his services for the benefit of the Musicians Emergency Aid. The proceeds for relief work among musicians were \$33,000. Another septuagenarian musician, Ernestine Schumann-Heink, continued to make occasional appearances, singing in several motion picture theatres. Luisa Tetrazzini, coloratura soprano, who had been a well known member of Oscar Hammerstein's Manhattan Opera Company, returned to America after a long absence in January, when she also appeared in cinema theatres.

On February 14 Geraldine Farrar announced that she had permanently retired from the concert stage and would limit herself in the future to occasional radio programmes. Josef Hofmann, pianist, took a vacation from concert appearances during the season of 1931-32, with the single exception of a New York appearance with orchestra on April 3 for the Musicians Emergency Aid.

Yehudi Menuhin, who celebrated his fifteenth

birthday in January, divided his time during the year between America and Europe, making a limited number of appearances on both sides of the Atlantic. In his New York recitals, it was noted that his playing seemed in a transitional state, losing a little of the purity of tone which had been a feature of the young violinist's playing as a boy prodigy, but yet foreshadowing what his playing might be like a few years hence. Two younger boy violinists who had won praise in America for their playing, Ruggiero Ricci and Grisha Goluboff, made their first European tours in the autumn.

Among artists making Australian or Oriental tours during the summer months—the winter in the Antipodean sense—were Amelita Galli-Curci, soprano; Joseph Szigeti, violinist, and Benno Moiseiwitsch, pianist.

**CHAMBER MUSIC.** During 1932 the United States had no prominent chamber music festival such as that held at intervals at the Library of Congress in Washington, except for the Yaddo festival of American music at Saratoga (q.v. under *Festivals*). No new group has yet come forward to attain the nation-wide renown of the former Flonzaley Quartet, but during 1932 American audiences were offered the usual number of chamber music concerts by resident and touring organizations. A new Chicago group, the Philharmonic Quartet, of Chicago Symphony players, gave its first public performance on February 29. The London String Quartet, in a New York concert in March, introduced to America Haydn's recently discovered first quartet, in E flat, and Malipiero's *Cantari alla Madrigalesca*. The Busch and the Lener Quartets were among the principal chamber music ensembles making extensive European tours in 1932. During the summer, Felix Weingartner completed a string quartet dedicated to the Lener group, which has exclusive rights to its performance for a year.

**CHORAL SOCIETIES.** In the winter, the American Choral and Festival Alliance began a campaign for the organization of paid choruses to become subsidiaries of the established American orchestras, to organize new choral societies and coordinate existing activities, as well as organizing folksong and dance festivals in 1933 and 1934. Meanwhile existing American choral organizations held their own; a newcomer to their ranks was the Los Angeles Civic Chorus, which made its debut in March with the Los Angeles Philharmonic Orchestra.

On January 20, the Schola Cantorum of New York, conducted by Hugh Ross, gave the first American performance of a work over eight centuries old, *Sederunt Principes*, an "organum quadruplum" by the twelfth century composer Perotinus, believed to have been first performed at Notre Dame in Paris in 1198. This was presented in an arrangement by Rudolf Ficker of Vienna, a specialist in music of the period. The freshness, deftness of construction, and emotional force of the work astonished its hearers. In the February festival of the Mendelssohn Choir of Toronto, a sixteenth century work, Thomas Tallis's forty-part motet *Spem in alium nunquam habui* was sung for the first time in North America.

John Alden Carpenter's *Song of Faith*, composed for the national observance of the 200th anniversary of George Washington's birth, was first sung in a radio concert in February, and

later was heard in several of the American spring festivals.

The principal choral event of the year in Europe, as far as numbers were concerned, was the summer German Sängerbundesfest at Frankfurt-am-Main, in which 35,000 singers took part. Among new works offered were the prize-winning *Day of Judgment* by O. Jochum, G. Nelli's *On German Need* and Bruno Stürmer's *Mass of the Machine Man*.

The Wiener Saengerknaben, 22 boys representing an institution founded in the fifteenth century which was, in Hapsburg days, a training school attached to the Imperial Chapel in Vienna, began their first American tour in November. An ensemble of unusual type, this group made a very favorable impression in singing combining the savor of youth and unsophistication with notable command of choral technique.

Among new choral works performed in Europe for the first time during the year were Nicholas Nabokoff's *Ode* (Strasbourg), Joseph Hass's *St. Elizabeth* (Vienna), Conrad Beck's *Death of Oedipus* (Prague), Delius's *Song of Farewell*, a setting of Whitman poems (London), Charpentier's *La Vie du Poete* (Paris), and Liszt's *Via Crucis* (Dresden). The Liszt work had been composed in 1878, but not printed before this year. A setting of the 90th Psalm by a seventeen-year-old composer, Gottfried Müller, was warmly praised when first performed at Dresden in March under Fritz Busch's direction.

**AMERICAN FESTIVALS.** In the annual Mozart Festival at Harrisburg, Pa., on April 7 and 8, Mozart's G minor Mass was the principal number offered under the direction of Ward-Stephens. The Virginia State Choral Festival, organized through the initiative of John Powell and others, was held from April 25 to 30 in Richmond, with programmes including Dvorak's *Stabat Mater* and music by Virginians.

The first Yaddo Festival of contemporary American music was held at Saratoga Springs, N. Y., on April 30 and May 1. The programmes consisted of chamber music, piano music, and songs by Israel Citkowitz, Carlos Chavez, Vivien Fine, Paul F. Bowles, Virgil Thomson, Roger Sessions, Louis Gruenberg, Roy Harris, Nicolai Berezowsky, Robert Russell Bennett, Marc Blitzstein, and Oscar Levant.

The Eastman School of Music of the University of Rochester (N. Y.), held its second annual festival of American music from May 3 to 6 under the general direction of Dr. Howard Hanson. Among the works performed were Bernard Rogers's cantata *The Raising of Lazarus*, chamber music by Quincy Porter, Ernest Bloch, Deems Taylor, and Bernard Wagenaar; Herbert Ingh's first symphony, Daniel Gregory Mason's prelude and fugue for piano and orchestra, Irvin McHose's concerto for oboe and orchestra, and two ballets, Herbert Elwell's *The Happy Hypocrite* and John Alden Carpenter's *Skyscrapers*.

The twenty-sixth annual Bach Festival at Bethlehem, Pa., took place May 13 and 14 under the direction of Dr. J. Fred Wille, who conducted the Bach Choir in nine cantatas and the B minor Mass. In December, it was announced that no festival would be held in 1933 owing to Dr. Wille's illness.

The thirty-ninth festival at Ann Arbor, Mich., was held May 18 to 21 with the Chicago Orchestra under Frederick A. Stock taking part. Gustav Holst, as guest conductor, directed the

American première of his *Choral Fantasia*; Rimsky-Korsakoff's *The Invisible City of Kitezh* was also heard for the first time in America, while other major numbers were Haydn's *Oration* and Stravinsky's *Symphony of Psalms*. The Chicago Orchestra under Mr. Stock also furnished the instrumental background for the twenty-fourth North Shore Festival at Evanston, Ill., May 23-28.

Albert Stoessel conducted the eighth annual Westchester County Music Festival at White Plains, N. Y., on May 20 and 21, with Haydn's *The Seasons* and Beethoven's Ninth Symphony among the principal numbers. In the seventy-third festival at Worcester, Mass., held in October under Mr. Stoessel's direction, Elgar's *Dream of Gerontius* was the principal major offering, while a *Benedicite* by Vaughan Williams was heard for the first time in America.

**EUROPEAN FESTIVALS.** The tenth festival of the International Society for Contemporary Music was held in Vienna from June 16 to 22, in connection with the Festival Weeks in the Austrian capital. It apparently revealed no new music of unusually striking merit. Among the composers represented in the programmes were Nicolai Lopatnikoff, Karel Haba, Ernst Krenek, Julius Schloss, Leopold Spinner, Hanns Jelinek, Alban Berg, Karel Reiner, Walter Leigh, Claude Delvincourt, Jean Françaix, Malipiero, Vittorio Rieti, Robert Gerhard, Joseph Mahdic, Boleslaw Wojtowicz, Arthur Bliss, Conrad Beck, and Edward Erdmann. The Vienna State Opera contributed performances of Berg's *Wozzeck*, Julius Bittner's *Der Muskant*, and Egon Wellesz's *Die Bacchantinnen* as part of the festival.

The annual festival of Wagner and Mozart operas in Munich opened on July 18 with *The Meistersinger*. The "Ring" cycle, *Tristan und Isolde*, and *Parsifal* were the other Wagnerian offerings, while the Mozart repertoire consisted of *The Marriage of Figaro*, *Don Giovanni*, *Così fan tutte*, and *Die Zauberflöte*. Hans Knappertsbusch again was general musical director for the festival, which closed August 22; Sir Thomas Beecham conducted *Die Zauberflöte*.

The Salzburg festival, held in August, included operas and symphony concerts performed by the Vienna State Opera and Vienna Philharmonic Orchestra, serenades, and church programmes, besides the usual performances of von Hofmannsthal's *Jedermann*. Among operas offered were Mozart's *Die Entführung aus dem Serail*, and *Così fan tutte*, Beethoven's *Fidelio*, Gluck's *Orpheus*, Strauss's *Der Rosenkavalier*, and Weber's *Oberon*. Fritz Busch, Bruno Walter, Philippe Gaubert, and Richard Strauss were the conductors.

The second Chopin Festival in Majorca, the scene of much of Chopin's creative activity, was held in May. Zürich paid tribute to the Haydn bi-centennial in May with nine orchestral programmes offering music of various nationalities, and each including a Haydn symphony; Pierre Monteux, Vittorio Gui, Volkmar Andreare, Sir Henry Wood, and Hermann Abendroth were the conductors. The Allgemeine Deutsche Tonkünstlerverein held its annual festival in Zürich from June 10 to 14.

In the second international festival in Venice, September 3 to 15, the principal feature of the repertoire was chamber opera. Among works presented in this form, early and modern, were Monteverdi's *Combattimento di Tancredi e Clo-*

rinda, Franco Casavola's *L'Alba di Don Giovanni*, Malipiero's symphonic monodrama *Pantea*, Respighi's *Maria Egiziaca*, and Casella's *La Favola d'Orfeo*, which was considered the outstanding work of the festival. There were two programmes of North American and South American music for chamber orchestra, the former conducted by Fritz Reiner.

The Three Choirs Festival was held in Worcester, England, in September, under the general direction of Sir Ivor Atkins. Vaughn Williams's *Magnificat* had its world première, and Karol Szymanowski's *Stabat Mater* was heard for the first time in England.

**ORCHESTRAS.** The New York Philharmonic-Symphony Orchestra began the year without the services of its chief conductor, Arturo Toscanini, who had returned to Italy to take an intensive cure for the muscular trouble in his right arm. Hans Lange and Ossip Gabrilowitsch, conductor of the Detroit Symphony, were in charge for the first concerts of the year. Bruno Walter directed the orchestra from January 11 to February 28. His novelties were the suite from Serge Prokofiev's ballet *The Prodigal Son* (January 21), a suite from Krenek's music for Goethe's *Der Triumph der Empfindsamkeit* (January 21), and Franz Schmidt's *Variations on an Austrian Hussar's Song* (February 3). Daniel Gregory Mason's second symphony, in A major, was heard for the first time in New York on February 18. Mr. Walter was already known to New York, having conducted the New York Symphony as a guest in three visits from 1923 to 1925, but made a more striking impression this time as a musician of good taste, authority, and interpretative ability, a thorough master of the technique of his art.

Sir Thomas Beecham conducted the Philharmonic-Symphony for the balance of the season, except for a week when Ottorino Respighi conducted programmes of his own music. On March 16, Mr. Respighi conducted the first performance anywhere of his chamber opera, or "triptych for concert," *Maria Egiziaca*. This, with a libretto by Claudio Guastalla based on the story of the fourth century saint, Mary of Egypt, was, on the whole, unfavorably received by the critics, who styled the music uninteresting and platitudinous. Sir Thomas's programmes included several numbers by Delius and two works of Elgar, but otherwise eschewed British music. Mozart and Handel were liberally represented.

After completing his cure in Italy, Mr. Toscanini returned to New York to conduct the Philharmonic-Symphony in a single post-season concert on April 28 for the benefit of unemployed musicians. Entirely restored to health, he conducted the Philharmonic-Symphony for the scheduled period from October 3 to November 27, presenting four Polish Dances by Alexander Tansman for the first time in America, and the second symphony of the Dutch-American composer Bernard Wagenaar for the first time anywhere. Issay Dobrowen, a Russian conductor who had been associated with the San Francisco Symphony for the past two seasons, took charge of the Philharmonic-Symphony for two weeks in December. His novelties were a *Passacaglia* by Ludvig Jensen, a Norwegian composer, and Ettinger's *Old English Suite* based on tunes by sixteenth-century English composers.

The Manhattan Symphony Orchestra, of New York, changed conductors after the close of the

winter season, David Mannes succeeding Henry Hadley. A new organization, the New York Orchestra, gave its first concert in April at Carnegie Hall under the direction of Modeste Altschuler, and, during the summer, played the principal part in a new series of outdoor concerts in uptown Manhattan. In the fall it was announced that Nikolai Sokoloff, then in his last season with the Cleveland Orchestra, had accepted the conductorship of the New York Orchestra, and would begin a regular series of concerts in 1933-34.

Concerts by or for the benefit of unemployed musicians made a substantial addition to orchestral activities in New York. The Musicians Symphony Orchestra, organized to give employment to 200 instrumentalists, gave five spring concerts in the Metropolitan Opera House under Leopold Stokowski, Sandor Harmati, Walter Damrosch, Sir Thomas Beecham, and Eugene Goossens. The series was continued in the autumn. Both the conductors and the prominent soloists taking part gave their services gratis.

In November Walter Damrosch began a series of five festival symphony concerts in Madison Square Garden for the benefit of the Musicians Emergency Aid's relief work. Several concerts by orchestras of unemployed musicians were given in New York and Westchester County through the support of the Toscanini Fund derived from the proceeds of the Philharmonic-Symphony's benefit concert of April 28.

The Boston Symphony Orchestra, in its fifty-first season and its eighth under the conductorship of Serge Koussevitzky, began the year with the first American performance of Stravinsky's violin concerto which, within the next few days, was introduced by the Philadelphia Orchestra under Leopold Stokowski to Philadelphia and New York. Samuel Dushkin was the soloist in all these performances. The work was received somewhat coolly, certain critics noting a lack of musical inventiveness.

Chalmers Clifton, of New York, and Gustave Holst appeared with the Boston Symphony as guest conductors in January. On January 22, Mr. Koussevitzky conducted the first performance of George Gershwin's second rhapsody for piano and orchestra, with the composer as soloist. Other works given their première by the Boston Symphony were Aaron Copland's *Symphonic Ode* (February 19), Vladimir Dukelsky's *Epitaph* (April 15), Edward Burlingame Hill's *Concertino* for piano and orchestra (April 25), John Alden Carpenter's *Patterns* for piano and orchestra (October 21), Florent Schmitt's *Symphonie Concertante* for piano and orchestra (November 25). Among works performed for the first time in America were a concerto by Henri Martelli, Ernst Toch's *Bunte Suite*, Serge Prokofiev's *The Gamblers* and fifth piano concerto, Arnold Bax's *Winter Legends*, and Alexander Tcherepnin's *Magna Mater*.

Ravel's piano concerto was played for the first time in America in simultaneous performances in Boston and Philadelphia on April 22.

That the economic depression had not left the Boston Symphony's receipts untouched was indicated by the announcement in December that the conductor, musicians, and managerial staff would contribute from their salaries about half of the estimated deficit of \$93,000 for 1932-33.

During the latter part of the season of 1931-32, Leopold Stokowski shared the direction of the

Philadelphia Orchestra with Bernardino Molinari and Fritz Reiner. Mr. Stokowski introduced a host of works not played before, or new or unfamiliar to America, including Efrem Zimbalist's *Daphnis et Chloe*, Two Cuban Dances by Alejandro Caturla, Darius Milhaud's concerto for percussion instruments, Nikolai Lopatnikoff's symphony, Prokofieff's third symphony, Wassilenko's *Hyrcus Nocturnus*, Henry Cowell's *Synchrony*, Louis Gruenberg's *Moods*, and Arkady Dubensky's fugue for eighteen violins. On April 8, he conducted the first performance in America of Schönberg's *Gurrelieder*, which he introduced to New York on April 20.

That Philadelphia audiences might have been receiving an over-liberal ration of novelties was suggested by an announcement in September from the Philadelphia Orchestra Association that the coming season's programmes would consist primarily of acknowledged masterpieces, avoiding "debatable" music. But on his return to Philadelphia Mr. Stokowski expressed his dissent with such a policy, and stated that he would continue to offer both old and new music. It was arranged, however, that new works would be placed at the end of the programmes. Novelties offered by Mr. Stokowski in the last three months of the year were Werner Josten's *Jungle* (October 7), Ernest Brooks's *Three Units* (October 28), Arkady Dubensky's *The Raven* (December 9), and Dimitri Szostakowicz's third symphony (December 30). Eugene Ormandy, of the Minneapolis Symphony, and Artur Rodzinski, of the Los Angeles Philharmonic, also conducted the Philadelphia Orchestra during this period.

The Cleveland Orchestra, under Nikolai Sokoloff, gave the first performance of Charles Martin Loeffler's *Beat! Beat! Drums!* for men's voices and orchestra on November 17. Eugene Goossens, Eugene Ormandy and Ossip Gabrilowitsch remained as the respective conductors of the Cincinnati, Minneapolis, and Detroit Symphony Orchestras. Both Mr. Ormandy and Vladimir Golschmann, of the St. Louis Symphony, had a considerable element of novelty in their programmes. The St. Louis list included first American performances of George Antheil's *Capriccio* and Karol Rathaus's suite, Op. 29.

Late in the winter, the continuance of the Chicago Symphony Orchestra seemed doubtful; the trustees of the orchestra association notified the musicians that all contracts would be terminated at the end of the season. Lack of prospective funds for future deficits, shrinkage in returns from investments and increased expenses were cited as reasons for this crisis. The situation was finally settled by the acceptance on the part of the musicians of a reduction in the minimum wage, the reduction of the number of players from ninety-seven to eighty-seven and of the number of concerts from 126 to 100.

The San Francisco Symphony Orchestra completed its 1931-1932 season under Basil Cameron who, in the fall, succeeded Karl Krueger in the direction of the Seattle Symphony. Issay Dobrowen conducted the San Francisco orchestra in the autumn, beginning a season shortened as a result of adverse economic conditions. The orchestra association was merged with the San Francisco Opera Association and the Concerts transferred to the new War Memorial Opera House. The Los Angeles Philharmonic, under Dr. Rodzinski, had a less difficult time, thanks to the guarantee of funds to meet the deficit by William Andrews

Clark. Willem van Hoogstraten continued as conductor of the Portland (Oregon) Symphony Orchestra.

The Rochester (N. Y.) Philharmonic Orchestra continued under a régime of guest conductors, among whom were Bernardino Molinari, Howard Hanson, Fritz Reiner, and Artur Bodanzky. The Omaha Symphony Orchestra decided, in the autumn, to suspend its activities.

In spite of the depression, the year brought an increase in the growing number of symphony orchestras of various sizes in smaller communities, or in large cities not previously possessing established orchestras. Among new organizations launched in 1932 were the Providence Symphony under Wassily Leps, the Buffalo Symphony under John Ingran, the Richmond Symphony under Wheeler Beckett, and the Birmingham Civic Symphony under Dorsey Whittington.

Outdoor orchestral concerts were held during the summer in several American cities. Among these were the New York Stadium Concerts, in their fourteenth season, with Willem van Hoogstraten and Albert Coates as conductors; the third season of Philadelphia summer concerts under Alexander Smallens, Henry Hadley, David Mendoza, Sandor Harmati, and others; and the eleventh season at the Hollywood Bowl, near Los Angeles, under Sir Hamilton Harty, Alfred Hertz, Richard Lert, Bernardino Molinari, Frederick A. Stock, and Alfred Wallenstein.

The principal event of the orchestral year in Great Britain was the formation in the early autumn of a new orchestra, named the London Philharmonic Orchestra, under the leadership of Sir Thomas Beecham, to consist of 90 permanent members and 15 auxiliary players. Most of the musicians were drawn from the old Royal Philharmonic, which engaged the new organization for its augmented subscription series. The London Symphony Orchestra, deciding to continue an independent career, engaged Sir Hamilton Harty, of the Hallé Orchestra of Manchester, as regular conductor, with Felix Weingartner and Albert Coates among the guest leaders. The orchestra of the British Broadcasting Corporation continued its regular series under Adrian Boult and others, and again played in the annual London series of Promenade Concerts in Queen's Hall from August 6 to October 1. Wagner and Beethoven programmes were given on one night apiece each week, while four evenings were devoted to all-British programmes.

Gabriel Pierné, conductor since 1910 of the Colonne Orchestra of Paris, resigned his post in the spring, and was succeeded by Paul Paray. The various Paris orchestras, including the Paris Symphony under Pierre Monteux, the Lamoureux, and others, held their own during the year; a new orchestra was created under the name of the Trianon-Lyrique Symphony Orchestra. As before new music played an important part in the Walther Straram concerts.

Ravel's piano concerto had its world première on January 14 under the composer's direction with Marguerite Long as soloist; it was regarded as "brilliant and effective." In the New York première of the work on November 8, brilliance and effectiveness also were noticed, but some critics also noted derivativeness and sterility in its musical ideas.

In Italy the principal sources of orchestral activity were the orchestras of the Augusteo in Rome and of La Scala in Milan, where a spring

series was held under the direction of Alfredo Casella, Vittorio Gui, Gino Marinuzzi, Willem Mengelberg, and others.

The Berlin Philharmonic Orchestra celebrated the fiftieth anniversary of its existence on April 17, when it was announced that a municipal subsidy of \$40,000 a year would be granted to insure the permanence of the organization. The Philharmonic again toured extensively in Europe, visiting England, France, and Italy. For 1932-33 this orchestra, whose regular conductor is Wilhelm Furtwaengler, announced a programme of over fifty concerts in Berlin alone, with conductors including Bruno Walter, Eugene Jochum, Erich Kleiber, Heinz Unger, and Julius Prüwer. Otto Klemperer took over the direction of the State Opera's symphony concerts, which had been shared by him with Mr. Kleiber during the winter. Under Furtwaengler, on October 30, Serge Prokofiev's fifth piano concerto, in G major, was played for the first time, with the composer as soloist.

The Berlin Symphony Orchestra was disbanded after the end of its season in the spring, when it was announced that the players would either be pensioned or added to the Berlin Philharmonic. In Vienna, Ravel's piano concerto for left hand alone was played for the first time in January with Robert Heger conducting, and Paul Wittgenstein, the one-armed pianist for whom it was written, as the soloist.

On March 6 the Brussels Symphony Orchestra, under the composer's direction, gave the first performance of Alexander Tansman's *Symphonie Concertante* for string quartet and orchestra. In September, Georg Schneevoigt was appointed conductor of the Helsingfors Municipal Orchestra, in succession to Robert Kajanus.

In May the Persimfans, or conductorless orchestra, of Moscow, celebrated the tenth anniversary of its organization. Albert Coates, musical director of Moscow's principal opera house, accepted the post of general music director of the Leningrad and Moscow Philharmonic Orchestras.

**OPERA.** During its home season of 1931-32, which closed April 16, the Metropolitan Opera Company of New York gave 166 performances, in addition to 24 Sunday concerts. The season's repertoire consisted of 48 operas, of which 24 were given in Italian 85 times, 13 in German 51 times; 10 in French 34 times and 1 in English, Deems Taylor's *Peter Ibbetson*, 6 times. Twenty-seven composers were represented in the list of operas, 11 Italians, 4 Germans and Austrians, 9 Frenchmen (including Meyerbeer), 1 American, 1 Russian, and 1 Czech. The most represented composer was Wagner, with 10 works performed 37 times. Six operas by Verdi were heard 31 times, and 4 by Puccini 12 times. During the season, the company paid its usual visits to Brooklyn and Philadelphia, and gave two performances apiece in Hartford, Conn., and White Plains. The spring tour was reduced to a single week shared by Baltimore and Cleveland. In all, during 1931-32, the company gave 210 performances of opera.

During the first four months of 1932 interest in the company's artistic activities was often overshadowed by concern over its economic situation. In November, 1931, the non-union personnel of the Metropolitan had agreed to accept a 10 per cent salary reduction, but, despite this reduction in expenses, rumors persisted during

the winter that the next season might see a much shortened schedule or no opera at all. On March 23 the chairman of the Metropolitan's directorate, Paul D. Cravath, announced that the losses of the seasons of 1930-31 and 1931-32 had virtually wiped out the company's reserves, leaving it without sufficient funds to assure an opera season in 1932-33. Efforts, it was added, would be made, by further reductions in expenses and other methods to assure the continuance of the institution's activities.

April 16, it was announced that the Metropolitan would give a shorter season, 16 weeks instead of 24, in 1932-33. Prices of seats were somewhat reduced, from \$7.50 to \$6.50 per performance for season subscribers in the case of orchestra chairs, while the actual reduction was increased when the Metropolitan's tickets were granted tax exemption. A further salary cut was accepted by the company's artists and staff.

On March 3, it was announced that the directors were reorganizing the company under the new title of the Metropolitan Opera Association, making it a membership instead of a stock corporation. This change, however, was not intended to affect the actual administration or artistic policy of the organization. Although, in April, a committee examining the plans for the proposed opera house in the Rockefeller City development reported these to be suitable for the Metropolitan's purposes, no actual progress was made during 1932 in the four-year-old project to move the Metropolitan to this new centre. In September, Mr. Cravath said that no feasible plan toward this end had yet been proposed, and it is very unlikely that the Metropolitan will take any definite steps in this direction while present uncertain conditions continue.

On February 28, the Metropolitan produced for the first time in the United States Verdi's *Simon Boccanegra*, using the revised version of 1881. This little known work impressed with the effectiveness of its scoring and the exceptional dramatic power of the music at certain points, but a lack of melodic inspiration and the devious and complicated nature of the libretto were considered drawbacks to its performance in the repertoire. But it was chosen to open the new season on November 21. The production was, on the whole, distinguished, and the notably dramatic interpretation of the title rôle by the American barytone Lawrence Tibbett was considered his best operatic characterization thus far in his career.

The other novelty of the first part of the year, Von Suppé's light opera *Donna Juanita* was produced for the first time at the Metropolitan January 2, with Maria Jeritza as its protagonist. It proved moderately diverting, but was dropped from the repertoire for the next season. The revivals were Delibes's *Lakmé* and Bellini's *La Sonnambula*, both given as vehicles for the French colatura soprano Lily Pons, who was probably the company's best box-office attraction during 1931-32.

The first novelty of the new season was Richard Strauss's *Elektra*, given for the first time at the Metropolitan on December 3. This was also the first New York performance of the work in Von Hofmannsthal's original German text; its production in 1910 by Oscar Hammerstein's Manhattan Opera Company had been in a French translation. The musical value and dramatic force of Strauss's score, a much discussed work

when first heard in New York twenty-two years before, were generally recognized. The production received more varied comment, being highly praised by Olin Downes in the New York *Times*, while it was found lacking in various respects by Lawrence Gilman in the New York *Herald-Tribune*. Still, it was generally thought that the Metropolitan had done better with the work than what might have been expected; the orchestra, under Artur Bodanzky, gave a performance much above its usual standard for German opera.

In its second performance, on December 9, *Elektra* was given in a double bill with the last novelty of 1932, Rossini's one act comic opera *Il Signor Bruschino*.

The most important Metropolitan début during the first months of the year was that of the Swedish soprano Göta Ljungberg, whose first New York appearance, on January 20, was as Sieglinde in *Die Walküre*. Aided by attractiveness of appearance and an ingratiating stage personality, Mme. Ljungberg scored a considerable success in her first performances, despite some unevenness in the standard of her singing and occasional attacks of self-consciousness in her impersonations. Doris Doe, American contralto, making her Metropolitan début on February 3 as Brangäne in *Tristan und Isolde*, exhibited a voice of satisfactory calibre, but lacked the necessary ability for the leading Wagnerian rôles first assigned her. Armando Borgioli, barytone, Francesco Merli, tenor, proved experienced operatic artists with voices of no unusual quality.

Tito Schipa, tenor, and Richard Bonelli, American barytone, both well known members of the Chicago Opera, made their Metropolitan débuts in the fall, both proving valuable acquisitions to Giulio Gatti-Casazza's roster. Rose Bampton, contralto, seemed the most promising of the young American women singers who joined the company at the beginning of the 1932-33 season. Other American débutantes were Helen Gleason and Margaret Halstead, sopranos. Gustaaf de Loor, Dutch tenor, made his American début on November 24 as Siegfried in *Götterdämmerung*; his first performances did not indicate vocal or dramatic ability beyond those of the usual run of German-singing tenors. Ludwig Hofmann, German barytone, making his first Metropolitan appearance in the same performance as Hagen, won mainly favorable notices from the critics.

The Chicago Civic Opera Company closed its home season January 30, and finished its activities with its usual fortnight in Boston. During the next few months, an effort was made to raise the \$500,000 guarantee needed to assure a season of opera in 1932-33; \$350,000 had been pledged when, on June 22, the trustees announced their decision to give no opera during the coming season, owing to current economic conditions and the uncertainty of the future. Samuel Insull, whose business reverses had deprived the company of one of its important sources of support, resigned the presidency of the organization, and no one was chosen in his place. Up to the close of the year, no announcement had been made concerning any ultimate resumption of performances by the Chicago Opera. Various minor companies announced plans for providing Chicago with some opera, but the upshot was only a few performances, all such projects having been abandoned before the middle of October.

The Philadelphia Opera Company, which had

given the world première of the ballet *H.P.* by the Mexican composer Carlos Chavez on March 31 under Leopold Stokowski's direction, decided to give no performances in 1932-33, but to wait for a season while plans for presenting opera in a new and modernized form were being worked out by Mr. Stokowski. The Ravinia Opera Company gave no performances during the summer of 1932 in its rustic theatre north of Chicago, but contemplated a season on a larger scale in 1933, during the time of the Chicago "Century of Progress" Exposition.

The St. Louis Municipal Opera held its usual summer season of operettas, including one new work, *Cyran de Bergerac* with music by Samuel Pokress. In Cincinnati, the Zoo Opera Company gave eight weeks of grand opera and two of light opera during the summer. In a week of opera at the Cleveland Stadium *Tom-Tom*, by the Negro composer Shirley Graham, had its first performance on June 30.

On October 15 the new War Memorial Opera House in San Francisco was formally opened when the San Francisco Opera Company, under the direction of Gaetano de Merola, began a two weeks' season with *La Traviata*. The new house has a seating capacity of 3285. Before the opening of the San Francisco series, the same company gave a week of opera in Los Angeles.

In London, the Covent Garden Syndicate had decided to suspend its usual spring international season, but finally decided on a four weeks' series, beginning May 9, devoted to Wagner, with a repertoire including the "Ring" cycle, *Tristan und Isolde* and *Die Meistersinger*. Among the artists heard in this series were Frida Leider, Lotte Lehmann, Florence Easton, Lauritz Melchior, Walter Widdop, Ludwig Hofmann, and Friedrich Schorr. Sir Thomas Beecham and Robert Heger conducted.

In November, an agreement creating a National Opera Council was reached between the Covent Garden Opera Syndicate, the Imperial League of Opera, the "Old Vic," and Sadler's Wells Theatres, and the British Broadcasting Corporation. Sir Thomas Beecham joined the board of the Covent Garden Syndicate as artistic director. This agreement was regarded as foreshadowing a closer coöperation between organizations producing opera in Great Britain.

In Paris, during the first half of the year, a crisis at the Opera was averted when the employees accepted a reduction in pay, and the director, Jacques Rouché, withdrew his threatened resignation. After a Russian season in June, the Paris Opéra-Comique was closed for repairs and some modernization; there were doubts as to whether it would reopen. These were disproved when the Opéra-Comique resumed its activities in November under a new director, P. B. Cheusi, appointed after the resignation of Louis Masson. Among novelties produced at the Opéra were Darius Milhaud's *Maximilian* and Strauss's *Elektra*, both in January, and Maurice Bachelet's *Un Jardin sur l'Oronte* in November. Henri Fevrier's *La Femme Nue*, first produced at the Opéra-Comique on April 22, was described as Italian "verismo" gone French.

During its winter and spring season, the Teatro alla Scala in Milan gave eighty-five performances. The first novelty of the year was Humperdinck's *Figli del Re* (*Königskinder*). Pick-Mangiagalli's opera-masque *Basi e Botti* was produced in February under Ettore Panizza.

Gino Marinuzzi's three-act *Palla dei Mozzi* had its premiere at La Scala on April 5; this was described as in the orthodox tradition of nineteenth-century Italian opera. Antonio Veretti's first opera *Il Favorito del Re* met with a mixed reception; the introduction of a jazz band in the second act proved unwelcome. As in 1931, retrospective comments on the Scala's season expressed some dissatisfaction, the management being attacked for "worthless" modern novelties. Trentinaglia resigned as artistic director late in the spring, and the Scala has since been directed by a triumvirate of the Mayor of Milan, the Governor of the Province, and the head of the Milan Fascist Corporation. The new season opened December 26.

Primo Riccitelli's *Madonna Oretta* was produced early in the year at the Royal Opera in Rome. Alfredo Casella's first opera *La Donna Serpente*, based on the tale by Gozzi which had given Wagner his subject for *Die Feen*, was first produced in Rome on March 17. One comment on this work noticed a further departure from Wagnerian influence and towards a continuation of the Italian tradition of Verdi's last works.

A further reduction of salaries was imposed upon the Vienna State Opera at the beginning of the year. Pfitzner's *Das Herz* had its Austrian premiere in Vienna in February; Verdi's *Don Carlos* was produced later in a new version by Franz Werfel and Lothar Wallerstein.

Paul Graener's *Friedemann Bach*, first produced in 1931 in Schwerin, reached Berlin on February 23. Meyerbeer's *Les Huguenots*, unheard in Berlin for twenty-one years, was revived at the State Opera in February in a revised version prepared by Dr. Julius Kapp and Leo Blech. Weill's *Die Burgschaft*, described as diffuse and prolix, was one of the State Opera's novelties, while Herbert Windt's *Andromache* was one of the new works to be first produced by the Municipal Opera. Franz Schreker's latest opera, *Der Schmied von Ghent*, had a hostile reception when produced at the Municipal Opera in November. Prices were reduced for the 1932-33 season in both Berlin opera houses, ten marks becoming the maximum at the State Opera and eight at the Municipal Opera.

Eugen d'Albert's posthumous opera *Mr. Wu* was first produced in Dresden on September 29, and given in five other German cities the next day. Caponsacchi, by an American composer, Richard Hageman, had its world premiere on February 18 at Freiburg, in Baden, under Hugo Balzer's direction.

*Poker Flat*, the third opera by Jaromir Weinberger, of *Schwanda* fame, was first performed on November 19 in Brunn, Czechoslovakia. The scene was laid in the American West, and the influence of American jazz was occasionally noticed in the music. An important premiere in Budapest was that of Zoltan Kodaly's opera *Szekely-fono* which was described as exhibiting Kodaly's richest and most original music.

The winter season at the Teatro Colon in Buenos Aires began in May, after reconsideration of an intention to suspend it. On the other side of the Southern hemisphere, the Imperial Opera Company gave Australia an opera season in June and July.

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**MUSSOLINI.** See ITALY under *History*.

**MUTTON.** See LIVESTOCK.

**NATAL**, ná-tál'. An original Province of the Union of South Africa. Capital, Pietermaritzburg. See SOUTH AFRICA, UNION OF.

**NATIONAL ACADEMY OF DESIGN.** An institution in New York City, established in 1825 and incorporated in 1828 for the purpose of "the cultivation and extension of the arts of design." The academy holds two exhibitions of contemporary art each year, to which an artist of any country may submit his work. The works which are accepted by the jury of selection are exhibited without charge to the artists; members of the academy may exhibit one work without approval by the jury. The total number of associate members in 1931 was 150; the number of academicians was 146, including 107 painters, 29 sculptors, 8 architects, and 2 graphic arts.

The following academicians were elected in 1932: Painters, Hilda Belcher, Anna Fisher, Howard L. Hildebrandt; sculptors, Lee Lawrie, and Albert Laessle; architect, J. H. Freelandier, and graphic arts, Charles Dana Gibson. The associate members elected were: Painters, Robert



Brackman, Francis S. Bradford, Jes Schlaikjer, and Paul Trebilcock; sculptors, Ulric Ellerhusen, Thos. Hudson Jones, Gertrude K. Lathrop, Berthold Nebel, and George Lober; architects, Cass Gilbert, Jr., and Frederic C. Hirus; graphic arts, Louis C. Rosenberg. The officers in 1932 were: President, Cass Gilbert; first vice president, H. W. Watrous; second vice president, Robert Aitken; corresponding secretary, Charles C. Curran; assistant corresponding secretary, Albert P. Lucas; recording secretary, Hobart Nichols; treasurer, Henry Prellwitz; and assistant treasurer, F. Ballard Williams. The council members were: Louis Betts, Sidney Dickinson, Charles S. Chapman, Edward McCartan, Roy Brown, and Ernest D. Roth. Headquarters are at Amsterdam Avenue and 109th Street, New York City. See ART EXHIBITIONS.

#### NATIONAL ACADEMY OF SCIENCES.

A body of American citizens actively engaged in scientific research, incorporated by Act of Congress approved by President Lincoln in 1863, for the purpose of investigating, examining, experimenting, and reporting upon any subject of science or art, whenever called upon by any department of the government. The membership is limited to 300 active members and 50 foreign associates. New members are elected by the academy on nominations from its eleven sections: mathematics, astronomy, physics, engineering, chemistry, geology and paleontology, botany, zoology and anatomy, physiology and biochemistry, pathology and bacteriology, and anthropology and psychology. The following new members of the academy were elected at the annual meeting in 1932: Raymond Thayer Birge, Edwin Garrigues Boring, Samuel Randall Detwiler, Walter Abraham Jacobs, Douglas Wilson Johnson, Louis Otto Kunkel, Karl Landsteiner, Walter Curran Mendenhall, Marston Morse, Floyd Karker Richtmyer, John Clarke Slater, John Reed Swanton, Robert Julius Trumpler, Edward Wight Washburn, John Boswell Whitehead.

The academy holds two meetings each year. The annual meeting, beginning on the fourth Monday in April, is held in Washington; while the autumn meeting is held at a place and on dates determined by the council of the academy. The autumn meeting in 1932 was held in Ann Arbor, Mich., November 14-16, upon invitation by the University of Michigan. Meetings are devoted to the transaction of business and the presentation of scientific papers by academicians or persons introduced by them.

The academy has trust funds which grant money for the furtherance of research investigations and other trust funds which provide for gold medals in recognition of outstanding scientific research work. At the annual meeting in 1932 two medals were presented: the Public Welfare Medal to Wickliffe Rose, and the Mary Clark Thompson medal and accompanying honorarium of \$250 to David White. The award to Doctor Rose was "for his organization and direction of the work of the International Health Board of the Rockefeller Foundation by which he made, to the promotion of public health and welfare, a contribution of world-wide significance and importance." Because of the death of Doctor Rose, Sept. 5, 1931—between the time of the award and the time of presentation—delivery of the medal was made to his son, H. Wickliffe Rose. The Mary Clark Thompson Medal and honorarium were awarded to Doctor White, a member of the acad-

emy, for his outstanding researches in paleontology.

The annual report of the president of the National Academy of Sciences to the Congress of the United States contains an account of the business and scientific sessions, including a list of the scientific papers presented, the medals awarded, and the grants made in aid of research work. The academy issues also the series of *Memoirs*, consisting of monographs by academicians and others and reports of investigations conducted by the academy for the government. *Biographical Memoirs* of deceased members are published from time to time. The *Proceedings*, issued monthly, are devoted to condensed reports of the most recent achievements in scientific research work by members of the academy and the National Research Council, its agent, or by persons introduced by members.

The officers in 1932 were: William Wallace Campbell, president; David White, vice-president; Fred E. Wright, home secretary; Robert A. Millikan, foreign secretary; Arthur Keith, treasurer. The academy building is at 2101 Constitution Avenue, Washington, D. C.

**NATIONAL AIR RACES.** See AERONAUTICS.

**NATIONAL BANKS.** See BANKS AND BANKING.

**NATIONAL CIVIC FEDERATION, THE.** A movement organized in 1900 to seek the solution of some of the great problems related to social and industrial progress. It provides especially for the discussion of questions of national import, aids in the crystallization of enlightened public opinion, and promotes legislation when desirable.

The organization was active in 1932 through the following departments and committees: The commission on industrial inquiry continued its activities in furthering its bill to amend the Federal Trade Commission Act by adding certain powers to enable the commission to determine whether proposed or existing mergers intended to or were engaged in practices in violation of the anti-trust acts. Its recommendations concerning the Writ of Injunctions in Industrial Disputes were enacted into law by the Congress. The committee on Russian affairs, in carrying on its programme in opposition to the recognition of the Soviet government, adopted a resolution urging the President-elect to withhold recognition of the Soviet régime until that régime shall have given adequate security that neither it nor the Third International will interfere, either directly or indirectly, in the domestic affairs of the United States. The department of subversive activities continued its efforts to obtain federal legislation to have restored the power to deal with subversive activities. The executive council indorsed the shorter work week practice, and the industrial welfare department made a preliminary survey to evaluate its economic effect upon employer and employee in production costs and widening employment; this department continued also its inquiry into the operation of compulsory unemployment insurance funds, foreign and domestic. The women's department issued a report upon the survey of the woman power of the nation. The federation issued an appeal to industrialists to join in a movement to develop a *modus vivendi* to aid in restoring employment to workers.

The officers of the federation in 1932 were:

Elihu Root, honorary president; W. N. Doak, honorary vice-president; Matthew Woll, acting president; Ralph M. Easley, chairman executive council; Samuel McRoberts, treasurer; and Ellis Searles, secretary. Headquarters are at 570 Lexington Avenue, New York City.

**NATIONAL CREDIT CORPORATION.** See BANKS AND BANKING.

**NATIONAL DEBTS.** See articles on each country under *Finance*.

**NATIONAL DEFENSE.** See MILITARY PROGRESS; NAVAL PROGRESS.

**NATIONAL EDUCATION ASSOCIATION OF THE UNITED STATES.** An organization of persons actively engaged in educational work and others interested in education, organized in Philadelphia in 1857 under the name of the National Teachers' Association and incorporated in 1907 by Congress under its present name. At the annual meeting in 1920, the association was reorganized, and provision was made for a representative assembly composed of delegates from State and local educational associations. The other governing bodies are a board of directors, an executive committee of five, a board of trustees, departmental organizations, standing and special committees, and a staff at headquarters which is held responsible for carrying out the decisions of the governing bodies.

In 1932 there were 22 departments, each having its own officers, as follows: administrative women in education, adult education, business education, classroom teachers, deans of women, educational research, elementary school principals, kindergarten-primary education, lip reading, rural education, school health and physical education, science instruction, secondary education, secondary school principals, social studies, special education, superintendence, supervisors and directors of instruction, supervisors and teachers of home economics, teachers' colleges, visual instruction, and vocational education. There were also more than 15 standing and special committees actively at work on professional problems.

The association's seventieth annual meeting was held in Atlantic City, N. J., June 25-July 1, 1932. The theme of this convention was "Looking Ahead in Education." Most of the important addresses consisted of discussions of the educational crisis brought about by the economic depression. There were held, in addition to the general session, meetings of the representative assembly, the departments of the association, and a number of allied organizations, at which the progress of the year in education was reviewed. Among the important resolutions adopted on this occasion was one on economy and education which opposed "any retrenchment (in school expenditures) which injures the children of America" but at the same time favored "strict economy in the administration of public schools."

The association's department of superintendence held its winter convention in Washington, D. C., the last week in February. The subject of the *Yearbook*, prepared for presentation at this meeting, was "Character Education" while "Educational Leadership" was selected as the theme of the 1933 yearbook. The *Journal of the National Education Association* is the organization's monthly publication. It publishes also an annual volume of *Proceedings* and numerous reports on its activities. Research bulletins, containing statistical information on educational

subjects, are issued regularly. The enrollment of the association on Dec. 31, 1931, was 220,149. Officers elected for 1931-32 were: president, Joseph Rosier, Fairmont, W. Va.; secretary, J. W. Crabtree, Washington; and treasurer, Henry Lester Smith, Bloomington, Ind. Headquarters are at 1201 Sixteenth Street, N.W., Washington.

**NATIONAL ELECTION.** See UNITED STATES.

**NATIONAL FORESTS.** See FORESTRY.

**NATIONAL GUARD.** See MILITARY PROGRESS.

**NATIONAL ITALIAN THEATRE.** See ITALIAN LITERATURE.

**NATIONALITY OF WOMEN.** See LEAGUE OF NATIONS.

**NATIONAL KINDERGARTEN ASSOCIATION.** An organization founded and incorporated in New York City in 1909, with the object of helping to secure the advantages of kindergarten education for all of the nation's children. The association is supported entirely by private subscription which has amounted annually, in recent years, to approximately \$45,000. During 1932, however, it dropped to \$30,000. This fund is used for the purpose of promoting a knowledge of and an interest in the value of the kindergarten as an integral part of the public school system. Field secretaries are employed in 47 States for the purpose of keeping this matter before the public and assisting parents in having classes organized for their children.

The association has been instrumental in securing the establishment to date of 1925 kindergartens. Where no adequate provision has been made in the school laws for the maintenance of kindergartens, the association has worked to stimulate an effort to secure the enactment of improved laws and has been instrumental in obtaining their passage in 16 States. In this it has cooperated with such State organizations as the Congress of Parents and Teachers, Federation of Women's Clubs, Woman's Christian Temperance Union, Federation of Labor, and Chamber of Commerce. From 1928 to 1932, through the generosity of its members, the association was able to set aside a fund from which 52 communities, which could not otherwise have opened kindergartens, received financial assistance. Since 1912 it has cooperated with the National College of Education in Evanston, Ill., in the training of kindergarten students. It has also published and distributed extensively leaflets on the subject of kindergarten extension and training.

The association's officers are: Major Bradley Martin, president; Hon. P. P. Claxton, honorary president; Mrs. Henry Phipps, first vice-president; Mrs. Charles Cary Rumsey, second vice-president; Mrs. Roger C. Aldrich, secretary; Miss Bessie Locke, executive secretary; and Julian M. Gerard, treasurer. Headquarters are at 8 West Fortieth Street, New York City.

**NATIONAL MUNICIPAL LEAGUE.** An organization which acts as a central clearing house for current information on improvements in State and local government throughout the United States. Founded in 1894 and incorporated in 1923, its aim is to promote efficient and democratic government in city, county, State, and nation. Under its direction, committees of experts are constantly at work developing sound principles of governmental methods and administration.

The committees active in 1932 were as fol-

lows: new municipal programme; model administrative code; model State constitution; citizen organization for municipal activity; citizens' participation in city government; county government; municipal standards; municipal reporting; selection of the judiciary; model special assessments law; and constructive economy in government. The committee on new municipal programme completed its revision of the present edition of the *Model City Charter*, a task which required two years of concentrated study. The first report of the committee on county government was issued as a supplement to the August, 1932, issue of the *National Municipal Review* under the title of "Constitutional Barriers to Improvement in County Government."

The thirty-eighth annual meeting of the league was held in Washington, D. C., Sept. 19-21, 1932, under the general title of "The National Conference on Government." The National Association of Civic Secretaries, the Proportional Representation League, and the American Legislators' Association cooperated in this conference. The officers elected for 1932-33 were: president, Murray Seasongood of Cincinnati; first vice president, Louis Brownlow of Chicago; second vice president, Mrs. F. Louis Slade of New York City; treasurer, Carl H. Pforzheimer; secretary, Russell Forbes; honorary secretary, Clinton Rogers Woodruff; editor of the *National Municipal Review*, H. W. Dodds; and public relations secretary, Howard P. Jones. Headquarters are at 309 East Thirty-fourth Street, New York City.

**NATIONAL PARKS.** See PARKS, NATIONAL. **NATIONAL RECREATION ASSOCIATION** (formerly Playground and Recreation Association of America). An association organized in 1900 for the purpose of uniting in a national movement the efforts made in various parts of the United States to provide safe and adequate areas where children may play under experienced leadership. A staff of field workers is maintained to assist cities in organizing year-round recreation programmes for children, adults, and the community as a whole, to strengthen existing programmes, and to help to secure State legislation to facilitate the development of municipal recreation.

The association has established a national recreation school for the training of recreation workers, a community drama service, a national music service, a national physical education service, a service to institutions, and a service on recreation for girls and women. It maintains a bureau that gives assistance to Negro groups in securing recreation opportunities and a service to rural leaders through which, in cooperation with the U. S. Department of Agriculture, they are receiving training as recreation workers. It publishes also a monthly magazine *Recreation*, issues pamphlets and books pertaining to the leisure-time movement, and maintains a bulletin service.

The officers of the association for 1932 were: president, Joseph Lee; treasurer, Gustavus T. Kirby; secretary, Howard S. Braucher. Headquarters are at 315 Fourth Avenue, New York City.

**NATIONAL RESEARCH COUNCIL.** A co-operative organization of American scientists, established in 1916 by the National Academy of Sciences, at the request of President Wilson, for the purpose of coordinating the research facilities of the United States for work on war prob-

lems involving scientific knowledge. Reorganized by the academy as a permanent body in 1918 for the general encouragement of research in the natural sciences, the council has maintained close relations with governmental scientific bureaus and has the formal recognition and cooperation of 76 national scientific and technical societies, its membership being composed in large part of appointed representatives of these societies.

The activities of the council are conducted by 11 divisions, each of which has a chairman and from 18 to 44 members. These divisions are composed of two groups, science and technology and general relationships. The science and technology group consists of divisions representing physics, mathematics, and astronomy; engineering and industrial research; chemistry and chemical technology; geology and geography; the medical sciences; biology and agriculture; and anthropology and psychology. The general relationships group consists of federal, foreign, State, and educational relations divisions. Each of these divisions maintains a number of administrative and technical committees.

Among the major undertakings of the council during 1932 were the administration of about 150 post-doctorate fellowships; the issuing of a series of research monographs in the physical sciences, including several parts of a treatise upon *The Physics of the Earth*; the editing of an *Annual Survey of American Chemistry* and the *Annotated Bibliography of Economic Geology*; and the sponsoring of research on highway construction, welding processes, electrical insulation, the durability of paper and preservation of records, sedimentation, leading to the publication of a revision of a previously issued *Treatise on Sedimentation*, tectonics, earthquakes, the measurement of geologic time, the chemistry and physiology of narcotic drugs, scientific problems of sex, medico-legal problems, infectious abortion, effects of radiation on living organisms, the principles of the conservation of wild life, microbiology of the soil, auditory deficiency, American archaeology, child development, and the psychology of the highway.

The general administrative officers of the council in 1932 were: chairman, William H. Howell, director emeritus and professor emeritus of physiology, school of hygiene and public health, Johns Hopkins University; first vice-chairman, David White, principal geologist, U. S. Geological Survey; second vice-chairman, Simon Flexner, director, Rockefeller Institute for Medical Research; third vice-chairman, John J. Carty, Winter Park, Fla.; treasurer, Arthur Keith, geologist, U. S. Geological Survey; secretary emeritus, Vernon Kellogg, National Research Council. Headquarters are in the building of the National Academy of Sciences, 2101 Constitution Avenue, Washington, D. C.

**NATIONAL SAFETY COUNCIL.** A non-profit, co-operative association, not only national but international in scope, devoted to the conservation of human life through a continuous campaign of accident prevention. In 1932, there were 4500 members including industrial corporations, firms, individuals, public officials, schools, Chambers of Commerce, clubs, and civic organizations; about 70 per cent of the memberships were industrial concerns.

Affiliated with the National Safety Council are 59 local councils in as many communities throughout the United States. They carry on intensive

safety work in approximately 10,000 plants in 150 different lines of industry, reaching approximately 10,000,000 persons.

During 1932 the Council's activities laid especial emphasis on the highway accident problem. A National Inter-City Traffic Contest was held, in which 442 municipalities, large and small, participated. Educational work was intensified among cities and schools throughout the United States, and valuable engineering studies were made in highway safety. Council experts also made special studies of the mental aspects of accidents, and accident research, not only in the highway field but also in industrial and home safety fields, was greatly broadened.

The Council publishes *The National Safety News*, for industries; *Public Safety*, for public officials, police chiefs, etc.; *Safety Education*, for schools; *The Safe Worker*, which is distributed each month to 150,000 workers; and *The Safe Driver* with a monthly circulation of 60,000 copies. It also issues safe practices and health practices pamphlets for industry and carries on extensive work through 27 sections represented in the industrial division for the exchange of new ideas, new plans, and new practices among members.

The twenty-first annual safety congress was held in Washington, D. C., Oct. 3-7, 1932 with an attendance of approximately 4000 delegates and visitors. The officers elected were: President, J. I. Banash, Chicago; Vice-President for Public Safety, Robert I. Catlin, Hartford, Conn.; Vice-President for Engineering, J. E. Culliney, Bethlehem, Pa.; Vice-President for Industrial Safety, George H. Warfel, Omaha; Vice-President for Membership, Howard B. Fonda, New York City; Vice-President for Local Safety Councils, John E. Long, Albany, N. Y.; Vice-President for Business Administration, G. T. Hellmuth, Chicago; Vice-President for Health, Dr. Cassius H. Watson, New York City; Vice-President for Education, Albert W. Whitney, New York City; Treasurer, Will Cooper, Managing Director and Secretary, W. H. Cameron, Chicago.

**NATIONAL TRANSPORTATION COMMITTEE.** See RAILWAYS.

**NATURAL GAS.** See GAS, NATURAL.

**NAURU.** An oval shaped atoll about 12 miles in circumference situated 166° E. longitude and 26 miles south of the Equator. The island was surrendered to the Australian forces by the Germans in 1914. It is administered under a mandate from the League of Nations by the British Empire. Area, 5396 acres; population, 1931 census, 2692. The export trade consists chiefly of phosphate. Administrator in 1932, W. A. Newman.

**NAVAL PROGRESS.** Although the Disarmament Conference at Geneva struggled diligently for months to reach some working agreement, and although serious economic difficulties continued to face all naval powers, great and small, the world has not yet given indication of making any very marked reduction in naval expenditures. The activities at Geneva were watched with the keenest interest by naval officials not only because of possible reduction in fleets, but also because agreements reached there might bring about very radical changes in the types of ships that compose fleets, and might impose restrictions on the activities of the types retained. Any such modifications would, of necessity, demand readjustments of prevailing ideas in

regard to tactics; and would, almost surely, result in changes of design for all new construction.

Although more detailed account of the conference is given elsewhere under the heading DISARMAMENT, it might be well to mention here the initial proposals of the five principal naval powers in regard to sea armaments. The United States urged an extension of the London treaty by adherence of France and Italy, a reduction in maximum tonnage, abolition of submarines, gas, and bacteriological warfare. In addition it desired some form of limitation of budgets for war purposes. Great Britain proposed that submarines and poison gas be abolished, but did not put forward initially her usual programme for a reduction in the size of battleships. Japan, preferring to watch for developments, made few proposals other than for the abolition of airplane carriers and heavy bombers. She was non-committal as to submarines. France, with her favorite theme of "security before disarmament," wished to see capital ships, submarines, heavy bombing planes, and chemical warfare abandoned as national weapons, but demanded that they be turned over to the League of Nations to be manned by an international police force. Italy accepted the proposals of the United States but went further and advocated the abolition of capital ships.

After the work of the conference was organized, the naval committee promptly adopted two articles in the draft treaty; one providing that no power should construct a vessel of war which should exceed the limitations as to displacement and armament to be set later by treaty; the other, forbidding sale or transfer of a vessel of war from one nation to another. The committee also agreed that, in the event of war, a country building a warship for another country should not be permitted to complete and use such ship for itself. After this progress, however, little else was accomplished. In April the conference unanimously adopted a resolution providing for "abolition or internationalization" of weapons found to be aggressive in character.

The committees appointed to determine which weapons were "offensive" ran into immediate difficulties. All nations except England, Japan, and the United States maintained that battleships were offensive; all except England and the United States took the same position regarding aircraft carriers. In the case of submarines, the position was reversed. Submarines were considered to be purely defensive weapons by all except England, the United States, Russia, and Germany (to whom they were forbidden). The German delegate mentioned the fact that England and all the Allies had gone on record in the Versailles Treaty as maintaining that airplanes were "offensive" and that in the same treaty France had gone on record that submarines were weapons of offense. The important part was not the arguments advanced but the honest differences of opinion that existed. It was easy to see that France considered the submarines to be her defense against possible naval pressure by England. At the same time, who in the United States considered the battleship anything but part of her defense, her first line of defense at that? Apparently the conference, in attempting to draw a distinction between "weapons of defense" and "weapons of aggression" set a tremendous task for itself.

In June, after the naval committee had failed to make progress, President Hoover offered certain definite proposals viz.: that the number and tonnage of battleships be reduced by one-third; that the tonnage allotted to aircraft carriers, cruisers, and destroyers, be reduced by one-fourth; that the treaty tonnage of submarines be reduced by one-third and that no nation should have more than 35,000 tons of submarines. He further proposed that Italy and France accept the ratios originally made for them in London in 1930. France and certain small powers had earlier objected to any attempts at the use of the London figures, and Mr. Ramsay MacDonald had said that if any power (France, for example) should disregard the limitations of London, England might be forced to invoke the "escalator" clause and build more ships.

Discussions continued with each nation urging the abolition of weapons it could not afford, or that it considered useless, but insisting upon the retention of any weapon within its means. In spite of the efforts to show that "qualitative disarmament" would increase security, all the delegations knew that in war someone would attack and that any means at hand would be used. The proposals of President Hoover were so definite and so far-reaching that in the summer the conference, unable to reach an agreement and unwilling to confess failure, adjourned to meet in January, 1933. It was hoped that further consideration might permit delegations to reassemble in a better frame of mind.

But prospects for success soon appeared jeopardized when Germany demanded release from the limitations on her Army and Navy establishments imposed by the treaty of Versailles (forbade submarines, limited naval personnel to 15,000 in long-term enlistments, restricted largest ships to 10,000 tons; and fixed numbers at 6 battleships, 6 light cruisers, 12 destroyers, and 12 torpedo boats). France firmly opposed this demand, and Germany held to her previously expressed intention of having nothing more to do with the arms conference or its bureau or steering committees until her demand for equality was satisfied. The United States, during the period of adjournment, in a determined endeavor to clear the way for progress when the conference reconvened, sought to arrange for naval reductions below the levels established in London in 1930.

Agreement between England and the United States on such reductions was brought within the range of possibility, contingent upon success in bringing France and Italy into full acceptance of the London treaty provisions and securing naval adjustments on the part of Japan. Chiefly to stimulate progress in this direction, President Hoover released a statement of Navy Day to the effect that should disarmament moves fail, the American Navy must be brought up to its treaty quota. In October the United States approved the League proposal for a four-month extension of the one-year truce in construction of armaments agreed upon in November of last year. (See 1931 YEAR BOOK.)

The activities at Geneva caused many people to examine anew the Washington treaty of 1922 which endeavored to check naval competition and to limit the defense budgets of the great naval powers, as well as to restrict the dimensions of naval armaments. The treaty had been effective so far as capital ships are concerned,

for none was laid down for ten years; and the treaty of London in 1930 gave every hope that the "battleship holiday" would extend to 1936. France's determination to commence work on the *Dunkergue* during 1932 frustrated this hope. In all other aspects the system of treaty restrictions did not seem to have fulfilled the hopes of the authors. The competitive spirit had not been lessened but navies were building ships of inordinate cost, although some of the new types promised to be of doubtful efficiency. Moreover, statesmen and strategists, disturbed by the havoc wrought with the changed balance of naval power, were left vainly groping for a yardstick with which to measure the relative strength of their own Navy and that of any other power.

The treaty limitations on tonnage and armament spurred designers to get the utmost from each ton. The United States in her new construction had stressed heavy armament; France and Italy had emphasized speed; Japan, to gain both characteristics, had sacrificed a certain amount of seaworthiness; and England, although she had not signaled out any particular feature, had consistently designed and built ships that were fully as good as those of the other powers. But the widest variations were apparent in the degree to which America and other nations built up to treaty limits.

A compilation of current information showed that in 1936, if the programmes of the leading naval powers were continued along lines already laid down, the American Navy would be weaker in tonnage than the British Navy and possibly not as powerful as the Japanese Navy. In the number of fighting units, official tables disclosed that America would be far inferior to both her rivals. The American Navy would consist of 68 ships, the British Navy of 134 ships, and the Japanese Navy of 156 vessels. In tonnage the American Navy would have 607,370 tons as against 627,175 for Britain and 602,178 for Japan. An analysis of the naval construction situation of the five signatory powers showed that since the signing of the Washington treaty the United States had laid down or appropriated for the construction of 34 vessels amounting to 195,170 tons; Great Britain, 111 vessels totaling 389,155 tons; Japan had laid down or appropriated for the construction of 127 vessels amounting to 320,062 tons; France, 156 vessels with a tonnage of 360,512, and Italy, 116 ships with a tonnage of 223,446.

#### LAI'D DOWN OR APPROPRIATED FOR SINCE WASHINGTON TREATY

	Cruisers No. Tonnage	Destroyers No. Tonnage	Submarines No. Tonnage
United States <sup>a</sup>	16 152,900	11 16,500	6 11,970
Great Britain <sup>b</sup>	25 210,260	54 73,831	30 37,664
Japan <sup>c</sup> . . . . .	20 160,875	63 89,016	43 62,571
France <sup>d</sup> . . . . .	19 152,902	58 111,197	78 75,913
Italy . . . . .	17 124,086	45 54,709	54 44,651

<sup>a</sup> Also 1 carrier, 13,800 tons

<sup>b</sup> Also 2 battleships, 67,400 tons.

<sup>c</sup> Also 1 carrier, 7,600 tons.

<sup>d</sup> Also 1 battleship, 26,500 tons.

In regard to the United States: of the 16 heavy cruisers (Category A), 9 were in commission and 6 under course of construction. Bids for the 16th cruiser unit were asked by the Navy Department during October, but, under the treaty, this vessel could not be laid down until after January 1, 1933, and could not be completed before 1936. Two more heavy cruisers had been authorized, making a total of 18 built, building,

or authorized. The 17th cruiser unit could not be laid down until January 1, 1934, nor completed before 1937, and the 18th and last cruiser of this group could not be laid down before January 1, 1935, or completed before 1938. Of the 11 destroyers, 8 were under construction. The laying down of 3 more had been authorized, but no funds had been appropriated for this purpose. Of the 6 submarines laid down or appropriated for since the Washington treaty, all were in commission except the *Cachalot* and *Cuttlefish*, both of which were under construction.

A compilation portraying the naval building situation in the United States, Great Britain, and Japan—ships that may be laid down prior to December 31, 1936, under the terms of the London treaty—showed that no provision had been made for the following ships which the United States required to bring the American Navy up to treaty strength: 3 aircraft carriers, 55,200 tons; 9 cruisers, 87,100 tons; 89 destroyers, 133,500 tons; and 34 submarines, 40,730 tons, or a total of 135 ships, aggregating 316,530 tons. In contrast stood the present building status of the British Navy. Great Britain had had in each recent year a uniform building programme of 3 cruisers, 9 destroyers, 3 submarines, and several miscellaneous craft. She was planning to maintain her Navy at treaty strength, as was indicated by the statement of the first lord of the Admiralty to Parliament on March 7, 1932, when he said, in part, that "we must have the ships which we are allowed to have by 1936 by our treaties, and there is no doubt that we shall have them."

Japan was maintaining her forces afloat at practically treaty strength. Her 1933 programme, already recommended in the budget and to be voted in February, provided for all treaty-authorized replacements except 5200 tons of destroyers that might be laid down in 1935 and 5200 tons of destroyers that might be laid down in 1936.

**ARGENTINA.** The necessity for introducing strict economies by the Navy Department resulted in a determination to call no new conscripts for the coming year, and to discharge some 2500 conscripts of the class of 1910 from the naval training stations and mechanics school. The economic exigencies also forced some restrictions on fleet operations. A squadron that included the two new cruisers *Almirante Brown* and *Ventecunco de Mayo*, and four old cruisers held extensive exercises during the summer. The *Buenos Aires*, a cruiser laid down by Armstrong in 1895, was decommissioned. The destroyers *La Plata* and *Jujuy* built in Germany in 1911 were being modernized to join the *Catamarca* and the *Cordoba* already modernized. Construction continued on the submarines *Salta*, *Santa Fé*, and *Santiago-del-Estero* being built in Toronto as part of the programme authorized in 1926. The *Salta* was launched on January 17. The general design of all three resembled the Italian *Mameli* type.

**AUSTRALIA.** The periodic interchange of ships between the Royal Navy of Great Britain and the Royal Australian Navy, postponed in 1930 for financial reasons, was again deferred for a similar reason. An arrangement was made, however, for adjusting the pay of officers who were interchanged so that no hardship or penalty resulted. But urgent reasons for economy did not prevent the reopening, after being closed for two years,

of the naval school with an initial class of twelve students.

**BRAZIL.** The insistence of the Brazilian press that not one unit of the fleet was seaworthy, and the activities of other South American countries in improving their navies resulted in the new provisional president issuing a decree which authorized a navy replacement fund that was to be spread over a twelve-year period. The Navy was to be reorganized, its arsenals improved, and its bases strengthened. The decree authorized purchase of 2 cruisers, 8 destroyers, 5 submarines, and 6 Coast Guard vessels. Bids were to be submitted to the Minister of Marine and construction was required to start within two years of the date of contracts. Except for the submarine *Humayta* which was badly damaged last year, these would be the first warships constructed for Brazil in many years.

In June, an agreement was signed between the U. S. Secretary of State and the Brazilian Ambassador providing for a naval mission of two commissioned officers and one chief petty officer of the U. S. Navy to assist in the work of instruction at the Brazilian Naval War College. Twelve training biplanes were being built by de Havilland for the Brazilian Navy. Of the 11 Savoia Marchetti flying boats purchased in 1931, only 6 remained. Two were destroyed by landing one on top of the other when alighting in formation, a third hit a sand bank in low water, a fourth crashed during a night flight, and a fifth was blown up through a mechanic searching for a gasoline leak with an open light.

**CANADA.** With the development of the British Commonwealth of Nations had grown the feeling in the mother country that some of the younger members did not contribute sufficiently to the common defense. It was estimated that in the fiscal year 1932 the naval expenditure per head in the United Kingdom was about £1.4s. and in Canada 1s.9d. In 1932 the complement of 792 ratings was filled with Canadians but there were only 86 officers (including 8 from the Royal Navy) for an establishment of 104 officers. Canada had never had her own naval college; officers joined as cadets and proceeded to England for training, but last year no candidates passed the required tests. Twelve years ago virtually all of the personnel was borrowed from the Royal Navy.

**CHILE.** A small number of officers from the British Navy headed by a captain were employed as technical advisers. The effects of the recent mutiny (see 1931 YEAR BOOK) had apparently been overcome and at the end of the year it seemed that the naval establishment had resumed a satisfactory state of discipline.

**CHINA.** The Chinese Navy was used for police duty and the suppression of piracy. It was not engaged in Shanghai nor in any other clashes with the Japanese forces. The Minister of Marine announced a new programme comprising 3 cruisers, 4 destroyers, and 2 submarines, he was also reported to have taken steps to enlarge the naval air establishment, at Shanghai, but lack of money checked the development of these plans. At Canton when Admiral Chanchak was ordered removed from his command for disloyalty he seized the most important vessels of the Cantonese fleet and set up a naval administration on the Island of Hainan. There he successfully repulsed the provincial troops that attempted to cross the choppy fifteen-mile strait that sepa-

rated the island from the mainland. Ultimately a compromise was reached and the ships were again placed under their normal jurisdiction.

**COLOMBIA.** In September the government appropriated \$10,000,000 for national defense against Peru. She bought the SS. *Bridgetown* for use as a transport and changed the name to *Boyaca*. A little later she made tentative offers of \$320,000 for the Spanish gunboat *Eduardo-Dato*, completed in 1924, 1335 tons, four 4-inch, two 3-pounder A. A. guns, and 2 pom-poms for landing. Information as to the negotiations became public and before the arrangements were consummated, Peru protested so effectively that Spain was obliged to refuse the offer.

**DANZIG.** See *Poland*.

**DENMARK.** The efforts of the Socialist government virtually to abolish the Navy never achieved complete success. The Danish fleet did, however, continue to undergo diminution. It was planned that in the future it would consist of 9 torpedo boats, 1 mine layer, and 1 engineer ship. Three new torpedo boats *Gelenten*, *Høgen*, and *Ormen* were laid down. They are small craft of 285 tons, 6000 h.p., 275 knots with two 75-mm., two 20-mm. guns, two 8-mm. machine guns, and eight torpedo tubes. The coast defense ship *Herluf Trolle*, the torpedo boats *Ormen*, *Delfinen*, *Svaerdsfiken*, and the submarines *Havfruen* and *Nymfen* were declared obsolete and removed from the Navy list. The Danish Navy League was highly critical of the whole state of affairs and especially of the fact that no adequate provision was made for the replacement of most of the obsolete vessels nor for the replacement of the coast defense armored ships which alone provided artillery defense.

**FINLAND.** The building of the coast defense ships *Vainamoinen* and *Ilmarinen* (see 1931 YEAR BOOK for principal details) showed that the progress of the Polish fleet will not be the only factor likely to affect the balance of power in the Baltic. The work on these vessels was hastened and they should be commissioned during 1933. For their size they will be the best and most modern coast defense ships in the world, and it is to be noted that they and the submarines of the fleet were built in Finnish yards by Finnish labor.

**FRANCE.** Early in the year, M. Tardieu grouped the Ministries of War, Marine, and Air under one Minister of Defense, but in May when M. Herriot succeeded him the old ministries were promptly reestablished. The naval estimates for 1932 provided approximately \$58,000,000 for operation and upkeep, and \$68,000,000 for new construction. The estimates covered but nine months of the year as, in the future, the fiscal year and the calendar year will coincide. The total naval credits demanded for the nine months were at the rate of \$4,000,000 per twelve months over those of 1931. This year's building programme formed another annual "slice" in the series which has gone on uninterruptedly since 1922 at the average rate of about 35,000 tons a year. Each annual "slice" takes about five years to complete, from the laying down of the ships until their first commission, so that there is a fairly large volume of building, equivalent to about 2.5 annual "slices," always in hand. A 10,000-ton cruiser, for instance, takes about 3.5 years to complete, from laying down to first commission. A large submarine takes longer owing especially to the length and delicacy of its trials.

The cost to the French Exchequer of the annual "slice" of naval construction was in 1932 over 1,000,000,000f. (1 franc = 3.92 cents). This did not include building for the "coastal flotillas" (patrol boats and small submarines) and various other items of new work. Last year the French taxpayer had to find in these extra charges 125,000,000f. for auxiliary vessels, remodeling of existing vessels, and research; 200,000,000f. for the construction and filling of underground oil reservoirs; 75,000,000f. for the equipment of arsenals; 100,000,000f. for coast defense; and 40,000,000f. for naval harbor works, a total of 540,000,000f.

The annual cost of upkeep of the French Navy was about 1,500,000,000f. Its strength was 53,750 men. The cost of maintenance and repairs for the growing navy was 16,000,000f. more this year than last. The French Navy consumed 125,000 tons of coal (all from French mines) a year at a cost of 225f. per ton, and 260,000 tons of fuel oil, which cost 159f. per ton. Of the fuel oil nine-tenths has hitherto been purchased from Soviet Russia and one-tenth from the United States, but a change was expected in favor of Rumania. All the oil was brought to the French Navy by its own fleet of eight oil tankers.

In the spring and summer a fleet concentration took place, for the first time since 1913, of the naval forces in the channel with those in the Mediterranean. In July the submarine *Prométhée* was lost in 250 feet of water off Cape Levi on the North coast of France, during surface trials; 62 officers and men were lost. A committee of inquiry expressed the unanimous opinion that a compressed air valve was suddenly opened in error, thus letting in water and causing the vessel to dive. Work was started at Brest during October on the battle cruiser *Dunkerque*, France's answer to the German *Deutschland*. Her characteristics were: length 200 meters, displacement 26,500 tons, speed 30 knots, armament eight 6-inch guns, and either eight or nine 13-inch guns. These latter were to be in three triple turrets or two quadruple turrets.

Vessels of importance completed during 1932 were destroyer *Vautour*, 2400 tons; 9 submarines of 1400 tons each, *Persée*, *Ajaax*, *Pégase*, *Monge*, *Poncelot*, *Protée*, *Argo*, *Archimède*, *Pasteur*; and 7 submarines of 550 tons each: *Ondine*, *Amphitrite*, *Antiope*, *Orphée*, *Amazonc*, *Meduse*, *Idane*. The larger submarines have a surface speed of 17 knots while the smaller ones can make nearly 14 knots. The destroyer completed, like all of the large French destroyer leaders, would be classed as a cruiser under part three of the London treaty. (Only United States, Great Britain, and Japan agreed to that part.) Other important vessels under construction or appropriated for at the end of 1932 are listed in the accompanying table. (See table next page.)

**GERMANY.** The budget for 1932 appropriated 657,300,000M (approximately \$159,366,000) for the Ministry of Defense—about \$3,000,000 less than the preceding year. This budget included \$4,300,000 as the first instalment toward the construction of the third 10,000-ton "pocket battleship" (*Panzerschiff "C"* or *Ersatz Braunschweig*). It also included the final grant for the first "pocket battleship," *Deutschland*, launched at Kiel in May, 1931. A full description of this vessel appeared in the 1931 YEAR BOOK. It is contemplated that the fourth ship of this type, *Ersatz Elsass*, of which Germany, by the treaty



of Versailles, may have six in commission, shall be laid down in 1933. The total amount allotted to new construction was 50,000,000M as against 49,000,000M for 1931.

## FRANCE: WARSHIP BUILDINGS, 1932

Class and name	Laid down	Standard displacement	Speed
Capital ship:			
<i>Dunkerque</i>	1932	26,500	80
Cruiser (A):			
<i>Algerie</i>	1931	10,000	82
Cruisers (B):			
<i>La Galissonniere</i>	1931	7,000	
<i>Jean-de-Vienne</i>	1931	7,000	
<i>Emile Bertin</i>	1931	5,886	
(mine layer)			
<i>Marsellaies</i>	1932	7,500	
<i>Gloire</i>	No	7,500	
<i>Montcalm</i>	No	7,500	
<i>Chateaurenault</i>	No	7,500	
Destroyers:			
<i>Triomphe</i>	1931	2,569	
<i>Terrible</i>	1932	2,569	
<i>Mahn</i>	1931	2,569	
<i>Audacieux</i>	1931	2,569	
<i>Fantassque</i>	1931	2,569	
<i>Chevalier Paul</i>	1930	2,441	
<i>Brze</i>	1930	2,441	
<i>Tartu</i>	1930	2,441	
<i>Cassard</i>	1930	2,441	
<i>Kersant</i>	1930	2,441	
<i>Vauquelin</i>	1930	2,441	
<i>Epevier</i>	1929	2,441	
<i>Milan</i>	1929	2,441	
<i>Hardi</i>	No	1,500 (Est.)	
<i>Magador</i>	No	2,500 (Est.)	
Submarines:			
<i>Oreade</i>	1929	571	13.7
<i>Eubus</i> (mine layer)	1929	669	12
<i>Tonnant</i>	1930	1,379	17
<i>Diamant</i> (mine layer)	1929	669	12
<i>Psyche</i>	1930	571	
<i>Sybille</i>	1930	571	
<i>Vestale</i>	1930	565	
<i>Sultane</i>	1930	565	
<i>Glorieux</i>	1929	1,379	
<i>Centaur</i>	1929	1,379	
<i>Heros</i>	1929	1,379	
<i>Conquerant</i>	1929	1,379	
<i>Iris</i>	1931	571	
<i>Venus</i>	1931	571	
<i>Junon</i>	1931	571	
<i>Minerva</i>	1931	571	
<i>Perle</i> (mine layer)	1931	669	
<i>Casablanca</i>	1931	1,379	
<i>Staz</i>	1931	1,379	
<i>Sidi-Ferruch</i>	1932	1,379	
<i>Ouessant</i>	1932	1,379	
<i>Bevezers</i>	1932	1,379	
<i>Agosta</i>	1931	1,379	
<i>x</i>	No	1,379	
<i>x</i>	No	1,379	

The *Ersatz Braunschweig*, like her two predecessors, will be of 10,000 tons standard displacement, 20 knots speed and carry six 11-inch, eight 5.9-inch, four 3.5-inch A. A. guns, and six torpedo tubes.

This squadron of ships when completed will be a weighty factor in the balance of power at sea. Its possession will restore to Germany the command of the Baltic, for it will be more than a match for antiquated Russian dreadnoughts or lightly armed capital ships of other Baltic powers. Such a squadron, if able to elude French submarines in the North Sea, would be able to raid French North African communications almost with impunity. Consequently, the French laid down the *Dunkerque* in answer. The Washington and London treaties endeavored to insure a certain degree of stability in the naval field, but the introduction of the *Deutschland* type and the French return to the almost discarded battle cruiser furnished another indication of the difficulty of checking naval competition. New types have always complicated the calculations of even

the greatest naval powers; and even when a given fleet may offer no direct threat to a stronger one, it still may possess a disturbing "alliance value."

The *Panther*, the gunboat famous in relation to the Agadir crisis of 1911, was sold at auction for less than \$10,000. The 20,000-ton cruiser *Salamis* which never had a gun mounted and has been for 14 years a fixture at Hamburg, where it was built on a pre-war order from the Greek government, was sent to Bremen to be broken up. In July the training ship *Niobe* was struck by a sudden squall in the Baltic and capized with the loss of 69 lives. An inquiry reported that the disaster was not due to negligence or inefficiency but to the "act of God." The surviving cadets were sent to Stralsund for further training and will ultimately go to the naval school at Murwik. Meantime the question of placing another sailing ship in service as a training ship was being taken in hand.

GREAT BRITAIN. The naval estimates for the fiscal year 1932-1933 were £50,476,300 (pound on a gold basis worth \$4.8665). This did not, of course, include expenditures for naval air activities nor the cost of dominion navies. Provision was made for 91,410 men, a decrease of 2240. The new construction programme was practically a repetition of that of 1931. It consisted of: 2 cruisers of the *Leander* class, 1 cruiser of the *Arcthusa* class (5000-6000 tons), 1 leader and 8 destroyers, 4 sloops, 3 submarines, 1 shallow draught gunboat, 1 destroyer depot ship, 1 boom defense vessel, 1 tug, 2 tenders, 3 lighters.

The submarine *M-2* was lost with all hands on January 26, and it was a week before the hull was located. An enormous amount of work and the expenditure of £20,000 over a period of many months did not succeed in raising her. The *M-2* of some 1500 tons displacement formerly carried a 12-inch gun but this had been removed and at the time of the disaster she carried an experimental seaplane stowed in a watertight hangar on a catapult. There were indications, but by no means conclusive ones, that an open hangar door may have caused the accident.

The Navy, since the World War, has been constantly experimenting with submarine detectors and in 1932 perfected one that was reported to be highly effective. No details in regard to it leaked out other than that it was a tank-like apparatus and indicated both direction and distance. It was most effective when used by pairs of destroyers. Special ratings were secretly trained in the use of the instruments, which were kept in special cabins under lock and key. Changes, mainly in the interests of economy, were made in the constitution of the Mediterranean and Atlantic Fleets. The number of battleships allotted to the Mediterranean was reduced from six to five. The reduced number of battleships allotted to the Mediterranean was to remain in commission with full peace complement and always be available on the station except for short periods for recommissioning or refitting at home, the intention was that when one of these ships underwent large repairs she should be relieved by a ship of the same class from home. Only one aircraft carrier was to be attached to the Mediterranean Fleet, subject to the proviso that if she were withdrawn for any length of time another large carrier would relieve her temporarily. The number of destroyer flotillas in the Mediterranean was reduced from

four to three. The title of Atlantic Fleet was altered to that of Home Fleet. Of the ten capital ships at home (seven battleships—including one withdrawn from the Mediterranean—and three battle cruisers), three were treated as being in reserve, with only 70 per cent active service crews, but 100 per cent of her non-substantive ratings. (These three were *Barham*, *Repulse*, and *Ramillies*.) The remaining seven capital ships at home were kept in commission with full active service peace-time crews (about 80 per cent of full war complements).

The vessels of importance completed and placed in commission in 1932 were: destroyers *Kempenfelt*, *Comet*, *Crusader*, *Crescent*, *Oyngnet*, *Diamond*, *Daring*, *Defender*, and possibly one or two others of the "D" class from the 1930 programme. All were of 1375 tons, 35–36 knots with four 4.7-inch guns, and eight torpedo tubes. Submarines: *Thames*, 1805 tons. In addition the submarines *Swordfish* and *Sturgeon* of the 1929 programme were virtually completed and should be commissioned early in 1933. The *Leander*, the only cruiser authorized under the 1929 programme, was expected to be ready for service in February, 1933.

Other important vessels under construction or appropriated for at the end of 1932 are listed in the accompanying table.

GREECE. The destroyers *Spetsai* and *Psara*, two of the four building at Genoa for Greece, were launched during the year. By agreement with the British government the contract for a British naval mission of five officers was canceled for reasons of economy.

ITALY. The budget for 1932–1933 estimated for the Army 2,960,000,000l.; for the air force 750,000,000l.; and for the Navy 1,540,000,000l. Of the naval budget 725,000,000l. or approximately \$38,000,000, the same amount as the preceding year, was to be spent for construction. The building programme comprised two 6500-ton cruisers, *Emanuel Filiberto* and *Eugenio de Savoia*, and two 625-ton destroyers. The cruisers were to be very similar to the *Attendolo* class of 5550 tons, eight 6-inch and six 3.9-inch A. A. guns, designed speed of 37 knots. With the launching of the *Pola*, all seven of the 10,000-ton cruisers were in the water. The *Bolzano*, *Gorizia*, and *Pola* were launched in 1930–1931, and were being completed afloat and should be ready in 1933. The *Pola* was specially protected against under-water attack by well arranged compartments; the engines and boilers were in seven watertight compartments; the former consisted of two groups of Parson's turbines with reduction gearing, and the eight latter were Yarrow type, oil fired. The shaft horsepower of two shafts was 95,000, the boiler pressure of 375 lbs., and the super-heat 70° Centigrade; designed speed, 32 knots. Anti-gas protection was fitted to all the fighting stations. There was a small hangar to accommodate three seaplanes. An elevator brought these up in line with the rails of the Cagnotto type catapult.

The cruiser *Armando Diaz* launched on July 10 was the sixth of the eight vessels of the "Condottieri" type, of 5069 tons 37 knots, armed with eight 6-inch guns, six 3.9-inch A. A. guns, six smaller guns, and four torpedo tubes. Each vessel had one catapult and two seaplanes. In the remaining two ships of this group, *Montecuccoli* and *Muzio Attendolo*, laid down in 1931, the displacement has been increased to 5857 tons,

## GREAT BRITAIN: WARSHIPS BUILDING, 1932

<i>Class and name</i>	<i>Laid down</i>	<i>Standard displacement</i>	<i>Speed</i>
<b>Cruisers:</b>			
<i>Ajax</i>	1932	7,000	
<i>Amphion</i>	1932	7,000	
<i>Arethusa</i>	1932	5,000	
<i>Leander</i>	1930	7,000	32.5
<i>Neptune</i>	1931	7,000	
<i>Orion</i>	1931	7,000	
<i>Achilles</i>	1931	7,000	
1 <i>Leander</i> class	No	7,000	
1 <i>Leander</i> class	No	7,000	
1 <i>Arethusa</i> class	No	5,000	
<b>Destroyers:</b>			
<i>Exmouth</i> (DL)	1932	1,400	
<i>Decoy</i>	1931	1,375	
<i>Duchess</i>	1931	1,375	
<i>Dainty</i>	1931	1,375	
<i>Delight</i>	1931	1,375	
<i>Diana</i>	1931	1,375	
<i>Duncan</i> (DL)	1931	1,400	
<i>Echo</i>	1932	1,375	
<i>Eclipse</i>	1932	1,375	
<i>Electra</i>	1932	1,375	
<i>Encounter</i>	1932	1,375	
<i>Escapade</i>	1932	1,375	
<i>Escort</i>	1932	1,375	
<i>Esk</i>	1932	1,375	
<i>Express</i>	1932	1,375	
<i>x</i>		1,400	
Eight others of 1,375 tons each.			
<b>Submarines.</b>			
<i>Sturgeon</i>	1931	640	
<i>Seahorse</i>	1931	640	
<i>Starfish</i>	1931	640	
<i>Porpoise</i> (mine layer)	1931	1,505	
<i>Swordfish</i>	1930	640	
<i>Shark</i>	1932	950	
<i>x</i>		950 (Est.)	
<i>x</i>		950 (Est.)	
<i>x</i>		950	
<i>x</i>		950	
<i>x</i>		950	

and the horsepower from 95,000 to 110,000 although the designed speed remained at 37 knots.

After the fall manœuvres the battleships that remained in commission were laid up, the latest cruisers were formed into new squadrons of especially fast ships and a special division of four cruisers was formed for the Adriatic. The extensive practice with mine laying (practically all light ships of the Italian Navy had mine-laying equipment) continued throughout the year.

The vessels of importance completed and placed in commission during 1932 were destroyers *Fulmine*, *Lampo*, *Saetta*, *Fulgore*, *Baleno*; and submarines *Argonauta* and *Fisalia*. The destroyers laid down in 1929 and 1930 were all of 1220 tons, 38 knots with four 4.7-inch guns, three 1.8-inch A. A. guns and six torpedo tubes. The two submarines, laid down in 1929, had 600 tons displacement, surface speed 16.5 knots, submerged speed 9 knots, and carried one 4-inch gun and eight torpedo tubes. Other important vessels under construction or appropriated for at the end of 1932 are listed in the accompanying table. (See table next page.)

JAPAN. The naval estimates for 1933–1934 asked for ¥550,000,000 (over \$270,000,000 at normal rate of exchange when value of yen was \$0.4985), much more than double the amount for 1930–1931 the last normal year. In addition to the expense of ¥200,000,000 for operation and maintenance, the Navy asked ¥270,000,000 for improvement and replacement of armaments and about ¥75,000,000 for the costs of the Manchurian and Shanghai expeditions. The ¥270,000,000 covered improvement and replacement of arms, increases and improvements of naval air force and the necessary maintenance funds for the larger force to result. The Navy attached special

importance to the Y30,000,000 included for additional airplanes.

After a prolonged struggle with the finance minister, the total was reduced to Y373,000,000 and this was approved by the cabinet. The details as to where the cuts were made were not announced but it was known that Y237,000,000 of the country's total budget was designated for "replenishment of arms, all services."

## ITALY: WARSHIPS BUILDING, 1932

Class and name	Laid down	Standard displacement	Speed
<b>Cruisers:</b>			
<i>Bolzano</i>	1930	10,000	36
<i>Pola</i>	1931	10,000	
<i>Armando Diaz</i>	1930	4,896	37
<i>Luigo Cadorna</i>	1930	4,896	37
<i>Montecucoli</i>	1930	5,855	
<i>M. Attendola</i>	1931	5,855	
<i>Emanuel Filiberto</i>	1932	6,500	
<i>Eugenio de Savoia</i>	1932	6,500	
<b>Destroyers:</b>			
<i>Maestrale</i>	1931	1,220	
<i>Grecale</i>	1931	1,220	
<i>Scirocco</i>	1931	1,220	
<i>Libeccio</i>	1931	1,220	
<i>Spica</i>	1932	650 (Est.)	
<i>Astore</i>	1932	650 (Est.)	
<b>Submarines:</b>			
<i>Jalea</i>	1930	600	16 5/9
<i>Jantina</i>	1930	600	16 5/9
<i>Serpente</i>	1930	600	16 5/9
<i>Salpa</i>	1930	600	16 5/9
<i>Medusa</i>	1930	600	16 5/9
<i>Diamante</i>	1931	600	
<i>Smeraldo</i>	1931	600	
<i>Rubino</i>	1931	600	
<i>Topazio</i>	1931	600	
<i>Ametisto</i>	1931	600	
<i>Zaffiro</i>	1931	600	
<i>Sirena</i>	1931	600	
<i>Nauale</i>	1931	600	
<i>Anfitride</i>	1931	600	
<i>Galatea</i>	1931	600	
<i>Ondina</i>	1931	600	
<i>x</i>	1931	799	
<i>x</i>	1931	799	
<i>x</i>	1931	799	
<i>x</i>	1931	799	
<i>x</i>	1931	823	
<i>x</i>	1931	823	
<i>x</i>	1931	1,368	
<i>x</i>	1931	1,368	
<i>x</i>	1931	1,368	
<i>x (mine layer)</i>	1931	1,368	

The *Maya*, that was nearing completion at the end of the year, would give Japan twelve 8-inch cruisers (her full allowance under the London treaty) all completed since 1925. She also had fourteen 5000-ton cruisers carrying 5.5-inch guns that were completed since 1920. The two cruisers building and the two others appropriated for would bring her to the limit of the London treaty in that class of vessel. She also had built and ready for service more under-age destroyers than any other Navy and had more under-age submarines than any other nation except France. It was reported that one of the cruisers under construction would be of the "flying-deck" type. Progress was made in the programme of 1931-1932 to triple the strength of the naval air force. One hundred boys from 8000 applicants were chosen for three years' training for pilots. The Navy adopted the Kawanishi three-seat reconnaissance seaplane (Nakajima Jupiter engine) to replace the standard type 14 reconnaissance seaplane (Lorraine engine). No details of performance were allowed to be published. The vessels of importance completed and placed in commission during 1932 were: heavy cruiser *Maya*, 9850 tons, 33 knots, ten 8-inch guns, four 4.7-inch A. A. guns, 8 torpedo

tubes; destroyers *Ikazuki* and *Sazanami*, 1700 tons, 34 knots, six 5-inch guns, 9 torpedo tubes; submarines *I-67* and *I-5* each with 6 torpedo tubes, former 1638 tons, 19 knots surface speed, one 3.9-inch gun, latter 1955 tons, 17 knots surface speed, one 5-inch gun. Other important vessels under construction or appropriated for at the end of 1932 are listed in the accompanying table.

**NETHERLANDS.** As a result of competitive bidding the order for the new cruiser *Celebes* was given to a Rotterdam firm. Of German design, she will be of 5250 tons, carry six 5.9-inch guns, speed 30 knots, cruising radius 5000 miles at 12 knots. Destined for use in the Orient, the Netherlands government will pay half the cost and Netherland India the remainder. The submarine *K. XVII* for similar purposes was launched in July. It was decided that construction of six replacement submarines, one mine-laying submarine and two destroyers which were to have been laid down before 1936 would be entirely postponed until the new cruiser was completed.

**PERSIA.** The dispatch boats *Babr* (tiger) and *Palang* (panther) were completed at Palermo. They carry two 4-inch guns and two 3-inch A. A. guns. These with four motor launches were taken to Persia by 29 officers and 330 men of the Persian Navy who had been in training in Italy. They were accompanied by nine Italian officers and some Italian engineers.

## JAPAN: WARSHIPS BUILDING, 1932

Class and name	Laid down	Standard displacement	Speed
<b>Cruisers</b>			
<i>Maya</i>	1928	9,850	33
<i>Mogami</i>	1931	8,500	
<i>Mikuma</i>	1931	8,500	
<i>x</i>	No	8,500	
<i>x</i>	No	8,500	
<b>Aircraft carrier:</b>			
<i>Ryugo</i>	1931	7,600	25
<b>Destroyers.</b>			
<i>Inazuma</i>	1930	1,700	34
<i>Hibiki</i>	1930	1,700	34
<i>Akatsuki</i>	1930	1,700	34
<i>Hatsuharu</i>	1931	1,378	
<i>Menchi</i>	1931	1,378	
<i>Wakaba</i>	1931	1,378	
Nine others of 1,378 tons each.			
<b>Submarines.</b>			
<i>I-69</i>	1931	1,400	
<i>I-66</i>	1929	1,638	19
<i>I-65</i>	1929	1,638	19
<i>I-68</i>	1931	1,400	
<i>I-6</i>	No	1,900	
<i>I-70</i>	No	1,400	
<i>I-71</i>	No	1,400	
<i>I-72</i>	No	1,400	
<i>I-73</i>	No	1,400	
<i>A</i>	No	700	
<i>B</i>	No	700	

**PERU.** A mutiny, believed to form part of a Communist agitation throughout South America, occurred on board the cruisers *Coronel Bolognesi* and *Almirante Grau* off Callao on May 7. The affair might have been more serious but for the patriotism of a sailor from the *Almirante Grau* who swam ashore and gave alarm. The entire Lima garrison was rushed down to Callao to prevent the mutineers from landing. A loyal submarine opened fire on the *Coronel Bolognesi*, where the mutiny started, and when one of her shells struck the cruiser the mutineers hauled down the red flags and hoisted white ones. A court-martial assembled at Lima on May 9, and as a result of its verdict eight ringleaders were executed on May 11; fourteen sailors were sen-

tenced to fifteen years imprisonment, and twelve to ten years.

**POLAND.** The second of the Polish destroyers, *Burza*, built in France, made 33 knots on her trials. She was formally commissioned August 10. The submarine *Zbik*, also French built, was placed in service with the *Burza* at Gdynia. Strained relations existed between Poland and Danzig with regard to the use of the latter port by Polish men-of-war. The International Court decided against Poland's free use of the place and laid down the general principle that the port should not be used as a naval base by any power. As the Polish government is co-owner of the repairing yards agreement was finally effected as to their use.

**PORTUGAL.** Following the fall of the pound sterling the Italian shipyards which had received contracts for the aircraft tender *Sacadura Cabral* (5100 tons), the cruisers *Alfonso de Albuquerque* and *Bartolomeu Dias* (each 2100 tons) and the submarines *Delfim* and *Espadarte* (each 770 tons) found themselves unable to execute the orders and asked for cancellation. They were obliged to return to Portugal £51,000 already received and pay a 10 per cent indemnity. A new call for bids was made and tenders were received from eighteen British, seven French, seven Italian, five Dutch, four Spanish, and one Belgian shipbuilding firms. The award of contracts, however, was further delayed. Work progressed on the balance of the construction programme given in the 1931 YEAR BOOK—the destroyers *Douro* and *Tejo* were laid down at Lisbon and the sloop *Goncalo Velho* was launched from the Hebburn yard in England.

**RUMANIA.** The new submarine *Delficul* was completed for Rumania at Trieste. At her trials she was said to have shown herself to be the fastest submarine in the Mediterranean.

**SPAIN.** Revolution in Spain, lack of money, and limited sea practice greatly reduced the efficiency of the Navy. The naval air service was abolished and the flying corps was reestablished as an independent arm under the minister of war. The 10,000-ton cruiser *Baleares* was launched at Ferrol. She will be armed with eight 8-inch, six 4.7-inch, and four 4.7-inch A. A. guns, and twelve 21-inch torpedo tubes. Her designed full speed was 33 knots. A sister ship, the *Canarias*, was nearly completed. On July 11, the cruiser *Blas de Lezo* struck a reef near Cape Finisterre, and later sank in 33 fathoms while being towed in the hope of beaching. Her crew of 346 was saved by other ships taking part in exercises at the time of the mishap. The *Blas de Lezo* was of 4650 tons and was launched at Ferrol in 1923. The cruiser *Cardinal Cisneros* was lost at the same place in 1905 under similar circumstances.

**TURKEY.** The budget for operations 1931–1932 was 7,860,451 piasters (\$0.044) as compared with 6,297,940 the preceding year. Negotiations were opened for the purchase of the English cable laying vessel *Silver Spray* for use as a submarine fuel ship and tender. The destroyers *Tinaz Tepe* and *Zafer*, and the submarines *Dumlupynar* (mine layer) and *Sakarya*, built in Italy arrived at Stamboul and were placed in service. The payments made on these ships, in spite of very favorable terms allowed by the Italian shipyards, were behind. Similarly financial difficulties interfered with the training on board the ships. Such training as was given was

under the direction of a German mission that had also supervised the installation of fire control material furnished by German factories.

**UNITED STATES.** Actual expenditures for the fiscal year ending June 30, 1932, were \$353,628,362. The appropriation for the year 1932–1933 was \$326,897,692. The Navy Department showed increasing concern over the government's failure to provide for new construction in line with that being built by other naval powers, or even to maintain the Navy at existing strength. Earnest efforts were made in both branches of Congress to authorize the building of a Navy up to the full strength allotted by the Washington and London treaties without requiring that any specified number of ships be immediately laid down. The influence of pacifists, specious hope over the outcome of the Geneva conference, economic difficulties of the government, and lack of public interest were factors that prevented favorable action and the matter went over to the next session of Congress. In the meantime the commander-in-chief called attention to glaring deficiencies in the fleet, but responsible naval officials remained fearful that only a serious international crisis would bring the public and Congress to a realization of the fact that the American Navy was by no means on a parity with that of Great Britain and was, through lack of a proper building and replacement programme, rapidly moving toward third place among the world's navies. In capital ships, by virtue of the "freezing" agreements of Washington and London, the American Navy retained its position; in aircraft carriers the enormous size of the converted battle cruisers *Lexington* and *Saratoga* permitted it to retain a reasonable relative position in tonnage if not in numbers. In heavy cruisers (Category A of the London treaty—guns of more than 6.1-inch calibre) alone it had built or was building its allotment under the London treaty. In all other classes, however, the American Navy was almost hopelessly deficient. In light cruisers both England and Japan were enormously superior both in tonnage and in numbers; and France and Italy, although somewhat weaker, were not far behind the United States. In destroyers (those dangerous, speedy, invaluable ships for manifold fleet duties) the American Navy at the end of the year was reduced to 13 in commission that were under-age (and ten of these become so in 1933) and had but eight building—only a fraction of the strength of any other important naval power. In submarines the United States also made a relatively weak showing and large numbers of such submarines as were in commission were reaching the age limit each year, while there were but two under construction and no others authorized. (See tables in this section of warships building by other powers.)

Many of the over-age vessels were kept in commission for lack of replacements but they lacked modern construction and equipment, their efficiency was reduced through age and service; and their cost of upkeep to maintain them in operating condition was expensive, and, moreover, funds for maintenance were reduced. While still possessing a certain degree of effectiveness, they were far inferior in reliability of operation and in fighting power to the modern ships of foreign powers. Feeling that ships in reserve with reduced crews for material maintenance only were more ready for service than if out of commission,

the Navy Department, to meet the insistent demands for economy, established a "rotating reserve" for ships. By this scheme ships spent about one-third of their time in reserve and by interchanging places with other ships of the same type in the active fleet managed to maintain a certain degree of efficiency. In spite of handicaps, including an 8½ per cent cut in pay that had remained virtually unchanged since 1908, the morale of personnel remained higher than might have been expected. At the end of the fiscal year the Navy had 9423 officers, 81,120 men; and a reserve force of 7869 officers, 35,060 men; while the Marine Corps had 1184 officers and 15,355 men.

The scouting force that normally operated in the Atlantic remained in the Pacific with the battle force. The chief of Naval Operations announced that this action was taken for reasons of "economy and better training facilities." It was popularly believed, however, that the international situation influenced the decision. At any rate, a good deal of comment and criticism was brought forth in Japan from press and platform.

The 10,000-ton cruiser *Indianapolis* held satisfactory trials in October and was commissioned in November. She followed closely the general lines of the *Augusta* class (see description 1931 YEAR BOOK) but had better protection and improved internal subdivision. Her secondary battery was increased from four to eight 5-inch guns. The *Portland* was launched in May and the *New Orleans* in November. Bids were invited for a similar cruiser to cost approximately \$17,000,000 to be laid down in 1933 and completed in 1936. The submarine *Dolphin*, 1560 tons, 18 knots, one 4-inch gun, six torpedo tubes, was commissioned. Work on three more destroyers was undertaken in navy yards at New York, Boston, and Philadelphia. Completion of modernization of the *New Mexico* (completion date September, 1933), *Mississippi* (September, 1933), and *Idaho* (February, 1934) will end this work for all pre-armistice battleships. Other important vessels under construction or appropriated for at the end of 1932 are listed in the accompanying table. The important achievements in naval aviation were the development of coordinated attack by all types of planes, and materially increased accuracy in bombing. The three hundred odd planes with the mobile fleet that took part in Fleet Problem Thirteen off the California coast gave striking examples of the effectiveness of the improved coordination. The gyro-stabilized bomb sight and the improvements thereon aided in obtaining the highly satisfactory results in bombing practice. The perfection of two-way radio telephone communication between carriers and plane added to safety in the flying forces. During the year some hundreds of hook-ons were made by the planes carried by the airship *Akron*. These planes designated as Curtiss *F9C* were designed especially for this work. They carried Wright Whirlwind 420-h.p. motors, could make 180 m.p.h., and climb 1800 ft. per min.

The gear for hooking on, hoisting, and releasing the planes from the airship consisted of a sort of lattice trapeze extending below the keel of the ship and carrying at its lower end a bar which engaged with an overhead hook on the airplane. The pilot flying his plane at the same speed as the airship maneuvered his craft under the keel of the dirigible, and a "landing" was

## UNITED STATES: WARSHIPS BUILDING, 1932

Class and name	Standard displacement	Probable date of completion
<b>Cruisers:</b>		
<i>New Orleans</i>	10,000	10/ 2/38
<i>Portland</i>	10,000	2/15/38
<i>Astoria</i>	10,000	10/ 2/38
<i>Minneapolis</i>	10,000	10/ 2/38
<i>Tuscaloosa</i>	10,000	3/ 8/34
<i>San Francisco</i>	10,000	2/11/34
<b>Aircraft carrier:</b>		
<i>Ranger</i>	13,800	5/ 1/34
<b>Fleet submarines:</b>		
<i>Oachalot</i>	1,130	9/16/33
<i>Outtlefish</i>	1,130	12/29/33
<b>Destroyers:</b>		
<i>Farragut</i>	1,500	2/11/34
<i>Dewey</i>	1,500	6/11/34
<i>Hull</i>	1,500	8/11/34
<i>Macdonough</i>	1,500	8/11/34
<i>Worden</i>	1,500	10/ 1/34
<i>353</i>	1,500	1/ 1/35
<i>354</i>	1,500	1/ 1/35
<i>355</i>	1,500	1/ 1/35

made by threading the overhead hook of the top wing of the plane through the trapeze bar.

**YUGOSLAVIA.** The budget of 2,137,000,000 dinar (\$0 017) was 467 millions below that of the preceding year. It contained 139,746,700 dinar (a reduction of 45 million) for future development of the Navy. A naval programme to be completed by 1936 included two 3000-ton cruisers, 10 destroyers, 10 coastal submarines, 12 torpedo boats, and lesser craft. The source of the necessary funds was not indicated but apparently it was hoped that they might be furnished by some other interested power. The flotilla leader *Dubrovnik*, described in the 1931 YEAR BOOK, was completed by Yarrow and Co., and delivered in June.

**NAVAL RESERVE.** See NAVAL PROGRESS.

**NAVIES.** See NAVAL PROGRESS.

**NAVIGATION.** See SAFETY AT SEA; SHIP-BUILDING; SHIPPING; NAVAL PROGRESS.

**NAZIS or HITLERITES.** See GERMANY under *History*.

**NEANDERTHAL MAN.** See ANTHROPOLOGY.

**NEBRASKA.** POPULATION. According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 1,377,963, as against 1,296,372 in 1920. Omaha, the chief city, had (1930) 214,006 inhabitants; Lincoln, the capital, 75,933.

**AGRICULTURE.** The accompanying table shows the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod Bu.	Value
Corn	1932	10,644,000	269,293,000	\$35,008,000
	1931	10,042,000	170,714,000	51,214,000
Wheat	1932	2,252,000	26,620,000	7,986,000
	1931	3,465,000	58,376,000	19,848,000
Hay	1932	4,568,000	5,115,000 <sup>a</sup>	21,376,000
	1931	4,389,000	3,593,000 <sup>a</sup>	24,220,000
Oats	1932	2,473,000	74,190,000	8,903,000
	1931	2,311,000	49,686,000	10,931,000
Sugar beets	1932	66,000	882,000 <sup>a</sup>	( <sup>b</sup> )
	1931	65,000	891,000 <sup>a</sup>	4,868,000
Potatoes	1932	135,000	8,775,000	2,808,000
	1931	131,000	7,205,000	4,107,000
Barley	1932	918,000	13,360,000	2,754,000
	1931	820,000	13,360,000	3,882,000
Rye	1932	283,000	2,830,000	566,000
	1931	333,000	2,997,000	809,000

<sup>a</sup> Tons.

**MINERAL PRODUCTION.** The total value of the State's mineral product was \$4,962,012 for 1930; for 1929, \$4,844,542. More than one-third of it was derived from the production of sand and gravel (\$1,731,230 for 1930). Clay products

attained the value of \$496,714 for 1930, as against \$914,304 for 1929. Cement and other less important products for which totals were not tabulated had an aggregate value of \$2,545,394 for the production of 1930.

**FINANCE.** State expenditures in the year ended June 30, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments, \$14,473,913 (of which \$1,431,294 was for local education); for interest on debt, \$14,231; for permanent improvements, \$9,389,997; total, \$23,878,141 (of which \$10,525,329 was for highways, \$2,914,118 being for maintenance and \$7,611,211 for construction). Revenues were \$23,389,440. Of these, property and special taxes furnished 33.3 per cent; departmental earnings and compensation to the State for officers' services, 9.4; sale of licenses, 39.1 (in which was included a gasoline sale tax that produced \$6,903,173). Funded debt outstanding on June 30, 1931, totaled \$237,500. On an assessed valuation of \$3,348,274,592 the State levied in the year ad-valorem taxes of \$7,551,678.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 6172.61.

**EDUCATION.** There was considerable sentiment among the school districts in 1932 in favor of reducing the salaries of teachers, on account of difficulty in obtaining revenues requisite to expenditure on the old scale. It was reported at the end of the year, however, that the reductions actually made, except in scattered cases, had been less extensive than those originally proposed. Word was received from the office of State Superintendent Taylor in December to the effect that thus far education in the State had not suffered seriously, that the teachers generally were "carrying on," and that a few school buildings were under construction. The number of persons of school age in the State, as reckoned for the school year 1932-1933, was 422,928. In the academic year 1931-1932 there were enrolled in the public schools 324,241 pupils. Of these, 250,896 were in common schools or elementary grades; in high schools, 73,255. The year's expenditures for public-school education totaled \$25,654,744.

**CHARITIES AND CORRECTIONS.** The 17 custodial and eleemosynary institutions of the State were operated in 1932 under the direction of the State Board of Control. This board was composed of three members, appointed by the Governor for terms of six years, the terms ending in rotation at two-year intervals. The board had full jurisdiction over the institutions in its charge. The number of the inmates of all these institutions on Nov. 1, 1932, was 7543. The separate institutions, with the numbers of their respective inmates on that date, were: Institution for the Feeble-Minded, Beatrice, 1106; Girls' Training School, Geneva, 185; Soldiers' and Sailors' Home, Grand Island, 261; Hastings State Hospital, Ingleside, 1534; State Industrial School, Kearney, 191; Hospital for Tuberculosis, Kearney, 153; Lincoln State Hospital, Lincoln, 92; State Penitentiary, Lincoln, 846; Nebraska Industrial Home, Milford, 88; Soldiers' and Sailors' Home, Milford, 138; School for the Blind, Nebraska City, 57; Norfolk State Hospital, Norfolk, 946; School for the Deaf, Omaha, 204; Reformatory for Women, York, 43; Home for Dependent Children, Lincoln, 110; Reformatory for Men, Lincoln, 391.

**POLITICAL AND OTHER EVENTS.** The Farm Holiday movement, a farmers' strike carried on chiefly in Iowa, made some headway in Nebraska, where many farmers were enlisted. They undertook the picketing of the roads into Omaha in the latter part of August, to prevent the entry of shipments by truck of livestock and of other farm products. A similar move was made in the neighborhood of Lincoln. In both places the strikers were pacified by the granting of materially higher prices for delivery of their milk to the cities. The effects of the economic depression on the farming population were severe and resulted in much deficiency of public revenue in the political subdivisions and in reduction of governmental activities. Owing to its having no substantial debt, however, the State government suffered less than the average.

**ELECTIONS.** The popular vote of November 8 was cast for the Democratic National ticket by a ratio exceeding 7 to 4. The reported totals were: Roosevelt (Dem.), for President, 359,082; Hoover (Rep.), 201,177. The incumbent Representatives, 3 Democrats and 2 Republicans, were elected to serve in the Seventy-third Congress. Gov. Charles W. Bryan, Democrat, was reelected, defeating Dwight Griswold, Republican candidate. With Bryan was elected the entire Democratic State ticket.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, Charles W. Bryan; Lieutenant-Governor, Theodore W. Metcalfe; Secretary of State, Frank Marsh; State Auditor, George Marsh; Commissioner of Public Lands and Buildings, Dan Swanson; Treasurer, T. W. Bass; Attorney-General, C. A. Sorensen; Superintendent of Public Instruction, C. W. Taylor.

**Supreme Court:** Chief Justice, Charles A. Goss; Associate Justices, William B. Rose, James R. Dean, Edward E. Good, George A. Eberly, L. B. Day, Bayard H. Paine.

**NEBRASKA, UNIVERSITY OF.** A State institution of higher education in Lincoln, Nebr., founded in 1869. The enrollment for the autumn of 1932 was 5414. These students were distributed as follows: Agriculture 442, Arts and Sciences 1533, Business Administration 591, Dentistry 92, Engineering 569, Graduate College 566, Law 170, Medicine 337, Nursing 118, Pharmacy 53, and Teachers College 984. There were 2520 students enrolled in the summer session of 1932, of whom 990 were men and 1530 were women. The faculty numbered 300. The library contained 264,755 volumes. Chancellor, Edgar A. Burnett, D.Sc.

**NECROLOGY.** The following list contains the names of notable persons who died in 1932. Articles will be found in this volume, in their alphabetical order, on those whose names are given below without other text.

Aballi, Rafael Sánchez, died Apr. 4, 1932.

Adams, Cuyler. American mining engineer, died in Tryon, N. C., Nov. 29, 1932. He was born in Canton, Ill., Aug. 20, 1852, educated privately and graduated from the Poughkeepsie Military Institute. He removed to Minnesota in 1870 and started his career with the Northern Pacific Railway on dock construction. Later he went to Stutsman County in North Dakota and became a bonanza farmer, then went to Western Ontario where he engaged in exploring and developing mining properties. He discovered, by magnetic observation, the great Cuyuna Iron Range in Minnesota and also built the Cuyuna Iron Range Railway, of which he became general manager and president. He was president of the Biwanago Mining Company.

Adams, Evangeline Smith. American astrologer, died in New York City, Nov. 10, 1932, aged 59. She was born in Jersey City, N. J., and attended a private school in Andover, Mass. She originated "Adams' Philosophy,"

taking the truths of all occult schools of the Orient and applying them to the optimistic intelligence of the Western World. She had created a name for herself in the United States and then went to England to gain greater recognition for her chosen field by endeavoring to have astrology legalized there. She is credited with having forecast the date of the death of King Edward, and also of the Windsor Hotel fire in New York, which predictions won her international fame. As a result of radio broadcasting in her later years she had a large following.

Adams, Harry M. American railway official, died in Berkeley, Calif., July 30, 1932. He was born in Comanche, Ia., Jan. 3, 1867, and attended the public schools of that city. He began his railroad career as a messenger for the St. Louis & San Francisco Railway Co. in 1880, and clerked in various railway offices until 1907 when he became general freight and passenger agent for the Spokane, Portland & Seattle Railway Co. In 1910 he was appointed freight traffic manager for the Western Pacific Railroad Co., and in 1914 became general traffic manager for the same company. During the World War he was successively chief of inland traffic service for the War Department, and assistant regional director of traffic (Southwestern Region) for the U. S. Railroad Administration. In 1919 he became vice-president in charge of traffic for the Union Pacific Railroad Co., and in 1927 president of the Western Pacific Railroad Co., serving in the latter capacity until 1931.

Albert, Eugen d', died Mar. 3, 1932.

Alexander, James Strange, died July 16, 1932.

Alexander, Magnus Washington American engineer, died Sept. 10, 1932, in New York City where he was born Feb. 17, 1870. During 1889-92 he studied metallurgical and electrical engineering at the universities of Vienna, Leoben, and Graz, Austria. On his return to the United States he became associated with the Weston Electrical Instrument Co. of Newark, N. J. From 1894 to 1899 he was designer and engineer with the Westinghouse Electric & Manufacturing Co., and from 1899 to 1900 with the Siemens & Halske Electric Co. of America. In 1900 he began his long association with the General Electric Co. as engineer in charge of designing and was consulting engineer on economic issues from 1918 to 1922. He was president of the National Industrial Conference Board, which he helped to organize in 1916, and in which he was spokesman for many of the leading American industries. Also, he was chairman of the Massachusetts Commission on Old Age Annuities and Pensions and ex-member of the Massachusetts Commission on Compensation for Industrial Accidents.

Alexander, Moses American merchant and former governor of Idaho, died in Boise, Jan. 4, 1932. He was born in Germany, Nov. 13, 1853, and came to the United States in 1868. In 1873 he started in the clothing business in Chillicothe, Mo., where he was elected mayor in 1888. Later he went to Boise, Idaho, where he was also chosen mayor in 1897, serving two terms. In 1908 he was an unsuccessful candidate for governor of Idaho but was elected to that office in 1915, and again in 1917.

Allen, Horace Newton, died Dec. 11, 1932.

Anthony, Benjamin Harris American publisher, died Oct. 16, 1932, in New Bedford, Mass., where he was born Aug. 1, 1863, and graduated from Yale University with an A. B. degree in 1886. He immediately entered the newspaper publishing business founded by his grandfather, conducted by his father, and known as E. Anthony and Sons, publishers of the *New Bedford Evening Standard*. In 1894 he took over the management of the *New Bedford Morning Mercury* and conducted both papers, becoming president of E. Anthony and Sons upon the death of his father in 1906. For many years he served as second vice-president of the Associated Press, and from 1923 to 1932 was one of their most active directors. He resigned in the latter year. Also, in 1921, he became president of the New England Daily Newspaper Alliance.

Appel, Jakob, Danish educator, died in Copenhagen, Denmark, Jan. 1, 1932, aged 76. He served as Minister of Public Instruction during 1910-13 in the Klaus Berntsen cabinet, and in 1922 was Minister of Religion in the Niels Neergaard cabinet. He was the author of *Historisk Pynt* (1896-97).

Archinard, Gen. Louis French soldier, died at Villiers-le-Bel, May 8, 1932. He was born in Havre, Feb. 11, 1850, and attended the École Polytechnique in Paris. As commander of the Colonial Army Corps he conquered the French Sudan about 1878, and served there as military and later as civil governor. He received the grand cross of the Legion of Honor and also was made a member of the Conseil Supérieur de la Guerre.

Arens, Franz Xavier, died Jan. 28, 1932.

Arias, Tomás Panama statesman, died in Panama City, July 20, 1932, aged 77. He was the last surviving member of the founders of the Republic of Panama, and had been a member of the Provisional Board of Government which was inaugurated on Nov. 3, 1903. In the first cabinet he served as minister of foreign affairs and later represented Panama in Europe and the United

States. At the time of his death he was president of a bank in Panama.

Armitage-Smith, Sir Sydney Armitage, died Oct. 31, 1932.

Ashhurst, Astley Paston Cooper, American physician, died Sept. 19, 1932, in Philadelphia, Pa., where he was born Aug. 21, 1876. He graduated from the University of Pennsylvania with an A. B. degree in 1896 and an M. D. degree in 1900. He began his medical career with the Episcopal Hospital in Philadelphia and served as surgeon of the outpatient department from 1903 to 1913, and associate surgeon from 1913 to 1915 when he interrupted his medical pursuits to enter the army. He earned the title of major in the medical reserve corps in 1917, was promoted to colonel in 1918 and was placed in charge of Base Hospital 34 of the American Expeditionary Force in France. He won a citation for his services. Upon his return to the United States he became associate in surgery at the Orthopedic Hospital in Philadelphia. In 1923 he was appointed professor of clinical surgery at the University of Pennsylvania School of Medicine and held that office until the time of his death. In collaboration with the late Dr. John B. Deaver he wrote several books on surgery.

Atkinson, John Atkinson, Baron, British jurist, died in London, Mar. 13, 1932, aged 87. Admitted to the Irish bar in 1865, he was appointed Queen's Counsel in 1880. In 1889 he became solicitor general for Ireland, in 1892 attorney general, and in the latter year he was also made Privy Counselor. He was a member of Parliament (Conservative) for Northern Londonderry from 1895 to 1905. Following his admission to the English bar he served as lord of appeal in ordinary for 23 years. He was created a life Baron in 1905.

Austin, Louis Winslow, died June 27, 1932.

Austin, William Luseter, American mechanical engineer and inventor, died in Rosemont, Pa., Mar. 10, 1932. He was born in Philadelphia, Pa., Sept. 22, 1852, and attended the public schools there. After being employed as draftsman in the patent office, Philadelphia, and with the Kensington Steam Engine Works, he began, in 1870, his association with the Baldwin Locomotive Works. He rose from draftsman to engineer, vice president, president (1910-11), and chairman of the board (1911-12). Also, he invented many safety devices for locomotives.

Babcock, Kendrick Charles, American educator and author, died in Chicago, Ill., Mar. 11, 1932. He was born in South Brookfield, N. Y., Sept. 8, 1864, and was graduated from the University of Minnesota in 1889. In 1896 he received the Ph. D. degree from Harvard. He was instructor of history at the University of Minnesota from 1890 to 1894 and assistant professor of American history and political science at the University of California from 1896 to 1903. In 1903 he was elected president of the University of Arizona. He was specialist in higher education for the U. S. Bureau of Education from 1910 to 1913, dean of the college of liberal arts and sciences of the University of Illinois from 1913 to 1931. He wrote *The Rise of American Nationality* (1906) and *The Scandinavian Element in the United States* (1914).

Bachini, Antonio Uruguayan diplomat, died in Montevideo, Sept. 11, 1932. He was born in Dolores, Uruguay, in 1860, and at the age of 15 circumstances placed him owner, editor, printer, and distributor of a provincial newspaper. He succeeded at this undertaking and was later given a position as reporter on one of the Montevideo dailies. Later he was elected to the Chamber of Deputies and served two terms. He was appointed minister of foreign affairs and served from 1907 to 1910. He returned to newspaper work and in 1923 was appointed minister to Portugal, later to Germany, England, and at the time of his death was serving as minister plenipotentiary to Brazil.

Bacon, Benjamin Wisner, died Feb. 1, 1932.

Badger, Charles Johnson, died Sept. 7, 1932.

Bailey, Willis J. American banker and ex-governor of Kansas, died in Kansas City, Kans., May 19, 1932. He was born in Carroll County, Ill., Oct. 12, 1854. Upon graduating from the University of Illinois in 1879 he immediately engaged in farming and stock raising, and later entered the banking field. He was a member of the Kansas House of Representatives in 1888, a member of the Kansas State Board of Agriculture from 1895 to 1899, and a member of the 56th Congress from 1899 to 1901, being representative-at-large for Kansas. He served as governor of Kansas from 1903 to 1905. In 1922 he became head of the Federal Reserve Bank of the tenth district, retiring in January, 1932.

Baker, Simon Strouse, American educator, died in Washington, Pa., Oct. 11, 1932. He was born in Washington County, Pa., July 11, 1868, and graduated from Washington and Jefferson College with a B. S. degree in 1892. He then studied law privately in conjunction with an extension course from the University of Pittsburgh. He taught in the public schools for four years and later became principal and superintendent of the Pittsburgh Public Schools and served in that capacity for over 25 years. From 1920 to 1921 he was acting president of



Washington and Jefferson College in Washington, Pa., and in March, 1922 was appointed president, which office he held until 1931 when he resigned.

Bamford, Brig. Gen. Frank E. American army officer, died in Charlestown, W. Va., June 27, 1932. He was born in Wisconsin, Nov. 15, 1865, and was graduated from the University of Wisconsin in 1887. He enlisted as a private in the army and was promoted from the ranks. He then attended the Army Staff College, graduated in 1915, and the Army War College from which he graduated in 1921. He was promoted through the grades to colonel in 1920, and in 1921 was retired at his own request after 30 years' service. In 1930 he was officially retired with the rank of brigadier general. He was awarded the distinguished service medal for his services during the World War. General Bamford was one of the officers who took part on May 28, 1918, in the capture of Cantigny by the First Division. On October 25 of that year, he took command of the Twenty-sixth Division, which on October 27 penetrated the wood east of Molleville Farm. On November 10, the division led by General Bamford captured Villedavant-Chaumont. He was in command of the first and then later the 26th (Yankee Division) regiments. He was mentioned in the memoirs of General Pershing. (*My Experiences in the World War*).

Bang, Bernhard Laurits Frederik, died June 22, 1932. Bangs, Outram American zoologist, died in Wareham, Mass., Sept. 22, 1932. He was born in Watertown, Mass., Jan. 12, 1863, and graduated from the Lawrence Scientific School of Harvard in 1884. He immediately became curator of mammals and birds there. In 1924, in order to devote all of his time to birds he asked to be relieved of the supervision of mammals. He was one of the world's leading ornithologists and wrote many authoritative articles on the subject of ornithology. Also, he was an instructor at Harvard on mammals and birds.

Banks, Charles Eugene. American author and editor, died in Honolulu, T. H., Apr. 29, 1932. He was born in Clinton, Ia., Apr. 3, 1852, attended public schools there and was also tutored privately. The owner and editor of the *American Commercial Traveler*, in Chicago, from 1885 to 1887, he subsequently became editor of the *Weekly Outlook* in Davenport, Ia. He was also literary editor of the *Chicago Sunday Examiner* and *American*; and after 1907 was editor of the *Peace Pipe*, a monthly magazine, in Seattle, Wash., and dramatic editor of the *Post Intelligencer* of the same city in 1918. On removing to Hawaii he became editor of the *Tribune Herald* in Hilo, and at the time of his death was in the editorial department of the *Honolulu Advertiser*. He was the author of several books, among them being: *Novels: In Hampton Roads* (1898), *A Child of the Sun* (1900), *An American Woman* (1905). Biography: *Theodore Roosevelt, a Typical American* (1902). Plays: *The Swami* (1909), *Vibration* (1909) Poems: *Quiet Music* (1892), *Heart Beats of Hawaii* (1921), and *The Trail of Love* (1921).

Bartholdt, Richard. American congressman, died in St. Louis, Mo., Mar. 19, 1932. He was born in Germany, Nov. 2, 1855, but came to the United States in early boyhood. After learning the printing trade he became a writer for newspapers and was editor-in-chief of the *St. Louis Tribune* from 1885 to 1892. From 1893 to 1915 he was a member of the House of Representatives from the 10th Missouri district. He was president of the Inter-parliamentary Union for Promotion of International Arbitration, and founder, and president for 11 years, of the American group in Congress of that organization. He was the author of several governmental documents and also a book entitled *From Stearage to Congress* (1930).

Bauer, L(ouis) A(gricola), died Apr. 12, 1932.

Bauer, Marius, died July 18, 1932.

Baum, Frank George. American electrical engineer and inventor, died in Redding, Calif., Mar. 14, 1932. He was born in Ste. Genevieve, Mo., July 18, 1870, and was graduated from Stanford University with the A.B. degree in 1888, and the E.E. degree in 1899. In 1902 he joined the California Gas & Electric Corp. as electrical engineer and in 1907 was appointed consulting construction engineer. In 1912 he became associated with the Pacific Gas & Electric Co. as chief engineer in charge of hydro-electric work, and also went to France and Germany as consultant for power corporations. At the time of his death he was engaged in private practice as consulting hydro-electric engineer. He was the inventor of many electrical devices that revolutionized the transmission of electricity at great distances and author of *Alternating Currents* (1902); *Alternating Current Transformer* (1903); and *Atlas of the U. S. A. Electric Power Industry* (1923).

Bazin, René François Nicolas Marie, died July 20, 1932.

Beach, Brig. Gen. William Dorrance. American soldier, died in Mt. Vernon, N. Y., June 18, 1932. He was born in Brooklyn, N. Y., June 18, 1856, and graduated from West Point in 1879. He was assigned to the cavalry as second lieutenant in the third division. In 1892 he was promoted to captain and during the Spanish-American War in 1898 was transferred to the volunteer army as

inspector general with the rank of major. He was a member of General Wheeler's staff at the battles of Las Guasimas and San Juan, Cuba. From 1910 to 1912 he was chief of staff of the Philippine Department. He received an honorable discharge from the volunteer army in 1901, and returned to the regular army with the rank of major. At the time the United States entered the World War in 1917 he was holding the title of colonel and was promoted to brigadier general of the National Army in the same year. He retired from both armies, the National Army in 1919, and the regular army in 1927 with the rank of brigadier general. In 1916 he served as president of the board on cavalry regulations. He was awarded the Distinguished Service Medal and the Croix de Guerre, and created member of the Legion of Honor.

Beaumarchais, Maurice Delarue de. French diplomat, died in Paris, Dec. 3, 1932. He was born in Lyons, France, Sept. 5, 1872. He received a diploma from the College of Political Sciences with a title of Doctor. He served France as co-administrator of Madagascar Colonies to 1896; as secretary of the Vienna Embassy until 1901; to Berlin in 1903, and to Tangiers until 1906. He was then appointed ambassador to Rome and held that office at the time of his death. He was the great-grandson of P. A. Caron de Beaumarchais the author of *The Barber of Seville* and *The Marriage of Figaro*.

Belcourt, Napoleon Antoine. Canadian lawyer and journalist, died at Blue Sea Lake, Que., Aug. 7, 1932. He was born in Toronto, Sept. 15, 1860, and attended St. Joseph's Seminary, Three Rivers, Que. Admitted to the Quebec bar in 1882 and to the Ontario bar in 1884, he was created Queen's Counsel in 1898, and Privy Councillor in 1905. At the time of his death he was a member of the firm of Belcourt, Leduc and Genest in Ottawa. He represented the French-Canadian Educational Association in its fight against the regulation limiting the time French was to be taught in the bilingual schools of Quebec. He urged the extension of the "Entente Cordiale" to include the United States and Japan in 1906. Elected to the House of Commons in 1896, he was re-elected in 1900 and 1904, and was speaker from 1904 to 1906. In 1907 he became a member of the senate. He was minister for Canada at the inter-allied and international conferences in London in 1924, and also president of the Canadian Institute of International Affairs. For many years he was owner and editor of *Le Temps*, an Ottawa daily newspaper.

Benjamin, Marcus, died Oct. 22, 1932.

Bennett, Belle. American actress, died in Hollywood, Calif., Nov. 4, 1932. She was born in Dublin, Ire. In 1893, the daughter of a showman, William P. Bennett, and her first public appearance was at the age of five in the arms of her mother in a play called *The Fatal Wedding*. The entire family played together and in 1898 they emigrated to the United States and settled in Minnesota. She attended a convent until she was 13 and she then joined a circus as an expert on the trapeze. In 1916 she went to Culver City, Calif., and started a motion picture career with the Triangle Films, Inc., playing in Western pictures. Later she joined the Alcazar Stock Company in San Francisco and broke a record by playing in stock for 85 consecutive weeks with 81 different plays. She was then persuaded to come to Broadway and she played successfully in *Happy-go-lucky* in 1920, and also, at a later date, in *Lawful Larceny*, *The Demi-virgin*, *The Wandering Jew*, and other plays. Her greatest fame was achieved in 1925 when she played the part of the mother in *Stella Dallas*. Since her phenomenal success her health failed and she retired to private life a few years before her death.

Benson, Admiral William Shepherd, U.S.N., died May 20, 1932.

Bethell, Admiral Sir Alexander Edward. British naval officer, died in London, June 14, 1932, aged 76. He entered the navy in 1869, and was advanced through the grades to captain in 1898 and rear-admiral in 1908, being appointed the following year director of Naval Intelligence and in 1912 commander-in-chief of the East Indies. In 1913 he became vice-admiral and commander of the Royal Navy War College. At the outbreak of the World War he was placed in command of battleships of the third fleet, and in 1915 appointed commander of the Channel fleet. He was promoted admiral in 1916, and at the same time was made commander-in-chief of Plymouth and admiral commanding coast guards and reserves. In 1914 he was created a Knight Commander of the Bath and on his retirement in 1918 Knight of the Grand Cross of St. Michael and St. George.

Bien, Morris. American lawyer and civil engineer, died in Takoma Park, Md., July 29, 1932. He was born in New York City, Apr. 17, 1859, was graduated from the University of California in 1879, and received the LL.B. from Columbia (now George Washington University) in 1895. He was connected with the U. S. Geological Survey as topographer from 1879 to 1893. From 1893 to 1902 he was in the General Land Office in Washington, being in charge of securing rights of way for irrigation, railroad, and other purposes on public lands of the

United States. He was associated with the Reclamation Service (now the Bureau of Reclamation) from 1902 to 1924 as assistant commissioner in charge of the lands and contracts department, and at times serving also as acting director and commissioner of the department. Between 1898 and 1924 he examined and reported upon right of way and irrigation legislation considered by the Department of the Interior, and in 1904 drafted the State Irrigation Code which was enacted the next year without material change by the legislatures of North Dakota, South Dakota, and Oklahoma, and later, in part, by several other States.

Bigourdan, Guillaume, died Feb. 29, 1932.

Billard, Rear Admiral Frederick Chamberlayne. Commandant of the U. S. Coast Guard, died May 17, 1932, in Washington, D. C., where he was born Sept. 22, 1873. He was graduated from the Baltimore City College and the U. S. Coast Guard Academy and was promoted through the grades from ensign in 1896 to superintendent of the Coast Guard Academy in 1914. During the World War, when the Coast Guard was operated as part of the Navy, he commanded the *Aphrodite*, being engaged in duty overseas. In 1924 he was appointed commandant of the Coast Guard, with the rank of rear admiral, and was reappointed in 1928.

Billings, Frank, died Sept. 20, 1932.

Blackader, Alexander Dougall. Canadian physician and educator, died Mar. 14, 1932, in Montreal, where he was born in June, 1847. He was graduated from the McGill University, Montreal, in 1870, and studied also in London, Vienna, and Prague. During the Fenian raid in 1870 he was acting assistant surgeon of the Montreal Garrison Artillery. After serving as physician and surgeon at several of the London hospitals he returned to Montreal in 1877. In 1883 he was appointed lecturer on diseases of children at the McGill University and in 1891 professor of pharmacology and therapeutics, later becoming emeritus professor. Also, he was consulting physician for many of the Montreal hospitals and founding homes. He served as editor-in-chief of the *Canadian Medical Association Journal* and had contributed to many medical publications articles on variola, hydrocephalus, artificial feeding of infants, and food poisoning.

Blair, Andrew Alexander, died Jan. 25, 1932.

Bogle, Sarah Comly Norris. American librarian, died in White Plains, N. Y., Jan. 11, 1932. She was born in Milton, Pa., and attended the Drexel Institute Library School in Philadelphia, Pa. As a pioneer in the library field she founded the Juniata College library at Huntingdon, Pa., in 1904, and continued as librarian there until 1908. After spending a year as librarian at the Queen's branch of the New York Public Library, she went to the East Liberty branch of the Pittsburgh Carnegie Library where she remained until 1911. She was principal of the Carnegie Library School until 1920 and also head of the children's department of the Carnegie Library in Pittsburgh until 1917. From 1917 to 1918 she was president of the American Library Schools. After 1920 she was assistant secretary of the American Library Association and after 1924 secretary of the association's board of education for librarianship. During 1923-24 she also served as secretary of the association's temporary training board and in 1923 was director of the summer library course for the Paris American Committee for work in devastated France. After 1924 she was director of the Paris Library School under the auspices of the American Library Association. In 1930 she represented the American Library Association at the International Committee Meeting at Stockholm, Sweden, and as delegate before the British Library Association conventions. She also compiled a pamphlet entitled *Children's Books for Christmas Presents*.

Bordonaro, Antonio Chiaramonte. Italian diplomat, died in London, England, June 8, 1932. He was born in Palermo, Italy, Feb. 26, 1877, was educated there and also in Florence. He started his diplomatic career in 1899 as attaché of the consular service at Trieste, being sent to Budapest in 1902. He was stationed at the Foreign Office in Rome in 1906, was appointed first secretary of the Italian Legation at Berne in 1907, and was made private secretary to the Under Secretary of State in 1909. He became counselor of Embassy at St. Petersburg (now Leningrad) in 1913; Berlin 1914, returning to the Foreign Office in Rome in 1915. After the World War, in 1919, he was again sent to Berlin as civil high commissioner. In 1920 he was envoy extraordinary and minister plenipotentiary to Prague; Vienna in 1924 and adjoint member of the Italian delegation at the Conference of Locarno in 1925. In 1927 he was appointed ambassador to the Court of St. James's, which post he held at the time of his death. During the naval conferences in London, in 1930, he was the Italian delegate.

Bonstelle, Jessie. American actress and theatrical director, died in Detroit, Mich., Oct. 14, 1932. She was born in Greece, N. Y., about 1867, and attended a convent until she was 15 years of age. She returned to her home and took part in amateur theatricals and was immediately offered a part in a road company which

she accepted. She then took parts in plays under the direction of Augustin Daly, the Shuberts, and others. She played in several parts in her own company on the road and after playing in *The White Sister* in Detroit she decided to lease the Garrick Theatre and formed a stock company which she directed for over 14 years. In 1925 she bought a theatre and called it the Bonstelle Playhouse and organized the Detroit Civic Theatre. She appeared in many of the plays she directed, and also produced and played in Shakespearean vehicles. She was credited with having made many stars, among them being Katherine Cornell, Ann Harding, Lester Vail, Frank Morgan, and others.

Boselli, Paolo, died Mar. 10, 1932.

Bosher, Kate Lee Langley, died July 27, 1932.

Boulenger, Marcel. French author, died in Chantilly, May 21, 1932. He was born in Paris, Sept. 9, 1873 and educated at the lycée Condorcet. In 1918 he won the Prix née and in 1919 the Prix Stendhal. Among his many novels are *La Femme Baroque* (1898); *Couplées* (1903); *Au Pays de Sylbie* (1904); *L'Amazone Blessée* (1907); *Nos Élégances* (1908); *Les Doyens de fée* (1909); *Opinions Chosies* (1911); *Introduction à la vie comme il faut* (1912); *La Cour* (1918); *Réponse à Gabriele d'Annunzio* (1919); *Marguerite* (1921); *Le Vicomte* (1923); *Mœurs du Jour* (1926); *Mazarin soutiens de L'Etat* (1929); *Quand j'avais une épée* (1931). Also, he was a Chevalier of the Legion of Honor and the Couronne d'Italie.

Bovard, George Finley. American educator, died in Los Angeles, Calif., Sept. 24, 1932. He was born in Alpha, Ind., Aug. 8, 1856, and attended De Pauw University in Greencastle, Ind., from 1877 to 1879. In 1883 he was ordained a Methodist Episcopal minister and was appointed pastor of a church in Orange, Calif. He attended the University of California at the same time and graduated with an A. B. degree in 1884 and an A. M. in 1887. He then became a presiding elder and in 1890 was appointed superintendent of the Arizona missions. In 1897 he again became a presiding elder. In 1903 he was appointed president of the University of Southern California and served until 1921. At the time of his death he was president emeritus. He acted as delegate to the General Conference in 1900, 1904, and again in 1916. From 1900 to 1904 he was a member of the book committee.

Boyd, Thomas Duckett. American educator, died in Baton Rouge, La., Nov. 2, 1932. He was born in Wytheville, Va., Jan. 20, 1854, and graduated from the Louisiana State University with an A. M. degree in 1872. From 1873 to 1877 he served as assistant professor of mathematics at the Louisiana State University and then was commandant of cadets from 1875 to 1879. He was appointed professor of English History and English Literature at the same university where he remained until 1888. In the following year he was appointed president of the Louisiana State Normal School at Natchitoches where he served until 1896. He was then recalled to the Louisiana State University and was appointed president, which office he held until 1927 when he resigned. At the time of his death he was president emeritus.

Bradford, Gamaliel, died Apr. 11, 1932.

Breckinridge, Clifton Rhodes. American congressman, died in Wendover, Ky., Dec. 3, 1932. He was born in Lexington, Ky., Nov. 22, 1846, and graduated from Washington College in Virginia. The Civil War was in progress when he left college and he immediately entered the Confederate Army and served as a private. Later he served as a midshipman in the Confederate Navy. After the war he engaged in cotton planting in Arkansas until 1883 when he was elected to Congress. He served from the 48th to the 51st session of Congress when he was unseated during the first session. Before the second session convened he had been reelected and served until part of the 53d Congress when he resigned in August, 1894 to fill an appointment as Minister to Russia where he served until 1897. He then returned to Arkansas and engaged in business there, later removing to Kentucky. He was the son of General John Cabell Breckinridge, Vice-President of the United States during the administration of President Buchanan.

Brennan, Louis, died Jan. 17, 1932.

Brentford, William Joynson Hicks (1st Viscount), died June 8, 1932.

Briand, Aristide, died Mar. 7, 1932.

Brigham, Albert Perry, died Mar. 31, 1932.

Bristol, Frank Milton. American bishop of the Methodist Episcopal Church, died in Upper Montclair, N. J., Apr. 24, 1932. He was born in Orleans Co., N. Y., Jan. 4, 1851. On his graduation from Northwestern University in 1877, he became a member of the Rock River conference, from which he was accepted into the ministry, and during the next 20 years held successively the pastorates of Trinity, Grace, and the Washburn Avenue Methodist Churches in Chicago, and the first Methodist Church in Evanston, Ill. In 1898 he received a call to the Metropolitan Church in Washington, of which President McKinley was a member. He remained there until 1908, when he became a member of the Baltimore conference

and was elected bishop. From 1908 to 1912 he was stationed in Buenos Aires, thence he was sent to Omaha, Neb., as resident bishop, and from 1916 until his retirement in 1924 he presided over the Chattanooga (Tenn.) conference. He was appointed delegate to the quadrennial general conferences on six successive occasions and also represented his church at Canadian and European conferences. He was the author of *Providential Epochs* (1894), *The Ministry of Art* (1897), and *Shakespeare and America* (1898).

Brock, William S. American aviator, died in Chicago, Ill., Nov. 13, 1932, aged 36. He was born in Gladstone, Ohio, and removed with his family to Springfield, Ohio, where he attended the Wittenberg Academy. At the age of 16 he became interested in flying and left school. He obtained employment with the Thomas Aircraft Co., in Ithaca, N. Y. Three months later he was assistant instructor and seven months later became a test pilot. After doing exhibition flying for a year he joined the U. S. Flying Corps in 1917 and was appointed an instructor and commissioned a lieutenant. After the war he returned to exhibition flying and in 1925 was pilot for the air-mail service between St. Paul, Minn., and Chicago, Ill. On Aug. 26, 1927, he and a colleague from Detroit named Schlee took off for a trip around the world. After going over 12,295 miles weather conditions forced them to abandon the project and they ended the trip at Tokyo from which they came back to the United States by steamer. Later they attempted an endurance flight.

Brookings, Robert Somers, died Nov. 15, 1932.

Brown, Clyde American lawyer, died in Westport, Conn., Nov. 30, 1932. He was born in McConnellsville, Ohio, Mar. 17, 1873, and graduated from the Ohio University with a Ph. B. degree in 1895. He then removed to New York City where he practiced law and later became associated with the New York Central Railroad Company, and in 1907 was appointed assistant to the vice-president of those lines. He became general solicitor for the entire system in 1908 and held that office at the time of his death. It was mostly due to his efforts that an agreement was reached in 1931 for the unification plan for the railroads.

Brown, Gerard Baldwin British historian, died in Edinburgh, July 12, 1932. He was born in London, Oct. 31, 1849, and was graduated from Oriel College, Oxford. He became professor of fine arts at the University of Edinburgh in 1880, and after his retirement in 1930 was professor emeritus. He was the author of several books on art, among them being *From School to Cathedral*, a study of early Christian architecture and its relation to the life of the church (1886); *The Fine Arts* (1891); *The Arts in Early England* (2 vols. 1903); *The Care of Ancient Monuments* (1905), and *Rembrandt* (1907). His later works included *The Life of Saron England in its Relation to the Arts* (1926); *Art of the Cave Dweller* (1928), and later volumes of *The Arts in Early England* (1930 and 1932).

Brown, Harold Haven. American painter, died in Provincetown, Mass., Apr. 17, 1932. He was born in Malden, Mass., June 6, 1869. After attending the Massachusetts Normal Art School he studied at the École des Beaux Arts, Paris, under Gérôme, and at the Académie Julian under Laurens. He became a director of art in the high schools of New York City and later in the University High School of Chicago. From 1913 to 1921 he was director of the museum and school of art of the John Herron Art Institute, Indianapolis, Ind. After 1926 he was director of the Provincetown Art Association. He exhibited many of his water-colors, designs, and illustrations in several large cities, receiving a bronze medal at the Buffalo Exposition in 1901. He was a lecturer on art topics and also the author of *Applied Drawing* (1916).

Brown, Joseph M., died Mar. 3, 1932.

Bryant, Henry Grier, died Dec. 7, 1932.

Buisson, Ferdinand, died Feb. 16, 1932.

Bull, Charles Livingston American painter, explorer, naturalist, and author, died in Oradell, N. J., Mar. 22, 1932. He was born in New York State in 1874. He studied art in Philadelphia, Pa. Though best known for his murals his contributions to science as a taxidermist and naturalist were also of note. He made trips in the company of others through Mexico and Central and South America, and his ability to illustrate with great accuracy made his sketches valuable, especially his illustrations of eagles that were used far and wide on posters during the World War. Also, he illustrated many books. He wrote and illustrated *Under the Roof of the Jungle* (1911).

Burgess, George Kimball, July 2, 1932.

Burke, James Francis American congressman and lawyer, died in Washington, D. C., Aug. 8, 1932. He was born in Petroleum Centre, Pa., Oct. 21, 1867. He graduated from the University of Michigan with an LL.B. degree in 1892, and in 1893 removed to Pittsburgh, Pa., where he practiced law. He served as secretary of the Republican National Convention and as an officer at the conventions of that party in 1892 and in 1896, and also

in 1928 and 1932. In 1904 he was elected to the 59th Congress and was subsequently elected to each Congress until the 69th when he resigned voluntarily in 1914. He was representing the 31st Pennsylvania District. He then practiced law in Pittsburgh, and became known as one of the leading corporation lawyers. At the time of his death he was counsel to the Republican National Committee.

Burn, Sir George Canadian banker, died in Ottawa, Dec. 5, 1932. He was born in Thurso, Scotland, Apr. 10, 1847, and was educated there. He started his career in the Royal Bank of Scotland, and in 1866 went to Canada and joined the staff of the Royal Canadian Bank. He later became inspector of the Exchange Bank in Montreal. He received an appointment as the general manager of the Bank of Ottawa in 1880 and held that office until 1917 when he resigned. For 17 years he served as vice president of the Canadian Bankers' Association, and in 1915 was elected president, being reelected unanimously in 1916 but declined and was voted honorary president. He was active in philanthropic enterprises and was appointed a member of the Royal Commission to investigate the Martineau frauds of the Canadian Civil Service system. He was created knight in 1917.

Burton, Clarence Monroe American historian and lawyer, died in Detroit, Mich., Oct. 23, 1932. He was born in California, Nov. 18, 1853, and graduated from the University of Michigan with a B.S. degree in 1873, an LL.B. in 1874, and was admitted to the bar. He practiced law in Detroit and devoted his leisure time to the study of the history of Detroit and the Northwest. He made an extensive collection of books relating to the subject which he later donated intact, buildings and all, to the City of Detroit, which is known as the Burton Collection in the Detroit Free Public Library. Until the time of his death he continued to take an active interest in the library, contributing more books from time to time, and acting as consultant. Also he served the City of Detroit as chief historian, and was president of the Detroit Historical Society. He wrote several books on early Detroit and the Northwest.

Cabot, Frederick Pickering American jurist, died in Boston, Mass., Jan. 6, 1932. He was born in Brookline, Mass., June 15, 1868, and was graduated from Harvard with the degree of A. B. in 1890, and received the A. M. and LL. B. in 1893. In the same year he was admitted to the bar and began practicing in Boston. From 1896 to 1897 he was assistant U. S. District Attorney for the Massachusetts district, and until 1916 a member of the law firm of Hurlburt, Jones, and Cabot. As judge of the juvenile court from 1916 until the time of his death he became known nationally as an expert on child delinquency. In 1930 he was chairman of the committee of the socially handicapped and delinquent at the White House conference on child health and protection.

Cagni, Admiral Umberto Italian explorer, died in Genoa, Apr. 22, 1932, aged 69. He was a count in 1900, jointly with the Duke of Abruzzi, he headed a Polar expedition and one of the sledge parties of which he had charge attained a latitude of 86° 33', 239 15 statute miles from the North Pole. Cagni was with Abruzzi's expedition that determined the northern coast of Franz Joseph Land. He accompanied the Duke's party on the memorable ascent of Mt. St. Elias in Alaska, and also in 1906 when they ascended Ruwenzori in East Central Africa. He was one of the leaders who took part in the campaign that wrested Tripoli from the Turks in 1911. In 1928 he headed the Government commission which investigated the tragic Noble flight to the North Pole. At the time of his death he was president of the Asiatic Shipping Company, and also president of the Genoa Port Corporation.

Cannu, Ferdinand French paleontologist, died in Versailles, Feb. 12, 1932. He was born in Paris, Dec. 10, 1863, and educated there. Until his retirement in 1914 he was an instructor of mathematics and sciences in the Paris schools. He wrote a text-book on meteorology, and later compiled an atlas of 50 plates on paleogeography; the first of its kind ever published. He later turned to the study of paleontological subjects and wrote many important papers, one among them being on Mesozoic Bryozoa. From 1912 he was associated with the Smithsonian Institution and wrote a number of monographs of fossils and recent Bryozoa. In collaboration with Dr. R. S. Bassler he wrote *The Early Tertiary Bryozoa of North America* (1920). In 1923 he was awarded the Elliot medal of the National Academy of Sciences for his book *North American Later Tertiary and Quaternary Bryozoa*.

Carlsen, Emil, died Jan. 2, 1932.

Carpe, Allen. American mountain climber, died about May 8, 1932, on Muldrow Glacier, Mt. McKinley, Alaska. He was born in Chicago, Ill., Dec. 21, 1894, and went to Germany at the age of nine where he attended schools in Berlin for several years. While in Europe he became interested in mountain climbing, and was often a member of small parties that ascended the Alps. When he returned to the United States he attended Columbia University and was graduated in 1919 as an electrical engineer. In 1925 he was a member of the party that represented the United

States and Canada which conquered Mount Logan, the highest peak in the Dominion of Canada, and the second highest peak in North America. He later climbed Mount Bona in Alaska. In an attempt to measure cosmic rays to determine their relation to magnetic attraction the University of Chicago and the Carnegie Institution of Washington, D. C., joined in a world-wide survey and sent an expedition to Mt. McKinley, in March, 1932, under the direction of Dr. A. H. Compton, of which Mr. Carpe was a member. The Muldrow Glacier was reached April 27, but on or about May 8 Carpe and his partner, Theodore Koven, fell in a crevasse from which his body was not recovered while that of his partner was found by H. J. Leik and A. D. Lindley. (See EXPLORATION.)

Carrizosa, Guillermo Camacho Colombian statesman, died in Cachipav, Sept. 3, 1932. He was born in Bogota, Colombia, in 1876, and started his public career at an early age as a member of the Municipal Council of Bogota and of the Upper and Lower Houses of the National Congress. He was minister of foreign affairs in 1909 and later became successively minister plenipotentiary to France, Italy, and Spain. Upon his return to his native country he was appointed Governor of Cundinamarca. At the time of his death he was on the advisory board of the ministry of foreign affairs.

Carruthers, Sir Joseph Hector McNeill, died Dec. 10, 1932.

Carty, John Joseph, died Dec. 27, 1932.

Castellane, Boniface de (Bonif) French social celebrity, died in Paris, Oct. 20, 1932, aged 64. He was born and educated in France and inherited the title of count. He gained much notoriety by his marriage to Anna Gould, American heiress, in 1895, which ended in divorce in 1909.

Chambers, Rear Admiral Frank Taylor, died Nov. 10, 1932.

Cheshire, Rt. Rev. Joseph Blount, died Dec. 27, 1932. Chesnutt, Charles Waddell American writer, and lawyer, died on Nov. 15, 1932, in Cleveland, Ohio, where he was born June 20, 1858. In 1866 his family removed to North Carolina and he attended the State Normal School there and then taught public school. At the age of 23 he was appointed principal of the State Normal School in Fayette, N. C. In 1884 he removed to New York City and became a newspaper reporter. He then returned to Ohio where he studied law and was admitted to the bar in 1887. After practicing law for some time he became a court reporter and devoted his leisure time to writing. Among his works are *The Conjure Woman* (1899 and 1929); *The Wife of His Youth and Other Stories* (1899); *The House Behind the Cedars* (1900); *The Marrow of Tradition* (1901); and *The Colonel's Dream* (1905).

Chester, Rear Admiral Colby Mitchell, died May 4, 1932.

Cheyne, Sir (William) Watson British surgeon, died in Fetter, Shetland, Apr. 19, 1932. He was born Dec. 14, 1852, and attended the Edinburgh University. In 1888 he was appointed Hunterian Professor of the Royal College of Surgeons of England and held the chair until 1890 when he served as consulting (civil) surgeon of the forces in South Africa. He received the D. Sc. from Oxford University in 1900. From 1914 to 1917 he was President of the Royal College of Surgeons. At the beginning of the World War he served as consulting surgeon for the Royal Navy, becoming Temporary Surgeon-General, and subsequently was appointed Surgeon Rear-Admiral in 1915. In 1917 he represented the Universities of Edinburgh and St. Andrews in Parliament and from 1918 to 1922, all the Scottish Universities. In 1922 he was professor of Clinical Surgery at King's College, London. He held the office of Lieutenant of Orkney and Shetland from 1919 to 1930. He was the foremost exponent of the methods of using antiseptics suggested by Lister, and was awarded the Lister Memorial Medal in 1924. A lecturer on many medical subjects he wrote also a manual on surgery, *Antiseptic Surgery* (1882) in seven volumes; *Manual of the Antiseptic Treatment of Wounds* (1885); *Public Health Laboratory Work*, Part I (1884), and a biography, *Lister and His Achievements* (1925). He was created Baronet in 1908.

Chilton, Horace American lawyer and former senator, died in Dallas, Tex., June 12, 1932. He was born in Smith County, Tex., Dec. 29, 1853, and was educated at Tyler, Tex. He studied law at home and was admitted to the bar. He served as attorney general in Texas from 1881 to 1883. In 1891 when John H. Reagan resigned his seat in the Senate he was appointed to that place by Governor Hogg. He ran unsuccessfully for the next term but was elected to succeed Richard Coke whose seat was vacated. He served from 1895 to 1901. He then removed to Dallas, Tex. in 1906 and practiced law until the time of his death.

Christy, Cuthbert, died May 29, 1932.

Clark, Brig.-Gen. Robert Percy Canadian soldier, died in Vancouver, B. C., Apr. 8, 1932. He was born in London, England, Apr. 17, 1874, and was educated at the College, Broadstairs, Kent, England. Subsequently he

found employment with the firm of L. Lambrinudi & Co., members of the London Stock Exchange, but migrated to Canada a few years later. In 1897 he joined the Klondike gold rush and from 1900 to 1901 fought with the second Royal Fusiliers during the South African war. On Aug. 22, 1914, he joined the first contingent of the Canadian Expeditionary Forces as staff captain and was appointed major on the field of battle in September, 1915. In 1916 he was wounded in battle and when returned to the front was appointed commander of the 14th Canadian Battalion (Royal Montreal Regiment), and later of the Canadian Training Camp in Bramshott, England, until 1918. In 1919 he was transferred to the corps of reserve officers with the rank of brigadier-general. Mentioned five times in dispatches, he received the Military Cross and Distinguished Service Cross and order in 1916, and the companion of St. Michael and St. George in 1918. In 1919 he was president of the Victoria, B. C., unit of the Army and Navy veterans of Canada and in 1920 president of the Provincial unit of the same organization.

Clarke, Gen. Sir Charles Mansfield, British soldier, died in Hyères, France, Apr. 25, 1932. He was born Dec. 13, 1839. After entering the army in 1856 he served in many foreign lands. From 1861 to 1866 he was stationed in New Zealand. While fighting in the Zulu war in 1879 he was promoted to brevet colonel, a year later to commandant-general of the military forces of Cape of Good Hope Colony, and in 1884 assistant-adjutant-general in the War Office. He became deputy-adjutant-general of Ireland and served from 1886 to 1888. During 1889-92 he was major general commanding the third infantry brigade at Aldershot, and the following year deputy-adjutant-general at headquarters. From 1893 to 1898 he was commander-in-chief and lieutenant-general commanding the forces at Madras, and quartermaster-general of the forces until 1903 when he was appointed governor of Malta where he served four years. In 1901 he was created Knight Grand Cross of the Bath and two years later Knight Grand Cross of the Victorian Order. He succeeded to the Baronetcy upon the death of his father in 1899.

Clarke, John Proctor American jurist, died in New York City, Jan. 12, 1932. He was born in Florence, Italy, Apr. 23, 1856, of American parents, and was graduated from Yale in 1878. He studied law in Northampton, Mass., and was admitted to the Massachusetts bar in 1880. From 1881 to 1886 he was assistant U. S. Attorney for the southern district of New York, and a member of the law firm of Hascall, Clarke and Vander Pool until Mar. 1, 1895, when he became assistant corporation counsel for New York City during Mayor Strong's administration and served until Jan. 1, 1898. Two years later he was appointed justice of the Supreme Court of New York, elected in 1901, and reelected by all parties in 1915, being assigned to the Appellate Division, first department, in 1905, reelected in 1910, and again in 1915. He served as presiding justice from 1915 to 1926. During 1926-30 he was a member of the law firm of Clarke and Kresel. On Jan. 1, 1930 he was appointed referee for life of the New York Supreme Court. His bitter opposition to Thomas Collier Platt helped to make political history. (See NEW INTERNATIONAL ENCYCLOPEDIA, vol. xviii, p. 717.)

Clay, Brutus Junius American diplomat, died in Richmond, Ky., June 1, 1932. He was born in Madison Co., Ky., Feb. 20, 1874, and was graduated from the University of Michigan in 1898. In the same year he started in the wholesale and retail grocery business in Richmond, and later conducted cotton plantations in Mississippi and farms in Kentucky and Illinois; also, he engaged in manufacturing lumber, quarrying, mining, etc. In 1897 President McKinley offered him the post of U. S. Minister to the Argentine Republic but he declined. In 1900 he was appointed the U. S. Commissioner to the Paris Exposition. From 1905 to 1910 he was envoy extraordinary and minister plenipotentiary to Switzerland.

Clerk, Sir Dugald, died Nov. 12, 1932.

Cobb, Nathan Augustus, died June 4, 1932.

Coffman, Admiral De Witt, died June 27, 1932.

Coghlan, Rose, died Apr. 4, 1932.

Coleman, Glenn O. American painter and lithographer, died in Long Beach, L. I., N. Y., May 8, 1932. He was born in Springfield, Ohio, July 18, 1887. He removed to New York City when a very young man and studied art under Robert Henri. He won third prize at the Carnegie Institute in Pittsburgh, Pa., for his exhibit in 1928, and also the Brewster prize for his lithographs. His picture *Minetta Lane*, depicting a street scene in Greenwich Village was bought for the Luxembourg Museum in Paris for the permanent collection. He is represented also at the Newark, Brooklyn, and Whitney museums. His picture *Speakeasy* 1931 was acquired by the Metropolitan Museum of Art in New York City.

Collins, Arthur Pelham, died Jan. 13, 1932.

Collins, Edward Treacher. British ophthalmologist, died Dec. 13, 1932, in London where he was born in 1862. He attended the University College School and the Medical Department of the Middlesex Hospital. From 1884 to 1887 he served as house surgeon of the Royal

London Ophthalmic Hospital and pathologist of the same hospital from 1887 to 1894. He then went to Persia where his services were rewarded by the Order of the Lion and the Sun (3d class). He then returned to England and became Hunterian professor of pathology and surgery at the Royal College of Surgeons, London, and Erasmus Wilson lecturer from 1899 to 1900. He filled the Bowman chair as lecturer in 1921 and then went to Ireland where he became Montgomery lecturer at the Royal College there. He served as president of the Ophthalmological Society of the United Kingdom in 1917, 1918, and 1924; president of the Council of British Ophthalmologists from 1923 to 1924, and for 24 years was visiting ophthalmic surgeon of the Metropolitan Asylums Boards Ophthalmia Schools. He wrote several treatises on the disease and treatment of the eye.

Colvocoresses, Rear Admiral George Partridge, died Sept. 11, 1932.

Comfort, Will Levington, died Nov. 2, 1932.

Cooke, Edmund Vance. American poet, writer, and lecturer, died in Cleveland, Ohio, Dec. 18, 1932. He was born in Port Dover, Canada, June 5, 1866, and attended public schools there. He started as a lecturer in 1893 on lecture-entertainment programmes and continued until the time of his death. In 1894 he had his first book of poems, called *A Patch of Pansies*, published. Among his other works are *Rimes to be Read* (1897 and 1905); *Impertinent Poems* (1903 and 1907); *The Uncommon Commoner* (1913); *How Did You Die? and Other Poems* (1927); and many other volumes.

Cooper, Oscar Henry. American educator, died in Abilene, Tex., Aug. 22, 1932. He was born in Carthage, Tex., Nov. 22, 1852, and graduated from Yale University with an A.B. degree in 1872. He then went to Germany and studied at the University of Berlin. He returned to the United States in 1881 and became an instructor at Yale College where he remained until 1884 when he was appointed superintendent of education for the State of Texas. From 1890 to 1896 he was superintendent of schools for Galveston, Tex. In 1899 he was appointed president of Baylor University and served until 1902 when he became president of Simmons College. In 1915 the college became Simmons University and he was appointed professor of philosophy and education and was chairman of the faculty. In 1923 he served as president of the Association of Texas Colleges. During 1928-29 he was a visiting professor at the University of Texas. He wrote a *History of Our Country*, four volumes of educational reports, and about 100 published educational addresses.

Corea, Luis Felipe. Nicaraguan statesman, and lawyer, died in Managua, Apr. 28, 1932. He was born in Granada, Nicaragua, Aug. 25, 1864, and graduated from the National College there with an LL.D. degree, and also from the Central University of Guatemala. He served as professor of history, philosophy, and mathematics at the latter university after graduation. He later held professorships in various other colleges until he was appointed secretary of the legation for the Republic of Central America in Washington in 1896. A few months later he was appointed *chargé d'affaires* for the same republic. In 1898 he served in the same capacity at Nicaragua, and from 1899 to 1909 as minister plenipotentiary of Nicaragua to the United States; also to Mexico and Cuba during the same period. He was appointed delegate to several international congresses and expositions. While living in New York City he was a member of the law firm of Johnson, Galston, and Corea. In 1924 he was the Liberal Presidential candidate in Nicaragua.

Correa, General Serzedello. Brazilian soldier, died in Rio de Janeiro, June 6, 1932. He was born in Para, Brazil, and removed with his family at an early age to Rio de Janeiro, where he graduated from the Military School. At the downfall of the monarchy in 1889, then a captain in the army, he was elected to represent his native city at the Constitutional Convention in 1891. He then received promotion through the grades to General. In 1892 he was appointed minister of foreign affairs, and later held the portfolios of agriculture, finance and justice. On many occasions he was elected to serve in the Chamber of Deputies.

Craighend, Erwin. American editor, died in Mobile, Ala., Feb. 3, 1932. He was born in Nashville, Tenn., Apr. 4, 1852, and graduated from the University of Nashville in 1872 with a B.Litt. degree. Later he went abroad to take a post-graduate course at the University of Leipzig. He was admitted to the Tennessee bar but never practiced. He entered the field of journalism in 1877 and became a music critic and editorial writer for the New Orleans Times. In 1880 he was appointed managing editor of the New Orleans Daily States. From 1882 to 1884 he served as city editor of the Mobile Register, and later managing editor of that paper. In 1903 he became vice-president and remained with the paper until 1926 when he retired as editor emeritus. He wrote *Through Mobile's Past*.

Cranston, Earl, Bishop, died Aug. 18, 1932.

Cresson, W(illiam) Penn., died May 12, 1932.

Crosbie, Sir John Chalker. British statesman, died in St. John's, Newfoundland, Oct. 4, 1932. He was born in Brigus, Newfoundland, Sept. 11, 1876, and attended the Methodist College at St. John's. When very young he started his career as a fish importer and built up an important business of which he became sole owner in 1903. He entered into the political life of Newfoundland in 1908 and held the portfolio of minister of shipping from 1917 to 1919. In 1918 he served as temporary Prime Minister. He later held other political offices, serving as minister of finance from 1924 to 1928. He was created Knight of the British Empire in 1919.

Crowder, Enoch Herbert, died May 7, 1932.  
Cullen of Ashbourne, Brien Cokayne, First Baron, died Nov. 8, 1932.

Czernin, Ottokar, Count, died Apr. 4, 1932.

Daeger, The Most Rev. Albert T., died Dec. 2, 1932.

Daingerfield, Elliott, died Oct. 22, 1932.

Dan, Takuma, Baron, died Mar. 5, 1932.

Davis, Oscar King. American publicist, died in Bronxville, N. Y., June 8, 1932. He was born in Baldwinville, N. Y., Jan. 13, 1866, and graduated from Colgate University in 1888. He became a special correspondent for the New York Sun and Harper's Weekly during the Spanish-American War, the Philippine Insurrection, and the uprising in China in 1900. Later he was special correspondent of the New York Herald with the first Japanese army. From 1907 to 1912 he was Washington correspondent for the New York Times and the Philadelphia Public Ledger when he was appointed secretary of the Progressive National Committee. Also, he had charge of the publicity department. In 1915 he was special correspondent for the Chicago Tribune in China, and from 1916 to 1917 for the New York Times in Berlin. In 1921 he was made delegate from the United States to the first Pan-American Postal Congress in Buenos Aires and was later appointed vice-president of the congress. In 1917 he was made the secretary of the National Foreign Trade Council, which post he held at the time of his death. He wrote *Our Conquests in the Pacific* (1899); *At the Emperor's Wish* (1905); and other works.

De Bunsen, Sir Maurice (William Ernest), died Feb. 21, 1932.

De Forest, Lockwood. American painter, died in Santa Barbara, Calif., Apr. 3, 1932. He was born in New York City, June 23, 1850, studied art in Rome, under Corradi in 1869, under F. E. Church and James M. Hart in New York City, and also in Egypt, Syria, and Greece until 1878. In 1881 he went to Ahmedabad, India, and founded a workshop for the revival of wood-cutting which resulted in exhibits being made by special request of the Indian Government at the first Indian Exhibition in Lahore in 1882, many articles being purchased for the Indian Museum at South Kensington, London. In 1886 he received a medal for Indian carvings at the Colonial Exposition in London; a medal from the Columbian Exposition in Chicago in 1893, and the bronze medal at the St. Louis Exposition in 1904. Also, he was a noted landscape painter. He was a member of several art institutes and academies, among them being the Metropolitan Museum of Art in New York City and the National Academy of Design. In 1885 he published a book entitled *Indian Domestic Architecture* and in 1912 *Illustrations of Design*.

De Villiers, Jacob. South African jurist, died in London, Sept. 17, 1932. He was born in the Orange Free State, Dec. 14, 1868, and educated at Grey College, Bloemfontein; Victoria College, Stellenbosch; University of Amsterdam, and Middle Temple, London. He was called to the bar in 1893 and became state attorney in the old Orange Free State Republic in 1896. He resigned in 1898 and joined the Free State Forces in the Boer War, being wounded in battle in 1900 and taken prisoner of war. After the war he practiced law in Johannesburg and upon the granting of responsible government became attorney-general and minister of mines. In 1930 he was made privy counselor. At the time of his death he was Chief Justice of the Supreme Court in South Africa.

Dice, Agnew Thompson. American railway official, died in Philadelphia, Pa., Mar. 25, 1932. He was born in Scotland, Franklin Co., Pa., Nov. 2, 1862, and attended the Chambersburg Academy. He started his career with the Pennsylvania Railroad in 1881 beginning as flagman and being promoted through the departments until he became supervisor in 1891. He then went with the New York Central and Hudson River Railroad as superintendent of signals in 1892 and was promoted to superintendent of the Hudson Division of the same road in 1893, serving for one year. He then became superintendent of the Atlantic City Railroad and remained with that company until 1897. In the same year he became superintendent of the Shamokin Division of the Philadelphia & Reading Railway and was promoted to general manager in 1910, and to vice-president and general manager in 1913. In 1916 he was elected president of the entire system of the Philadelphia & Reading Railway, which office he held at the time of his death.

Dickinson, Anna Elizabeth, died Oct. 22, 1932.

Dickinson, G(oldsworthy) Lowes, died Aug. 3, 1932.  
 Dippel, (Johann) Andreas, died May 12, 1932.  
 Dobyns, William Ray, American clergyman, died in Birmingham, Ala., Jan. 26, 1932. He was born in Columbus, Mo., May 17, 1861, attended the Westminster College in Fulton, Mo., and the McCormick Theological Seminary in Chicago, where he was ordained Presbyterian minister in 1889. He then organized the Immanuel Church in Chicago and served as the first pastor until 1890 when he became financial secretary of the Westminster College. In 1891 he held the pastorate of the First Presbyterian Church in Marshall, Mo., and in 1899 the First Presbyterian Church of St. Joseph, Mo., where he served until 1920. He then was called to the South Highland Church in Birmingham, Ala., where he served until his death. In 1929-30 he was moderator of the Presbyterian General Assembly. Also, he served as a member of the Foreign Missions Board. He was an authority on the Bible and the founder of the School of the Ozarks in Hollister, Mo.

Doermann, Henry John, American educator, died in Toledo, Ohio, Nov. 20, 1932. He was born in Hickory, N. C., Oct. 20, 1890, graduated from the University of Minnesota with an A.B. degree in 1913, and from Harvard with an A.M. degree in 1917. In the same year he received an appointment as superintendent of schools in Orion, Ia., which he left later in the year to become psychological examiner for the medical department of the United States Army. From 1919 to 1923 he served as director of the Normal School and Academic Department of the Hampton Institute in Virginia. He then went to Porto Rico and in 1925 was appointed dean of administration of the University of Porto Rico where he served until 1928. He then received an appointment as president of the University of Toledo and held this office at the time of his death. He wrote *The Orientation of College Freshmen* (1926).

Dollar, Robert, died May 16, 1932.

Doumer, Paul, died May 7, 1932.

Druce, George Claridge, British botanist, died in Oxford, England, Feb. 29, 1932. He was born in Potters Pury, Northants, May 23, 1850, educated privately and at Magdalen College, Oxford. In 1897 he served as sheriff of Oxford and in 1900 became mayor for a one year term. He was secretary and editor of the yearly reports of the British Botanical Society and vice-president of the Archaeological Society of Oxfordshire. At the time of his death he was Fielding Curator of the University of Oxford. He was considered the foremost authority on the flora of Great Britain and wrote innumerable articles, books, and monographs on the subject. He was a member of several pharmaceutical, botanical, and historical societies.

Drury, Wells, American journalist, died in Berkeley, Calif., May 4, 1932. He was born in New Boston, Ill., Sept. 16, 1851 and attended the Olympia High School (Washington) and the Christian College in Monmouth, Ore. From 1861 to 1865 he was an interpreter at Puget Sound, Wash., for the superintendent of Indian affairs. He started his career in journalism as an apprentice compositor and pressman in 1866, in Portland, Ore., and in 1869 became a reporter for the *Portland Oregonian*, and later for the *Victoria (B. C.) Colonist*. From 1871 to 1873 he owned and edited the *Monmouth (Ore.) Messenger*, in 1875 he became city editor of the *Gold Hill Daily News*, and in 1879 owner and editor of the *Virginia City (Nev.) Daily Stage*. He served as deputy secretary of the State of Nevada from 1882 to 1886, and as a member and speaker pro tempore of the Nevada House of Representatives from 1887 to 1888. He then reported for the *Denver Republican*, *Kansas City Journal*, and the *Chicago Inter-Ocean*, and several middle western newspapers until he founded and edited the *Daily Evening News* of Sacramento, Calif., in 1891. In 1902 he became news editor of the *Sacramento Union* and in 1906 city editor of the *San Francisco Daily Examiner*. From 1908 to 1921 he was director and secretary of the Berkeley Chamber of Commerce in California, and president from 1921 to 1922 of that organization. He wrote *Berkeley, a City of Progress* (1909), *To Old Hangtown or Bust* (1912), and *California Tourist Guide and Handbook* (with Audrey Drury) (1912).

Duckham, Sir Arthur McDougall, British engineer, died Feb. 14, 1932, in Ashstead, Surrey. He was born in Blackheath, July 8, 1879, and educated at Blackheath School. He started his career as an engineer under Sir George Livesay, later specializing in carbonization of coal, furnace work, and engineering connected with chemical development to which he contributed many inventions. During the World War he was deputy director-general of munitions supplies; member of the air council, and director-general of aircraft production. He was a member of a commission appointed to advise upon trade opportunities in Australia in 1928. In 1917 he was created Knight Commander of the Bath and in 1929 Knight Grand Cross Order of the British Empire. At the time of his death he was president-elect of the Federation of British Industries.

Dudley, William Humble Ward (2nd Earl of), died June 29, 1932.

Duffy, Francis Patrick, died June 26, 1932.

Durafour, Antoine, French minister, died Apr. 25, 1932, in St. Etienne, where he was born Aug. 12, 1872. He was a lawyer and former minister of hygiene; also a former vice-president of the district council of the Loire, and a member of the chamber of deputies from St. Etienne. In 1925 Premier Paul Painlevé appointed him minister of labor.

Eastman, George, died Mar. 14, 1932.

Eeden, Frederik Willem van, died June 16, 1932.

Eickemeyer, Rudolf, American photographer, died Apr. 24, 1932, in Yonkers, N. Y., where he was born Aug. 7, 1862, educated in public schools there and at the Hoboken Academy. He started his photographic career as an amateur in 1893, and two years later joined the Carbon Studio where he remained until 1900. He then became art manager for the Campbell Studio. In 1905 he joined partnership with Charles H. Davis of the Davis & Sanford Studio. Four years later he founded the New York branch of the Campbell Studio on Fifth Avenue and was manager there until 1915. He traveled extensively to further his photographic work, having used every known process, for which he received over 100 medals; among them being one of the Royal Photographic Society of England, the Viceroy medal of the Calcutta International Exhibition; the gold medal of the St. Louis Exposition, and the special gold medal of the Hamburg Senate. Also, he illustrated several books and wrote: *How to Make a Picture* (1898); *Down South* (1901); *The Old Farm* (1902); and *Winter* (1904). He was a life member of several art and photographic associations. All of his medal pictures and a few others have been acquired by the Smithsonian Institution.

Elliott, William, American actor and producer, died in New York City, Feb. 5, 1932. He was born in Boston, Mass., Dec. 4, 1885, and started his career on the stage at the age of nine as a violinist and with stock companies. The principal plays in which he had a part were *That Man and I*, with Robert Hilliard (1904), *A Grand Army Man* and *The Music Master*, with David Warfield (1907-08), *Madame X* (1910), *The Pink Lady* (1911), after which he retired from the stage temporarily to engage in producing. Among the plays of which he was the co-producer are *The Governor's Lady* (1912), *Kitty Mackay*, and *Help Wanted* (1914). He then returned to the stage and played in *Experience* (1914) and *The Greatest Nation* (1916), which he also helped to produce. Of the latter he was author. In 1917 he appeared in *The Wanderer*. He produced *The Marked Man* and *Still Waters* (1925), and *The Home Towners* (1926) in which he also appeared.

Emerson, Benjamin Kendall, died Apr. 7, 1932.

Ende, Amelie Von, American pianist and lecturer, died in New York City, Aug. 25, 1932, aged 78. She was born in Poland, came to the United States at the age of 12, and was educated privately. She contributed articles to the *NEW INTERNATIONAL YEAR BOOK* on German literature. Also, she contributed to many magazines. She was a concert pianist, and also lectured on art and kindred subjects in the leading colleges of the United States.

Erickson, Halford, American engineer, died in Chicago, Ill., Apr. 7, 1932, aged 67. He came to the United States from Sweden in 1884 and was graduated from the University of Minnesota. From 1895 to 1905 he served as commissioner of labor for Wisconsin when Governor La Follette appointed him a member of the first State Railroad Commission. While serving in that capacity he drafted several laws for the regulation of public utilities which have been the basis of similar measures in other States. He resigned in 1918 to become associated with the Byllesby Engineering and Management Corporation where he was vice-president in charge of operation at the time of his death.

Eslick, Edward Everett, American congressman, died June 14, 1932, in Washington, D. C. He was born in Pulaski, Tenn., Apr. 19, 1872, and attended Bethel College in Russellville, Ky. He was admitted to the bar in Tennessee where he practiced law and engaged in farming. In 1896 he was elected and from 1900 to 1904 elected for the State at large. In 1925 he was elected to the 69th Congress to represent the 7th Tennessee district and served successively until 1932, when, while making an impassioned plea on the floor of the House for the payment of the bonus to the Veterans of the World War, he was stricken and died before aid could reach him.

Evermann, Barton Warren, died Sept. 27, 1932.

Fall, Charles G., American lawyer, died in Boston, Mass., Jan. 22, 1932. He was born in Malden, Mass., June 22, 1845, and graduated from Harvard University in 1868 with an A.M. degree. He then studied law and was admitted to the Massachusetts bar. He practiced law in Boston until 1894 when he retired. In 1887 an act which he drafted, covering the relationship between employer and employee in accident cases, was passed as a law in the State of Massachusetts and later was adopted by the other States. This law formed the basis of the



workmen's compensation acts. He was a member of the first board of arbitration formed to settle labor disputes and strikes in Massachusetts. He wrote several books on history, law, and also poetry. Among his works are *Employer's Liability for Personal Injuries* (1883); *Patriciot or Tractor* (1913); *Soul of the East* (1914); *Three Political Tragedies, Napoleon, Cinque Mars, Andreas Hofer* (1914). Also, he wrote several volumes on the World War.

Faris, Robert Lee. American civil engineer, died in Washington, D. C., Oct. 5, 1932. He was born in Caruthersville, Mo., Jan. 13, 1868, and graduated from the University of Missouri with a C.E. degree in 1890. Three years later he took a special course in mathematics at Columbian (now George Washington) University. In 1890 he served as assistant engineer on a survey of the Missouri River, was appointed recorder in 1891, aid in 1893, and in 1895 assistant of Coast and Geodetic Survey. For the next five years he was engaged as assistant in a survey of the Yukon Delta, the north coast of Bering Sea, Alaska, etc. Also, he was commandant of a survey steamer at Puerto Rico and the East Coast of the United States. From 1906 to 1914 he served as chief inspector of magnetic work and chief of the division of terrestrial magnetism. In the following year he was assistant inspector of hydrography and topography and in 1915 was appointed assistant director of the Coast and Geodetic Survey, where he served until the time of his death. He was a member of the Mississippi River Commission. He was president of the Philosophical Society of Washington and the Washington Society of Engineers in 1921. Also, in the same year he was treasurer and vice-president of the Washington Academy of Sciences.

Farley, Roland. American composer, died in New York City, May 11, 1932, aged 40. He was born in Aspen, Colo., and at the age of five lost his sight through being kicked by a burro. In 1912 he went abroad to study music and entered the Conservatory at Leipzig. He later returned to the United States and studied under Ernest Hutcheson. In 1930 he organized a publishing company known as the New Music Press, to publish his own music and also to help promising young American composers to bring their work before the public. He composed over 160 songs and also pieces for the piano. Among his many songs the most notable is a descriptive piece called *The Night Wind*.

Felker, Samuel Demeritt. American governor, died Sept. 14, 1932, in Rochester, N. H., where he was born Apr. 16, 1859. He graduated from Dartmouth College with an A.M. degree in 1882, and an LL.B. in 1887. Following this he completed in one year a three-year law course at the Boston University Law School, graduating with high averages. He was admitted to the bar and practiced law in Rochester, N. H. He became a member of the New Hampshire State Senate in 1891 and was reelected in 1892. In 1896 and 1897 he served as mayor of Rochester; as city solicitor from 1898 to 1915, and from 1909 to 1911 as a member of the New Hampshire House of Representatives. In 1913 he was elected Governor of New Hampshire and held that office until 1915. He then received an appointment as judge of the Rochester Municipal Court and served until his retirement in 1930.

Fenn, William Wallace, died, Mar. 6, 1932.

Feraudy, Dominique Marie Maurice de French actor, died in Paris, May 12, 1932. He was born in Joinville-le-Pont in 1860, and attended the Conservatoire de Paris, studied for the stage under the celebrated François Got, and won first prize there for comedy. He made his atirical debut in a play by Molière. The principal parts he created at the Comédie-Française were in *L'Amour brode*, *Cabotins*, *Les Romanesques*, *Le Torrent*, *L'Autre Danger*, etc. Also in his repertoire were rôles in *Le Mariage de Figaro*, *M. Scapin*, *Le Fils de Giboyer*, etc. Among the plays he wrote were *Tic à Tac* (1899); *L'Ecole des Vieux* (1901), and *Le Béguin de Messaline* (1904). He was a member of the société des Auteurs et Compositeurs de musique, the société des Auteurs et Compositeurs dramatiques, an officer of the Legion of Honor, and a former dean of the Société de la Comédie-Française.

Ferrie, Gustave Auguste, died Feb. 16, 1932.

Fessenden, Reginald Aubrey, died July 22, 1932.

Finegan, Thomas Edward, died Nov. 25, 1932.

Firkins, Oscar W. American educator, died Mar. 7, 1932, in Minneapolis, Minn., where he was born May 3, 1864. He graduated from the University of Minnesota in 1884 and received an M.A. degree in 1898. In 1891 he became a member of the faculty of the University of Minnesota and held the chair of professor of comparative literature until the time of his death. He was an author, critic, and playwright. Among his many works are *Ralph Waldo Emerson* (1915); *Jane Austen* (1920); *William Dean Howells* (1924); *Cyrus Northup* (1925); and *Two Passengers for Chelsea and Other Plays* (1928). He contributed to many magazines, was a reviewer of poetry for *The Nation* 1915 to 1918, and dramatic critic for the *Weekly Review* from 1919 to 1921. He was a member of the National Institute of Arts and Letters.

Fish, Carl Russell, died July 10, 1932.

Fiske, Minnie Maddern, died Feb. 15, 1932.

Fleming, Walter Lynwood, died Aug. 8, 1932.

Flint, Alexander. British naval expert, died in London, Oct. 1, 1932, aged 55. He graduated from Edinburgh University and shortly after entered the British Admiralty being promoted to principal assistant of the Secretary of the British Admiralty in 1901 and serving in that office until the time of his death. He was a delegate to Washington, D. C. in 1921 and to Geneva in 1927, and was considered one of the leading authorities on international law as applied to navies. Also, he was a member of the Admiralty delegation to the London naval parley in 1930. He was made a Companion of the Bath in 1920, and the Companion of St. Michael and St. George in 1928.

Folkmar, Daniel. American statistician and anthropologist, died in Washington, D. C., July 21, 1932. He was born in Roxbury, Wis., Oct. 28, 1861. He graduated from Leander Clark College in Toledo, Ia., took post-graduate courses at the Universities of Chicago and Harvard, and also studied in Paris, Berlin, and Brussels. He received a certificate from the Ecole d'Anthropologie in Paris in 1899. He held various professorships in colleges of the United States and Europe, the most important being at the New University of Brussels from 1898 to 1901. He served as anthropologist and as lieutenant-governor in the Philippine Civil Service from 1903 to 1907, was appointed special agent for the U. S. Immigration Commission in 1908-09, and acted as special agent for the U. S. Census Bureau from 1910 to 1914. He was on the editorial staff of the U. S. Department of Commerce from 1914 to 1917. In 1918 he was statistician for the War Department, and also in 1919 anthropologist in charge of measuring soldiers. He then became connected with the U. S. Census Bureau from which he retired in 1931. In 1915 he was appointed delegate to the Second Pan-American Scientific Congress. He was a member of several anthropological and statistical societies. He wrote *Leçons d'Anthropologie* (1900), *Album of Philippine Types* (1904), *Dictionary of Races* (vol. v Immigration Commission Reports 1911), *Mother Tongue of Foreign Stocks* (U. S. Census 1910), and numerous articles and reports.

Fordney, Joseph Warren. American congressman, died in Saginaw, Mich., Jan. 8, 1932. He was born in Blackford Co., Ind., Nov. 5, 1853, and educated at the public schools there. He went to Saginaw in 1869 and engaged in the lumber business. From 1885 to 1899 he served as alderman in Saginaw and was then elected to represent the 8th Michigan District in Congress, in which capacity he served 24 years, being appointed chairman of the House Ways and Means Committee several years before his retirement in 1923. His desire for a strong protective tariff resulted in the Fordney-McCumber act which became a law Sept. 22, 1922.

Frederick August (Ex-King of Saxony), died Feb. 18, 1932.

Freeman, John Ripley, died Oct. 6, 1932.

Freer, Otto (Tiger). American laryngologist, died Apr. 21, 1932, in Chicago, Ill., where he was born Aug. 8, 1857. He graduated from the Rush Medical College in Chicago in 1879, and continued to study in Munich, Vienna, and Heidelberg. He became a specialist in diseases of the nose, throat, and ear. He invented and perfected the Freer instruments that are now widely used to perform the operation known among surgeons as the submucous resection of the septum. He was professor of laryngology at the Polyclinic Hospital in Chicago and later became professor emeritus. In 1906 he was the president of the American Medical Association. At the time of his death he was an attending physician at the Heriot Hospital in Chicago.

Freund, Ernst. American educator, died in Chicago, Ill., Oct. 20, 1932. He was born in New York City, Jan. 30, 1864 of German parents who were visiting the United States. The family returned to Germany and he was graduated from the University of Berlin and from Heidelberg University with a J.U.D. degree in 1884. He then returned to the United States and attended the Columbia Law School, and also the School of Political Sciences there from which he graduated with a Ph.D. degree in 1897. From 1892 to 1932 he was an acting professor of administrative law at Columbia University, and until 1902 had served as instructor, assistant professor, and associate professor at the same university. He then went to Chicago, Ill., where he was appointed professor of jurisprudence and public law at the University of Chicago, which office he held at the time of his death. In 1915 he served as president of the American Political Science Association. He wrote *Police Power* (1904), *Standards of American Legislation* (1917), and *Administrative Powers Over Persons and Property* (1928).

Fuertes, James Hillhouse, died Jan. 27, 1932.

Gadsby, Johanna, died Feb. 22, 1932.

Gamble, Samuel Walter. American clergyman, died in Los Angeles, Calif., Dec. 29, 1932. He was born in Worthington, Pa., Nov. 15, 1852, and received his edu-



cation chiefly in the public schools of Woodhull, Ill. He entered the Methodist Episcopal ministry in 1881 and was in active pastoral work until 1899. He then became interested in ancient literature and gained recognition by reproducing the long-lost Hebrew Calendar. He used this to prove his contention that Sunday and not Saturday was the true Sabbath day according to ancient rule. He gave several lectures on the subject and was selected by the World's Sunday Rest Congress to lecture at the St. Louis Exposition in 1904. He spoke also at the Panama-Pacific International Exposition in July, 1915, for the International Lord's Day Congress. He was the editor of two magazines, *The Toiler's Friend* and *The True Sabbath*. Among his books are *Sunday the True Sabbath of God* (1900) and *A Brief Statement of Sabbath Truth* (1918). He also wrote on the 13 month calendar.

Gaona, Juan Bautista, died May 18, 1932.

Garnsey, Sir Gilbert (Francis) British accountant, died in London, June 26, 1932. He was born Mar 21, 1883, attended the Wellington School in Somerset, and received first honors at the Institute of Chartered Accountants in 1903 and in 1905. As a member of the firm of Price, Waterhouse & Co., of London, Accountants, he had many financial investigations of importance, among them being the Hatry group, Marconi Wireless, and government operations in Britain during and after the World War. In 1918 he was chairman of the Finance Committee and Finance member of the Munitions Council, and from 1923 to 1926 chairman of the London Members' Committee of the Institute of Chartered Accountants. In 1930 he was chairman of the committee for marketing and distributing consumable commodities, and also of the economic advisory council, and in 1931 chairman of the British Industries Fairs sites and buildings committee. He was created Knight Commander of the Order of the British Empire in 1918. He wrote *Holding Companies and Their Published Accounts* (1923) and several treatises on accounting.

Garrison, Lindley Miller, died Oct 18, 1932

Gaugengigl, Ignaz Marcel American painter, died in Boston, Mass., Aug 2, 1932. He was born in Passau, Bavaria, July 29, 1855. He graduated from the Munich Academy of Fine Arts in 1878, and came to the United States, in 1880. He specialized in small canvases and his attention to detail caused him to be known as the "Meisner of Boston". In 1884 he received the gold medal at the New Orleans Exposition. His works have been purchased and exhibited by the Boston Museum of Fine Arts and the Metropolitan Museum of Art, New York.

Gay, H(arry) Nelson American author, died in Monte Carlo, Monaco, Aug 13, 1932. He was born in Newton, Mass., Aug 4, 1870, received an A.B. degree from Amherst in 1891, and an A.M. degree from Harvard in 1896. In 1900 he was elected to a fellowship at Harvard which took him to Rome, where he made his permanent residence. In 1909 he conducted the American relief expedition into Calabria. Also, he carried on relief work after the earthquake in Sicily. After the World War he was active in relief work for Italian soldiers and refugees, being general representative of the Italian war relief fund of America. From 1917 to 1918 he was a representative in Italy of the American Poets' Ambulances. During 1918-19 he collaborated with Colonel House on *The Inquiry* to obtain data for the Peace Conference. He was decorated several times by the Italian Government, and was often consulted unofficially by American Ambassadors to Italy because of his knowledge of the people and the country. He wrote several bulletins and magazine articles, and also the following books *Abiamo Lincoln* (1918), *Cavour e l'Incognita* (1926), and *Strenuous Italy* (1927).

Gayley, Charles Mills, died July 26, 1932.

Geddes, Sir Patrick, died Apr 16, 1932.

Gibb, Robert British painter, died in Edinburgh, Feb 11, 1932. He was born in Laureston, Scotland, Oct 28, 1845, and was educated in Edinburgh. In 1895 he was appointed keeper of the National Gallery of Scotland and in 1908 painter and limner to the King for Scotland. Among his many paintings are *Elaine* (1875); *Death of St. Columba* (1876); and *Bride of Sighs* (1877). His later works include *Saving the Colours the Guards at Inkerman* (1895) and *Hougoumont—1815* (1903).

Gide, Charles, died Mar 13, 1932.

Gill, Adam Cooper. American educator, died in Ithaca, N. Y., Sept. 8, 1932. He was born in Chester, Me., Aug 22, 1863, and graduated from Amherst with an A.B. degree in 1884. He then went to Germany and graduated from the University at Munich with a Ph.D. degree in 1893. He returned to the United States and received an appointment as assistant professor of mineralogy and petrography in 1894. In 1910 he was appointed professor. He held this office until June, 1932, when he retired and became professor emeritus. During the World War he headed the U. S. Geological survey in Alaska studying deposits of chromite upon which he was an authority. He wrote *Tables for Determination*

of the Common Minerals, and *Chromite of Kenai Peninsula, Alaska*.

Gillette, King Camp. American industrialist and author, died in Calabasas, Calif., Sept. 10, 1932. He was born in Fond du Lac, Wis., Jan. 5, 1855. His family later moved to Chicago, Ill., and he was educated in public schools there. He started his career as a salesman for hardware firms in New York, Kansas City, and later in England, going back and forth from the United States. While engaged in salesmanship he invented the safety razor. In 1901 he organized and became president of the Gillette Safety Razor Company, manufacturers of the razor and blades. At first the idea seemed doomed to failure, but the second year the output was more than doubled, and within a few years the safety razor became a household necessity and the picture of the inventor on the box was familiar to every country on the globe. Before his phenomenal success he had visions of a super-social organization. He went so far as to have his plan, known as the "World Corporation," actually incorporated under the laws of Arizona in 1910. He offered the position of director of the corporation to Theodore Roosevelt, then a private citizen, at the salary of \$1,000,000 per year. The offer was refused. He wrote several books on this subject, which were *Human Drift* (1894); *Gillette's Social Redemption* (1900); *Gillette's Industrial Solution* (1900); *World Corporation* (1906), and *The People's Corporation* (1924).

Gimbel, Charles American merchant, died at Lake Placid, N. Y., Sept. 9, 1932. He was born in Vincennes, Ind., Sept 12, 1861, and attended the public schools in Philadelphia, Pa., to which city his parents moved in his boyhood. He started his career as a retail merchant when his father returned to Vincennes and opened a small department store. Later he and his brothers acquired stores in Milwaukee, Wis., Pittsburgh and Philadelphia, Pa., and in New York City. At the time of his death he was chairman of the board of the Gimbel Department Store in Philadelphia. (See Jacob Gimbel, NEW INTERNATIONAL YEAR BOOK, 1922.)

Ginisty, Paul French author, poet, and playwright, died in Paris, Mar 5, 1932. He was born Apr 4, 1858, and attended the Lycée Saint-Louis. He served as vice-president of the Association of Republican Journalists, president of the Association of Former War Correspondents, president of the Association of Dramatic and Musical Critics, and director of the Odéon Theatre from 1896 to 1906. In the latter year he was appointed inspector of historic monuments. He was an officer of the Legion of Honor, and was awarded the Croix de Guerre. He wrote many plays, poems, memoirs, essays, biographies, and novels, for which he was created Laureate of the French Academy.

Girouard, Sir Edouard Percy Cranwill, died Sept 26, 1932

Godfrey, Brig Gen Edward Settle American soldier, died in Cooktown, N. J., Apr 1, 1932. He was born in Kahda, Ohio, Oct 9, 1843, and attended public schools in Ohio and the Vermilion Institute in that State. He answered President Lincoln's first call for volunteers in 1861, and enlisted for three months. He then won an appointment to the U. S. Military Academy at West Point from which he graduated in 1867, as second lieutenant. He was promoted through the grades to brigadier general in 1907. He fought in all the Indian Wars and was in one of the regiments under General Custer at the battle of Little Big Horn in 1876. In 1890 he was awarded the Congressional Medal of Honor for outstanding service to the country during the Indian War with Chief Joseph and the Nez Percé Indians in 1877. He originated "Cosack" and "Rough Riding" for the army. He also served in Cuba and the Philippines. He reached the retirement age in 1907. He was commander of the Military Order of Indian Wars, Historian for that order, and a member of several military orders and societies.

Goodnight, Cloyd American educator, died in Bethany, W. Va., Oct 15, 1932. He was born in Michigantown, Ind., Dec 2, 1881, and graduated from Butler College in Indianapolis, with a B.A. degree in 1906 and an M.A. degree in 1907. In 1912 he studied at the Chicago University. In 1907 he was ordained a minister of the Christian (Disciples) Church and was appointed pastor of the Danville, Ind., Church and in 1910 was transferred to Selbyville. He was then transferred to Uniontown, Pa., in 1913 and remained until 1919 when he was appointed president of the Bethany College in Bethany, W. Va., which office he held at the time of his death.

Gordon, Edwin Seamer. American architect, died Apr. 5, 1932, in Rochester, N. Y., where he was born Mar 28, 1867. He graduated from the Rochester Athenaeum and Mechanics Institute in 1891. He was a member, consecutively, of several architectural firms in Rochester until 1918 when he became the senior member of Gordon and Kaelber, which partnership continued until the time of his death. His firm designed the buildings on the New River Campus of the University of Rochester, and many other important buildings in Rochester.

Gore, Rt. Rev. Charles, died Jan. 17, 1932.

Gossard, George Daniel, American educator, died in Annnville, Pa., Apr. 17, 1932. He was born in Greencastle, Pa., Nov. 26, 1868. He graduated from the West Virginia Normal and Classical Academy in Buckhannon, W. Va., in 1890, and the Otterbein University of Westerville, Ohio, in 1892. He attended the Union Bible Seminary in Dayton, Ohio, in 1896, and was a student for one year at the Johns Hopkins Hospital in Baltimore, Md. In 1897 he was ordained minister of the United Brethren Church and held pastorates in Marion, Pa., 1897-99; Shippensburg, Pa., 1899-02; and Baltimore, Md., 1902 to 1912. In 1912 he became president of the Lebanon Valley College in Annnville, Pa., which post he held at the time of his death.

Graham, William, died Jan. 8, 1932.

Grahame, Kenneth, died July 6, 1932.

Grant, Ulysses Sherman, died Sept. 21, 1932.

Graves, Clotilde Inez Mary, British writer, died in Hatch End, Middlesex, Dec. 4, 1932. She was born in Buttevant, County Cork, Ire., June 3, 1863, and was educated in a convent. She wrote several plays that were produced in New York City and London, and several books, some of which were under the pseudonym of Richard Dehan. Among her works are *The Lover's Battle* (1902); *The Day Doctor* (1910); *Between Two Thieves* (1912); *The Headquarter Recruit* (1913); *The Cost of Wings* (1914); *Off Sandy Hook* (1915); and *Under the Hermes* (1917). Her later works include *The Pipers of the Market Place* (1924); *The Sower of the Wind* (1927); *Shallow Sea* (1930); and *The Man in the Mask* (1931).

Gravina, Manfredi, Count, died Sept. 19, 1932.

Graziani, Gen. Jean César, French soldier, died in Paris, Feb. 9, 1932. He was born in Bastia, Corsica, Nov. 15, 1859, and attended the Ecole Saint-Cyr. From a colonel in the infantry in 1909 he was promoted through the grades to chief of staff of the French army during the World War, in which he commanded the seventh division, and later the 12th division of the Italian army. In 1919 he was at the head of the French Military Mission to Hungary, and also in 1920 of the Allied Mission to Budapest, when the Hungarians and Yugoslavs were having difficulties in matters pertaining to the Allies. In 1923 and again in 1930 he was in charge of the Italian military operations in Africa to stamp out rebellion among the Arabs of Cirenaica of which he was also vice-governor.

Gregory, Augusta (Lady), died May 23, 1932.

Gregory, Charles Noble, died July 10, 1932.

Gregory, John Walter, died June 6, 1932.

Grosclaude, Etienne, French journalist, died Jan. 7, 1932, in Paris, where he was born June 2, 1858. He attended the Lycée Condorcet. He was a contributor to *Le Figaro*, *Le Temps*, and *L'Echo de Paris*. His works include *Parillon Madame* (1894); *Hélène-nous d'en rive* (1895); *Un Parisien à Madagascar* (1898); and *La Machine ronde a perdu la boule* (1921). He was editor of *La République Française*, and an Officer of the Legion of Honor.

Guglielmotti, Gen. Emilio, Italian soldier, died Nov. 29, 1932, in Rome, where he was born in 1866. He attended the Military Academy and fought in every conflict the Italians had since the war against the Turks in Libya in 1911. During the World War he came to the United States and recruited all non-American Italians that were eligible to fight for Italy. He distinguished himself in the campaigns of 1915 and 1916 and in the early months of 1917 when he commanded the Second Bersagliere Brigade on the Carso. In 1918 he was made a Major General. In 1919 he addressed the 332d American regiment and expressed Italy's gratitude for the American participation in the World War.

Gunnison, Herbert Foster, American publisher, died in Brooklyn, N. Y., Nov. 25, 1932. He was born in Halifax, Nova Scotia, June 28, 1858, and graduated from the St. Lawrence University at Canton, N. Y., with an A.B. degree in 1880 and an A.M. degree in 1882. He then removed to Brooklyn, N. Y., where he became a reporter on the Brooklyn *Eagle* and from 1884 to 1886 was the Albany correspondent for that paper. He remained with the same paper and in 1897 was given the responsibility of publishing and directing. In 1921 he became vice-president and treasurer, and in 1925, president, which office he held until 1929 when he retired and became chairman of the board. He was the founder of the American Newspaper Publishers Association, and served as treasurer three years and as secretary two years. He was vice-president of the Associated Press in 1921 and again in 1922, and served as president of the New York City Publishers Association in 1925. He wrote *Out On Long Island, Flatbush of Today*, and *Two Americans in a Motor Car*.

Gutiérrez, Gen. Leonidas Plaza, Former President of Ecuador, died in Andina Huigra, Ecuador, Sept. 17, 1932, aged 66. He was elected President of Ecuador on the reform platform at first to serve from 1905 to 1906, and again in 1912 for a four year term that ended in 1916.

Haardt, Georges-Marie, French explorer, died about Mar. 15, 1932, in Hongkong, China, aged 47. He was born in Naples, Italy, of Flemish parents, and when he settled in France in his youth he became a naturalized citizen. For 20 years he was connected with the Citroën Company, manufacturers of motor cars and tractors. He was commissioned by them to head an expedition to cross the Sahara Desert with Citroën-Kegresse caterpillar-track cars in 1922. It was the first time this feat had been accomplished. He later headed an expedition that traversed the length of Africa with the same means of transportation. The last adventure, known officially as the Citroën-Haardt Transasiatic Expedition, had just been completed when he succumbed to pneumonia aboard a steamer which was part of his return trip home made necessary by the uncertain political conditions in China. The data and pictures secured on his historical crossing of Asia with specially built tractors have been of great value to scientists and educators. In 1930 M. Haardt spoke before the National Geographic Society in Washington, D. C., and exhibited pictures taken on his remarkable journey through Africa.

Hale, Edward Everett, died Aug. 19, 1932.

Hall, Edward Kimball, American lawyer, died in Hanover, N. H., Nov. 10, 1932. He was born in Granville, Ill., July 9, 1870, and graduated from Dartmouth College in Hanover, N. H., with an A.B. degree in 1892, and the LL.B. degree from Harvard in 1896. He was admitted to the Pennsylvania bar in 1896 and the Massachusetts bar in 1898. He began to practice law in Boston, Mass., in 1898 and in 1917 removed to New York City. Hall became interested in public utilities and in 1919 was appointed vice-president of the American Telephone and Telegraph Company which office he held until 1930 when he retired. He then became resident lecturer of the Amos Tuck School of Business Administration at Dartmouth College and served as director of many public utilities boards until the time of his death.

Hall, Francis Joseph, died Mar. 12, 1932.

Halsey, Rena Isabelle, American writer, died Oct. 23, 1932 in New York City where she was born in 1859. She attended Nassau Institute and took special courses at Pratt Institute in Brooklyn and also at the New York University. For eight years she served as secretary of the Colonial Daughters of the 17th Century of which she was a charter member. Two books written by her were placed in the National War Museum of Paris at the request of the French Government. They were *America's Daughter* (1918) and *The Liberty Girl* (1919). Among her other works are *Blue Robin*, the *Pioneer Girl* (1917) and the words for about 100 songs for children. Miss Halsey was a member of an old Brooklyn family for whom Halsey Street was named, and a daughter of Harlan Page Halsey, who wrote a number of boys' books under the pen-name "Old Sleuth."

Hamilton, James Whitelaw, British painter, died Sept. 18, 1932, in Glasgow, Scotland, where he was born Nov. 26, 1860. He was educated in Helensburgh and Glasgow, and studied art in Paris. In 1897 he was awarded the gold medal at Munich. His paintings have been purchased by many prominent art galleries, among them being: The Royal Pinakothek, Munich; Scottish Modern Art Association, Edinburgh; and the Carnegie Institute, Pittsburgh. Also, he is represented in the collection of Queen Margherita of Italy, and in other private collections in Venice, Rome, Munich, Dresden, etc. He was a member of the Royal Fine Art Commission for Scotland.

Harriman, Mary W. (Mrs. Edward Henry Harriman), died Nov. 7, 1932.

Harris, George Robert Canning Harris, Fourth Baron, British politician and soldier, died in Faversham, Kent, Mar. 24, 1932. He was born at St. Anne's, Trinidad, W. I., Feb. 3, 1851, and was educated at Eton College and Oxford University. From 1885 to 1886 he was under-secretary for India, and served as under-secretary of war from 1886 to 1889. He was appointed Governor of Bombay in 1890 and held that office for five years. He served as lord-in-waiting to Queen Victoria from 1895 to 1900, and was side-de-camp successively to both King Edward VII and King George V. He was an assistant adjutant-general of the Imperial Yeomanry in England, in 1900, and in South Africa in 1901. He succeeded his father as baron in 1872. He was created Knight Grand Commander of the Star of India in 1895; Knight Grand Commander of the Indian Empire in 1890, and Companion of the Bath in 1918. He was an expert cricketer, was an authority on the game, and served as president of the Marylebone Cricket Club. He wrote *A Few Short Runs* (1912) and *A Century of Yeoman Service*.

Harris, William Julius, American senator, died in Washington, D. C., Apr. 18, 1932. He was born in Cedartown, Ga., Feb. 3, 1868, and was graduated from the University of Georgia in 1890. He engaged in the insurance and banking business in Cedartown in the same year. He started his political career as secretary of the late Senator A. S. Clay. From 1913 to 1915 he was the director of the U. S. Census Bureau and acting secretary of the Department of Commerce. In 1915 he was chair-

man of the Federal Trade Commission, which post he resigned in 1918 to seek election for the U. S. Senate. He was then elected for the term ending in March, 1925, reelected for the term ending in March, 1931, and again for the term ending in March, 1937.

Hart, Hastings Hornell, died May 9, 1932.

Hartmann, (Francis) M. American educator, died in New York City, Mar. 28, 1932. He was born in Cocheton, N. Y., Aug. 31, 1870. He attended Cooper Union Night School, received a B.S. degree in 1895, took a graduate course in chemistry in 1898, received the E.E. degree in 1903, and then took a course in mathematics at the New York University. In 1891 he was a surveyor for the City of New York, and in 1894 computer in the department of public improvements. He then became instructor of physics and electrical engineering at the Cooper Union Night School of Engineering, and the Cooper Union Institute of Technology. In 1907 he became an assistant professor, and from 1908 to 1921 professor in charge. In 1921 he retained the professorship and also served as dean of the school of engineering, which post he held at the time of his death. He developed a five year night course in electrical engineering for Cooper Union, and wrote *Elementary Mechanics* (1910); *Heat and Thermodynamics* (1911), *Biography of George W. Plympton* (1920); and *Alternating Currents and Transmission* (1928).

Hastings, Charles Sheldon, died Jan. 30, 1932.

Hatch, Frederick Henry British mining engineer, died Sept. 22, 1932, in London where he was born in 1864. He graduated from the University College in London and then studied at the Bonn University where he received the gold medal and degree of Ph.D. in 1896. He then entered the service of the British Geological Survey. In 1892 he went to South Africa and remained there until 1897 when he went to Canada. While there he became a consultant in both Canada and the United States. Two years later he went to India where he remained for a year to report on the gold resources for the Indian Government. In the following year he served in the same capacity for Abyssinia and in later years for all of the newly found gold fields of prominence. He was president of the Geological Society of South Africa in 1905. He wrote many books on geological subjects. He also served as president of the Institution of Mining and Metallurgy.

Hayden, Rear Admiral Edward Everett, died Nov. 17, 1932.

Hemphill, Charles Robert American educator and theologian, died in Louisville, Ky., Mar. 9, 1932. He was born in Chester, S. C., Apr. 18, 1852. He graduated from the University of South Carolina in 1869 and took a post graduate course at the University of Virginia, then attended the Presbyterian Theological Seminary. He was ordained a Presbyterian minister in 1874 and taught Hebrew at Columbia Theological Seminary in the same year. From 1879 to 1882 he was instructor of Greek and Latin at Southwestern Presbyterian University, and from 1882 to 1885 professor of Biblical literature at Columbia Theological Seminary. He became pastor of the Second Presbyterian Church of Louisville, Ky., in 1885 and served until 1899. In 1893 he was professor at the Louisville Presbyterian Theological Seminary, and served as president from 1910 to 1920, and dean in 1920. Later he became dean emeritus. In 1885 he was moderator of the general assembly of the Presbyterian Church of the United States and a member of the Presbyterian Council at Glasgow in 1896. He wrote *Moses and His Recent Critics* (1899).

Henderson, Admiral Sir Reginald Friend Hannam British naval officer, died July 12, 1932, in Worth, Kent, where he was born Nov. 20, 1846. He was educated privately and entered the navy in 1860. In 1869 he was promoted to lieutenant, and in 1881 was appointed a commander. He served as second in command of H.M.S. *Invincible* at the bombardment of Alexandria, July 11, 1882, and later had charge of an armored train there. Promoted to captain in 1887 he subsequently commanded the *Bacchante*, *Rover*, *Ruby*, *Severn*, *Royal Sovereign*, and *Mars*. From 1899 to 1901 he was in charge of the dockyard at Sheerness, and from 1902 to 1905 at Portsmouth. He commanded the coast guard reserves from 1905 to 1910 when he was retired. After his retirement he visited Australia at the invitation of the Commonwealth Government and presented an advisory report on the establishment of an Australian Navy. Hence he was known as the "Father" of that Navy. He was knighted in 1907.

Hernandez, Daniel. Peruvian painter, died in Lima, Oct. 22, 1932. He was born in Huanacavelica, Aug. 1, 1856. He began to study art in Lima at an early age and when but 18 went to Europe. He studied in Rome and made his expenses by painting and selling small pictures. In 1885 he removed to Paris where he remained many years painting many pictures for which he received awards at the Paris Exposition in 1889 and at the World's Fair in 1900. In his later years he traveled between Europe and America devoting his time to

painting portraits and doing historical figures. His painting of Pizarro was presented by him to the City of Lima, and in 1918 the President of Peru, Dr. José Pardo, invited him to establish a school of fine arts there. He accepted and the National Academy of Fine Arts was opened July 15, 1919. He became director on the day of its opening and remained there until the time of his death.

Hernandez, José Conrado, died June 20, 1932.

Herr, Edwin Musser, died Dec. 24, 1932.

Herreshoff, J(ohn) B(rown) Francis, died Jan. 30, 1932.

Herzog, Hermann. American landscape painter, died in Philadelphia, Pa., Feb. 6, 1932. He was born in Bremen, Germany, Nov. 16, 1852, and attended the Dueseldorf Academy where he studied under Schirmer and Lessings. He won a certificate from the Paris Salon for his painting in 1868. In 1869 he came to the United States and studied in Philadelphia, Pa. Then he traveled extensively and in his later years painted scenes from memory of the lands he visited. Among the many medals he won for his paintings were one from the Liège Exposition and one from the Exposition at Brussels. Pictures from his brush were bought by Queen Victoria; others are exhibited in the New York Public Library and in the Memorial Hall, Philadelphia, Pa.

Hill, David Jayne, died Mar. 2, 1932.

Hipper, Franz Von, died May 25, 1932.

Hodge, William T. American actor and dramatic author, died in Greenwich, Conn., Jan. 30, 1932. He was born in Albion, N. Y., Nov. 1, 1874, and was educated there and in Rochester, N. Y. He made his first appearance on the stage in 1891, and his first New York appearance in 1898 in *The Heart of Chicago*. He then played in *The Reign of Error* (1899); *Sag Harbor* (1900); *The Sky Farm*, *Peggy from Paris*, and in a play that he wrote, *Eighteen Miles From Home*, all in 1902. In 1904 he played in *Mrs. Wiggs of the Cabbage Patch* and in *Dream City* in 1906. In 1907 he was engaged to play the part of the lawyer, Daniel Voorkees Pike, in the *Man From Home*, and played in the same part until 1913. Finding it difficult to get a suitable part after his long tour in one play he decided to write his own vehicles, which were *The Road to Happiness* (1913); *Flying Sister* (1916); *A Cure for Incurables* (1917); *The Guest of Honor* (1919); *Beware of Dogs* (1921); *For All of Us* (1922); *The Judge's Husband* (1926); and *Straight Through the Door* (1928). With them he toured widely before they came to Broadway, which Mr. Hodge took no "more seriously than Schenectady or Ann Arbor." He preferred to be a road actor because, he said, "I don't want to work two weeks and live on some one else's money for fifty weeks. That's the only future I can see for the 'Broadway actor'."

Holbrook, Willard Ames, died July 18, 1932.

Holcomb, Marcus Hensley. American governor, died in Southington, Conn., Mar. 5, 1932. He was born in New Hartford, Conn., Nov. 28, 1844, and educated in public and private schools. In 1871 he was admitted to the Connecticut bar and practiced in Southington until 1893 when he became a member of the firm of Holcomb and Pierce in Hartford, and retained the partnership until 1910. He was a judge of the probate court for more than 30 years. From 1893 to 1908 he was treasurer of Hartford County. In 1893 he was elected to the Connecticut Senate and was speaker of the Connecticut House during 1905. From 1907 to 1910 he was attorney general for Connecticut. From 1910 to 1914 he served as judge of the Superior Court. He was elected Governor of Connecticut for three successive terms which began in 1915 and ended in 1921.

Holland, William J(acob), died Dec. 13, 1932.

Holt, Harold Edward Sherwin. British aeronautical expert, died in London, Jan. 4, 1932. He was born Oct. 11, 1862, educated at Eton and at Magdalen College, Oxford. He served as lieutenant-colonel of the late Hants Carabiniers Yeomanry and was retired. He invented several electrical and mechanical devices for automobiles and aeroplanes, and had also taken a great interest in the development of parachutes and flares for night flying. He was one of the founders of the Automobile Club and also of the Society for Psychical Research. During the World War, in 1915, he went to France as temporary major attached to the Royal Flying Corps to superintend the fitting and use of some of his inventions, and later attached to the French and Belgium Aviation Corps. He was decorated by the Belgium Government. At the request of the United States Government he made a tour of inspection of the American Aviation Field in France. He was made Commander of the Order of the British Empire in 1919. He was a frequent contributor to *Punch*.

Hopkins, E(dward) Washburn, died July 16, 1932.

Hopkins, Sherburne Gillette. American lawyer, died June 22, 1932, in Washington, D. C., where he was born Oct. 5, 1866. He attended Columbia University, and was admitted to the bar in 1889. In 1898, during the Spanish-

American War, he was a lieutenant in the Naval Militia, and lieutenant-commander of the U.S.S. *Fern* in 1899. He practiced law in Washington over 40 years, being adviser to many Latin-American and foreign countries. He played an especially prominent part in the fight for freedom made by Georgia and Azerbaijan from Soviet Russia, also in Mexico with the Madero Government in 1911, the Constitutionalist Government in 1913-14, and the Provisional Government (de la Huerta) in 1920.

Horn, Paul Whitfield. American educator, died in Lubbock, Tex., Apr. 13, 1932. He was born in Booneville, Mo., Apr. 30, 1870. He graduated from Central College in Fayette, Mo., in 1888, and received the LL.D. from that college in 1917, and also from Baylor and Southwestern Universities in the same year. He taught in Pryor Institute in Jasper, Tenn., from 1889 to 1892 when he served as president for two years. In 1895 he was appointed principal of a high school in Sherman, Tex., and in 1897 became superintendent of schools in that district. Also, he served as superintendent of schools in Houston, Tex., from 1904 to 1921. In the following year he was superintendent of the American School in Mexico City, and then for one year served as president of Southwestern University. Later, he was elected president of the Texas Technological College, which office he held at the time of his death. He was the author of several text-books and articles on education.

House, Elwin Lincoln. American clergyman, lecturer, and author, died in Scottsbluff, Neb., Jan. 19, 1932. He was born in Lebanon, N. H., Apr. 4, 1861. He graduated from Harvard with an A.B. degree in 1883, and from the Boston University School of Theology in 1894 with an S.T.B. degree. In 1883 he was ordained a minister of the Methodist Episcopal Church and held pastorates in several New England churches until 1891. In 1893 he joined the Congregational Ministry and held pastorates in New England also, going to Portland, Ore., in 1902, where he remained five years, then to Seattle, Wash., until 1913. After 1913 he devoted his time to lecturing and writing on the psychology of religion. Among his works are *The Psychology of Orthodoxy* (1913), *The Mind of God* (1917), *The Drama of the Face* (1919), *The Glory of Going On* (1920), *How to Heal One's Self and Others* (1924), *The Supreme Christ* (1927), *The World's Greatest Things* (1929), and *Life's Masterpieces* (1930).

Howe, Ernest. American geologist, died in Litchfield, Conn., Dec. 18, 1932. He was born in New York City, Sept. 8, 1875, and graduated from Yale in 1898. In 1900 he joined the staff of the U. S. Geological Survey and remained there for 10 years. He then became a consulting geologist. He was active in politics and served in the general assembly from 1920 to 1922 and in the State Senate of Connecticut from 1924 to 1925. In 1926 he became editor of the *American Journal of Science* and held that office at the time of his death.

Howland, Charles P., died Nov. 12, 1932.

Hull, Henry Charles. South African lawyer and soldier, died in Cape Town, South Africa, Oct. 9, 1932. He was born on Nov. 21, 1860, and graduated from law school. He was practicing law in Kimberly when he heard of the gold find in Witwatersrand in Johannesburg, went there and was the first to pitch a tent. At that time there was much dissension between races in South Africa and in consequence he took part in the Jameson raid (q.v. vol. 12, page 556 N. E.) and was fined £2000 and sentenced to two years in prison. In the Great Boer War he served in the South African Light Horse and took part in the relief of Wepener. He was a member of the Legislative Council of the Transvaal and when responsible government was granted to that territory he became treasurer under General Botha. He went to England as a delegate for the passage of the Union Act. When it was passed he became minister of finance in the first Union Cabinet and served from 1910 to 1912. He then became interested in finance and railways and for some years before his death was in retirement.

Hume, Fergus. British novelist, died in London, July 13, 1932. He was born in England, July 8, 1859. His family removed to Dunedin, New Zealand, and he attended high school and the University of Otago there. He was admitted to the bar and practiced law, also in New Zealand. In 1888 he returned to England and devoted his time to writing and traveling. Among his works are *Mystery of a Hansom Cab* sold by him for £50 and of which 500,000 copies were sold (1887); *Madame Midas* (1888); *Monsieur Judas* (1890); *Island of Fantasy* (1892); *The Nameless City* (1893); *The Dwarf's Chamber* (1896); *The Indian Bangle* (1899); *The Bishop's Secret* (1900); *The Crime of the Crystal* (1901); *The Turnpike House* (1902); *Jonah's Luck* (1906); *The Other Person* (1920); *The Whispering Lane* (1924); *The Caravan Mystery* (1926); and many others.

Humphrey, Seth King. American author, died in Boston, Mass., Mar. 23, 1932. He was born in Fairbault, Minn., Aug. 5, 1864, graduated from the Fairbault High School in 1881, and after engaging in flour milling he took a course at the Massachusetts Institute of Technol-

ogy in 1895. Two years later he engaged in the brokerage business, specializing in western investments. While in milling he invented an elevator for employees that has been in extensive use in flour mills all over the world. After his retirement from business in 1912 he devoted his time to traveling and writing. His works include *The Indian Dispossessed* (1905); *Mankind* (1917); *The Kacal Prospect* (1920); *Loafing Through the Pacific* (1927); *Loafing Through Africa* (1929); and *Following the Prairie Frontier* (1931).

Hunton, Eppa, Jr. American railway executive, died in Richmond, Va., Mar. 5, 1932. He was born in Brentsville, Va., Apr. 14, 1855, was graduated from the University of Virginia in 1877, and was admitted to the bar in the same year. In 1901 he went to Richmond and became a member of the firm of Munford, Hunton, Williams and Anderson. They became general counsel for the Richmond, Fredericksburg & Potomac Railroad Company and he was appointed president of the railroad company in 1920, which office he held at the time of his death. In 1916 he was the president of the Virginia Bar Association. During the World War he served as counsel to the director of railroads in Washington.

Hutchinson, Vere Stuart Menteth. British novelist, died in London, Aug. 9, 1932. She was born in San Clare, Paignton, Devonshire in 1891, and was educated privately. Her first novel published was *Sea Wrack* in 1922, and was followed by *Great Waters* (1924), *The Naked Man* (1925), *The Other Gate* and *Thy Dark Freight* (1928). Also, she wrote stories for *Century*, *Nash*, and other publications. She was a sister of A. S. M. Hutchinson, the noted novelist.

Im Thurn, Sir Everad, died Oct. 10, 1932.

Inchcape, Lord James Lyle Mackay, died May 23, 1932.

Inouye, Junnosuke, died Feb. 9, 1932.

Inukai, Ki, assassinated May 16, 1932.

Jacchia, Agide, died Nov. 29, 1932.

Jackson, Dale. American aviator, died in a plane crash in Miami, Fla., Jan. 6, 1932. He was born in Fairbault, Minn., and attended school there. When very young he started fixing bicycles and motorcycles and in 1926 went to Lambert Field in St. Louis, Mo., and earned his tuition for a course in flying by doing mechanical work, later becoming an instructor and test pilot. He first won fame by his record breaking feat with Forest O'Brine in the summer of 1929 when they stayed aloft for 420 hrs and 21 min. It was the first endurance refueling flight, and was then emulated by others, but they were bettered only by the Hunter brothers who made a record of 553 hrs 41½ min. Jackson and O'Brine tried again in 1930 and regained first place by staying aloft 647 hrs. 28½ min. only to have the record challenged by the National Aeronautical Association.

Jacobs, Henry Kyster, died July 7, 1932.

Jacoby, Harold, died July 20, 1932.

Jacques, William White. American physicist, died in Chester, N. S., Canada, June 24, 1932. He was born in Haverhill, Mass., Aug. 30, 1855. He received an S.B. degree from the Massachusetts Institute of Technology in 1876, and A.M. and Ph.D. degrees from Johns Hopkins in 1879. He then went abroad and continued his studies in Berlin, Vienna, Leipzig, and Göttingen. From 1880 to 1897 he was an expert for the American Bell Telephone Co., and at the same time, from 1887 to 1890, lectured on electrical engineering at the Massachusetts Institute of Technology. He was associated with Dr. Alexander Graham Bell in perfecting the telephone, and contributed especially to the practicability of long distance telephony. From 1897 to 1914 he served as expert in electrical and chemical industries in Great Britain, France, and the United States, and invented many mechanisms and originated processes used by them. During the World War he was an expert for the anti-submarine division of the British Admiralty, and originated a device for locating submarines.

Jay, Harriet. British novelist and dramatist, died Dec. 23, 1932, in London where she was born in 1863. She stated her career as an actress in London in *The Bride of Love*, *Alone in London*, and *Fascination*, on the last two of which she collaborated. Some of her novels include *The Queen of Connaught*, *A Marriage of Convenience*, and others. Among her plays were *When Nights Were Bold*, and *Strange Adventures of Mrs. Brown*. At times she used the pen name of "Charles Marlowe."

Jewell, Theodore Frelinghuysen, died July 26, 1932.

Johns, Clayton. American pianist and composer, died in Boston, Mass., Mar. 5, 1932. He was born in New Castle, Del., Nov. 24, 1857. He attended Rugby Academy in Wilmington, Del., and Harvard University from 1879 to 1881. Then he went to Germany and studied music in Berlin, but returned to the United States in 1884, and opened a studio in Boston. Later he spent much time abroad, especially in London where his works were frequently performed. His compositions include various pieces for piano, piano and violin, about 100 songs, short choral works, several movements for string orchestra, and music for a 14th century mystery play. He was the

author of several books on musical subjects which include *Songs of Sleep* (1892); *English Songs* (1894); and also song-books of other nations, *Essentials of Piano-forte Playing* (1909); *The Reminiscences of a Musician* (1929); etc.

Johns, Fred. Australian biographer and author, died in Adelaide, So. Australia, Dec. 4, 1932. He was born in Houghton, Mich. U. S. A., Mar. 22, 1868, of English parents on a visit to the United States. He was educated in West Cornwall, England, and went to Australia in 1884 and joined the literary staff of the *Register* in Adelaide where he remained until 1914. From then on he served as Chief of the first official Hansard Staff of South Australia until the time of his death. He also conducted the South Australian *Freemason* from 1920 to 1925. He wrote *John's Notable Australians* (first published 1906) *Australasia's Prominent People* (1914); *Who's Who in Australia* (7th ed. 1927); and *A Journalist's Jottings* (1922).

Johnstone, Sir Alan (Vanden-Bempde). British diplomat, died in London, July 31, 1932. He was born Aug. 31, 1858, and was educated at Eton College. He entered the diplomatic service in 1879 and served at Vienna, Washington, Belgrade, The Hague, Rome, and Denmark. In 1895 he was secretary of the legation at Copenhagen; from 1896 to 1899 acting chargé d'affaires, and in 1901 secretary of the embassy. In 1903 he served as the secretary of the embassy in Vienna and held that post until he was appointed British minister to Copenhagen in 1905. In 1910 he was appointed minister at The Hague and served until 1917 when he retired. He was created Knight Grand Cross of the Royal Victorian Order in 1908.

Jones, Francis Coates, died May 27, 1932.

Jones, Thomas Samuel, Jr., American poet, died in New York City, Oct. 16, 1932. He was born in Boonville, N. Y., Nov. 6, 1882, and graduated from Cornell University with an A. B. degree in 1904. He became a member of the staff of the *New York Times*, and three years later joined the *Reuter Cable Service* of New York City. In 1911 he became an associate editor of *The Pathfinder*, where he remained a few years and then devoted his time to writing poetry. Some of his lyrical poems were set to music and many of his sonnet cycles dealt with Greek and Roman philosophers and the teachers of the East. Among his works are *The Path of Dreams* (1904); *From Quiet Valleys* (1907); *Interludes* (1908); *The Voice in the Silence* (1911); *The Rose Jar* (7th ed. 1924); *Sonnets of the Crown* (1922); *Sonnets of the Saints* (1925); *Six Sonnets* (1926); and *The Image* (1932).

Jones, Wesley Lawsey, died Nov. 19, 1932.

Jusserand, Jean Adrien Antoine Jules, died July 18, 1932.

Kahl, Wilhelm. German jurist, died in Berlin, May 14, 1932. He was born in Hallwachs aus Darmstadt, June 17, 1849, educated at Erlangen University, and later held various professorships at Rostock, Erlangen, Bonn, and Berlin universities. He served as a lieutenant in the Franco-Prussian War (1870-71), and was present, with Paul von Hindenburg, at the proclamation ceremonies of the German Empire at Versailles in 1871. After being a supporter of capital punishment for many years he introduced a bill to abolish it. He was a veteran parliamentarian and Nestor of German jurists. At the time of his death he was chairman of the judiciary committee of the Reichstag.

Kalaniana'ole, Princess Elizabeth Kakanu, died Feb. 19, 1932.

Keen, William Williams, died June 7, 1932.

Keifer, J. (oseph) Warren, died Apr. 22, 1932.

Kelley, Florence, died Feb. 17, 1932.

Kennett, Rev. Robert Hatch, died Feb. 15, 1932.

Kephart, Cyrus Jeffries. American educator, and bishop, died in Shelby, Neb., July 21, 1932. He was born in Clearfield Co., Pa., Feb. 24, 1852. He attended Western College at Toledo, Ia., and in 1878 graduated from the Union Biblical Seminary in Dayton, Ohio. He was ordained a minister of the United Brethren in 1879. From 1878 to 1885 he served as president of Avalon College in Missouri, and then became professor of mathematics at Western College, Toledo, Ohio, and held the chair until 1887. Receiving a call to the pastorate of a church in Des Moines, Ia., he remained there until 1889 when he became president of the Lebanon Valley College in Pennsylvania. He was appointed pastor of a church in Lebanon, Pa., in 1890, and served four years. In 1894 he was appointed secretary of the Pennsylvania State Sabbath School Association, but in 1897 he returned to Avalon College to again take up the office of president which he held until 1899 and then returned to a pastorate. In 1905 he was elected president of Western (now Leander Clark) College, at Toledo, Ia., and served until 1908 when he again took a pastorate at the First United Brethren Church in Dayton, Ohio, which he held until 1913 when he was appointed Bishop. At the time of his death he was Bishop Emeritus. He wrote *Public Life of Christ* (1892); *Jesus the Nazarene* (1894); *Life*

*of Jesus for Children* (1894); *What is a Christian?* (1899); *Jesus, Lord and Teacher* (1913); and *Christianity and the Social Weal* (1914).

King, Grace Elizabeth, died Jan. 12, 1932.

King, Lida Shaw, died Jan. 10, 1932.

King, Richard Ashe. Irish novelist and clergyman, died in London, May 29, 1932. He was born in County Clare, Ireland, in 1839, and was educated at Ennis College and Trinity College in Dublin. Ordained priest he became the curate of The Old Church, Bradford, and later the Vicar of St. Mark's at Low Moor. In his later years he was the staff extension lecturer on English literature at Oxford University, and literary editor of *Truth* magazine in London for 38 years. Also, he was president of the Irish Literary Society. Under the pseudonym of "Basil" he wrote *Love the Debt*, *A Drawn Game*, *Pammon's Slave*, *Belle Barry*, *A Shadowed Life*, *Love's Legacy*, *The Wearing of the Green*, and *A Coquette's Conquest*. Under his own name he wrote *Swift in Ireland*, and *A Life of Oliver Goldsmith*.

Kingsley, Darwin Pearl, died Oct. 6, 1932.

Kitson, Theo Alice Ruggles, died Oct. 29, 1932.

Kirkpatrick, William Sebring. American congressman, died Nov. 3, 1932 in Easton, Pa., where he was born Apr. 21, 1844, and graduated from Lafayette College in Easton, with an A. B. degree in 1863. He then studied law in the private office of the Hon. H. D. Maxwell and was admitted to the bar in 1865. While practicing law in Easton for several years he also lectured on municipal law at Lafayette College there. From 1874 to 1875 he was the presiding judge of the Third Judicial district and from 1887 to 1891 served as attorney-general of Pennsylvania. In 1897 he was elected to the 55th Congress and served until 1899. He was appointed acting president of Lafayette College from 1902 to 1903, and was president from 1914 to 1915. At the time of his death he was a trustee and honorary president of that college.

Kleibelsberg, Count Kuno. Hungarian statesman and educator, died in Budapest, Oct. 11, 1932, aged 57. He studied in Budapest, Padua, Berlin, and Paris, and started his political career as Counselor of Ministry. In 1915 he served as president of the Disabled Veterans Association and in 1917 became president of a nationwide association formed for the protection of disabled soldiers. In the same year he held the office of secretary to the Prime Minister and served as assemblyman for the school district of Kolozsavar. Later he represented Sopron in the first National Assembly. In 1922 he was appointed minister of the interior and two years later a member of Parliament representing Kamarom. Also, in 1922 he was appointed Minister of Cultural and Religious Education in the Bethlan Cabinet and served until 1931. Kleibelsberg was an exponent of political and scientific reforms and established Hungarian schools in Vienna, Berlin, and Rome. He reformed the school system of Hungary and organized schools in the rural districts. He served as president of the Hungarian Historical Society and wrote many books in Hungarian and other languages, among them being *The Origin of Hungarian Historical Writings*.

Knowles, F. McGillivray. American-Canadian painter, died in Toronto, Apr. 9, 1932. He was born in Syracuse, N. Y., May 22, 1860, of Canadian parents who returned to Canada two months after his birth. He studied art in Canada, Philadelphia, New York, England, and France. In 1904 he was awarded a medal for his exhibits at the St. Louis Exposition, and also at the Panama-Pacific Exposition in San Francisco in 1915. He maintained a studio in New York City and also in Toronto, and became noted for his landscapes and seascapes. He was a member of the Royal Canadian Academy and the Arts and Letters of Toronto.

Knowles, Morris, died Nov. 8, 1932.

Knox, Sir Adrian. Australian jurist, died Apr. 27, 1932, in Sydney where he was born Nov. 29, 1863. He was educated at Harrow School and at Trinity College, Cambridge University (LL. B.). He was admitted to the bar at Inner Temple, London, in 1886, and practiced for many years, being appointed King's Counsel in 1906 and Privy Counselor in 1920. From 1919 to 1930 he served as Chief Justice of the Commonwealth of Australia, and was known as an authority on constitutional law. He was created Knight Commander of St. Michael and St. George in 1921.

Kohler, G. A. Edward. American engineer and manufacturer, died in Chicago, Ill., Apr. 29, 1932. He was born in Philadelphia, Pa., Feb. 17, 1864, and graduated from the University of Pennsylvania in 1886. He went to Chicago in 1887 and became affiliated with the U. S. Construction Co., and a year later with the Peabody, Daniels Company. He entered the electrical business in 1890, in 1891 organized the firm of Kohler Brothers, and took over the entire company in 1910. He invented and manufactured devices for operating newspaper presses which are known as the "Kohler System." Also, he was active in aviation, being chairman of the board

of directors of the Kohler Aviation Co., operators of a passenger service between Milwaukee and Detroit.

Kolstad, Peder Ludvik, died Mar. 6, 1932.

Kreuger, Ivar, died Mar. 12, 1932.

Kryniski, Adam Antone. Polish linguist and grammarian, died in Warsaw, Dec. 11, 1932. He was born in Lukow in 1843 and graduated from Szkoła Główna (Main School). He then attended the University of Warsaw. After many years' association with the Warsaw University he was appointed president of that institution and remained there until the time of his death. He wrote more than 80 books, among them being *About Nasal Sounds in Slavonic Languages*, *How to Write Polish*, *Grammar of the Polish Language*, *The Mountaineer Dialect*, *The Linguistical Question*, *Polish Orthography*, *Remnants of Old Polish Language*, *How One Should Not Write and Speak Polish*, and *The Development of the Literary Language*.

Kunz, George Frederick, died June 29, 1932.

Lackaye, Wilton, died Aug. 22, 1932.

La Flesche, Francis. American ethnologist, died near Macy, Neb., Sept. 5, 1932. He was born on the Indian Reservation in Omaha, Neb., in 1860, of Indian parentage, his father being a head chief of the Omaha Tribe. He received his education at a Presbyterian Mission School on the Reservation where he was taught English which enabled him to fill a position as interpreter for the Senate Committee on Indian Affairs. He was later appointed a clerk in the Bureau of Indian Affairs at Washington, D. C. He attended the National University Law School in Washington and received the LL.B. degree in 1892 and an LL.M. degree in 1893. In 1910 he was appointed ethnologist of the Bureau of American Ethnology from which he retired in 1930. He was a collaborator on many books on Omaha Indians, their music and life. He wrote *Middle Five* (1900).

Langworthy, Charles Ford. American chemist, died in Washington, D. C., Mar. 3, 1932. He was born in Middlebury, Vt., Aug. 9, 1864, and graduated A.B. from the Middlebury College in 1887, A.M., in 1890, and D.Sc. in 1912. In 1893 he received the Ph.D. degree from the Emperor Wilhelm University in Strassburg, Germany. From 1893 to 1895 he was assistant instructor of chemistry at Wesleyan University in Connecticut. Most of his active life was spent in the service of the United States Government, as associate editor of the *Experiment Station Record* from 1895 to 1924, and as chemist with the U. S. Department of Agriculture until 1915 when he was appointed chief of the Office of Home Economics. In 1923 he became specialist in the Bureau of Home Economics and in the Department of Agriculture. He was a member of several chemical and scientific societies both here and abroad. He wrote *A Digest of Metabolism Experiments* (with the late W. O. Atwater); *Occurrence of Aluminum* (with the late Peter T. Austen). Also, he was a contributor to THE NEW INTERNATIONAL ENCYCLOPEDIA.

Latane, John Holladay, died Jan. 1, 1932.

Lathrop, Julia Clifford, died Apr. 15, 1932.

Leale, Charles Augustus. American surgeon, died June 13, 1892, in New York City, where he was born Mar. 26, 1842. He graduated from the Bellevue Hospital Medical College with an M.D. degree in 1865. He served his full term as a medical cadet in the U. S. Army, and later was appointed assistant surgeon of the army; assistant surgeon of the U. S. Volunteers, and had charge of a ward in the U. S. Army General Hospital in Washington, D. C. On Apr. 14, 1865, when President Lincoln was shot, he was the first physician to reach the President's side and was authorized by Mrs. Lincoln to take charge of the President. He remained with him continuously until he died on the following day. He was honorably discharged from the army in 1866 and went to Europe to study Asiatic cholera. He then returned and in 1867 became a medical practitioner in New York City. He served as president of many medical societies and was a consulting physician for Bellevue and Allied Hospitals, besides taking interest in children's hospitals. He wrote several essays on medical, surgical, and scientific subjects.

Ledoux, John Walter. American hydraulic engineer, died in Media, Pa., Nov. 7, 1932. He was born near St. Croix Falls, Wis., Aug. 28, 1860, and graduated from Lehigh University with a C.E. degree and honors in 1887. He then joined the staff of the American Pipe Construction Co. From 1890 to 1920 he served as chief engineer of that company. In the latter year he became a private consulting engineer. He was a designer of more than 100 water power plants here and in foreign countries. In 1919 he was awarded the Edward Longstreth medal from the Franklin Institute in Philadelphia, Pa., for his improved water meter. Also, he designed special waterworks devices. He served as president of the Engineers Club and was vice-president of the Simplex Valve and Meter Company.

Ledvard, Lewis Cans, died Jan. 27, 1932.

Le Goffic, Charles Henri, died Feb. 12, 1932.

Leguia, Augusto B. (Ex-Pres. of Peru), died Feb. 6, 1932.

Leidy, Joseph. American physician, died July 6, 1932,

in Philadelphia, Pa., where he was born Apr. 11, 1866. He graduated from the University of Pennsylvania in 1887, and in subsequent years became consulting physician to various hospitals and universities in the Philadelphia district until 1903. In 1892 he was made assistant demonstrator of pathology, anatomy, and morbid histology at the University of Pennsylvania. In 1900 he was appointed official delegate from the U. S. Government on the international jury on hygiene at the Paris Exposition, and was decorated for his services by France as an Officer of Public Instruction. During the World War he served as a lieutenant-colonel of the medical corps in the U. S. Army, and also as instructor and medical director of gas defense with the 80th division from 1917 to 1919. After the war he returned to the United States and became one of the leading neurologists.

Leiter, Joseph, died Apr. 11, 1932.

Leland, Henry Martyn, died Mar. 26, 1932.

Lenz, Maz, died Apr. 7, 1932.

Lewis, John Frederick. American lawyer, died Dec. 24, 1882, in Philadelphia, Pa., where he was born Sept. 10, 1860. He graduated with honors from the Central High School in Philadelphia, and then studied law under the Hon. Geo. M. Dallas. Admitted to the bar in 1882 he practiced in Philadelphia, being solicitor for the Philadelphia Bourse and the Philadelphia Maritime Exchange as a member of Lewis, Alder and Laws. Lewis was special instructor in shipping and admiralty law at the University of Pennsylvania. During the World War he served as chief of the second division of the United States Shipping Board in charge of schools of navigation between Connecticut and Norfolk, Va. He served as president and vice-president of many historical and art societies in Philadelphia, and was also the president of the Franklin Institute.

Lichty, John Alden. American physician and radiologist, died in Rochester, N. Y., May 2, 1932. He was born in Meyersdale, Pa., Feb. 26, 1866, and was graduated from Mount Union College with a Ph.B. degree in 1890. In 1893 he graduated from the University of Pennsylvania with the degree of M.D., and until 1894 he was a resident physician of the Philadelphia Hospital. He then attended the University of Berlin from 1895 to 1896. After his return from abroad he settled in Pittsburgh, Pa., and became consulting physician to hospitals there, and associate professor of medicine at the University of Pittsburgh. In 1923 he was appointed superintendent of the Clifton Springs Sanitarium near Rochester, N. Y., and remained there until the time of his death. While studying in Berlin he became interested in the future possibilities of the Rontgen rays (X-rays), and was an expert exponent of their use.

Linthicum, John Charles, died Oct. 5, 1932.

Long, Joseph Ragland. American educator, died in Boulder, Colo., Mar. 15, 1932. He was born in Charlottesville, Va., Dec. 15, 1870. He graduated from Richmond College in 1890 with an A.B. degree; from the University of Pennsylvania with a B.S. degree in 1894, and from the University of Virginia in 1895 with the LL.B. degree. From 1890 to 1892 he taught at the Allegheny Institute in Roanoke, Va., and was a member of the editorial staff of Edward Thompson Company, publishers of the American Encyclopedia of Law, until 1896. He then practiced law in Denver until 1902 when he became professor of law at Washington and Lee University at Lexington, Va., and in 1917 dean of that college's law school. In 1919 Richmond College conferred the LL.D. degree upon him. In 1923 he was appointed professor of law at the University of Colorado, which chair he held at the time of his death. He wrote *Law of Irrigation* (1901), *Law of Domestic Relations* (1905); *Jurisdiction and Procedure of Federal Courts* (1910); *Notes on Law of Wills and Administration* (1910); *Notes on Roman Law* (1912); *Cases on Domestic Relations* (1915); *Government and the People* (1922); and *Cases on Constitutional Law* (1926).

Loring, Albert Carpenter. American industrialist, died in Minneapolis, Minn., Dec. 11, 1932. He was born in Milwaukee, Wis., Aug. 31, 1858, and graduated from the University of Minnesota. He joined his father at an early age in the flour milling business in Minneapolis and remained in that field joining the staff of the Pillsbury Flour Mills Company. In 1923 he was appointed president of that company, which office he held at the time of his death.

Lovett, Robert Scott, died June 19, 1932.

Low, Sir Sidney, died Jan. 13, 1932.

Low, Will Hickok, died Nov. 28, 1932.

Luce, Admiral John, died Sept. 23, 1932.

Ludlow, James Meeker, died Oct. 4, 1932.

Lukacs, Ladislas. Hungarian statesman, died in Budapest, Feb. 23, 1932. He was born in Zalatra (now owned by Rumania), in 1850. He studied law, and in 1874 became professor of jurisprudence in the Royal Academy at Győr. In 1878 he was called to the lower chamber of the Hungarian Parliament, and in 1887 held the position of councillor in the Ministry of Finance for a short time. In 1892 he was appointed secretary of state



in the Ministry of Finance and three years later became Minister of Finance. From 1912 to 1913 he served as Premier of Hungary but, owing to the acceptance by his government of subsidies for his party funds through a Hungarian bank, overwhelming criticism caused him to resign. He returned to private life and practiced law.

Lusk, Graham, died July 18, 1932.

Lyncker, Moritz Freiherr von, Baron. German general, died in Potsdam, Jan. 21, 1932. He was born in Spandau, Jan. 30, 1853. During the Franco-Prussian war he was severely wounded in battle and later received the iron cross for bravery. From 1895 to 1898 he was military trainer and governor to the two oldest imperial princes. He served as chief of the Military Cabinet during the reign of Emperor Wilhelm II, from 1908 to 1918. In the memoirs of the late Admiral von Tirpitz it was asserted that General von Lyncker had exerted a baneful influence on the Kaiser during the war. This the Baron bitterly denied.

Lyngsle, Michael Christian. Danish labor leader, died Jan. 1, 1932, in Copenhagen, where he was born in 1864. He received his education in the public schools of Denmark, and in 1891 became chairman of the Workingman's Association of Copenhagen. In 1896 a national workmen's association was formed and he was then made chairman of the new association. From 1898 to 1914 he was a director of the Social-Democratic Business Committee Association and also from 1900 to 1914 a representative in the Municipality of Copenhagen. From 1898 he served as a member of the Folketinget representing Horsensskredet. In 1925 he was appointed a member of the Landstinget and held that office at the time of his death.

Lyon, Lawrence. Canadian editor and writer, died in Montreal, Nov. 11, 1932. He was born in Toronto in 1875 and attended the Trinity College School in Port Hope. He was called to the Ontario bar in 1898 and to the Quebec bar in 1900. He practiced law until 1905 and in that year removed to Paris. Later he went to London and became proprietor of *The Outlook* which he published until 1919 and then sold it to a syndicate. From 1918 to 1921 he served as a member of Parliament (Coalition Unionist) representing Hastings and resigned in the latter year to devote his time to writing. He was awarded the Order of the Crown of Belgium. His works include *The Pomp of Power* (1922); *The Path to Peace* (1923); *Where Freedom Falters* (1927); *The Fruits of Folly* (1929); and *By the Waters of Babylon* (1930).

McAllister, Charles Albert. American engineer, died in New York City, Jan. 6, 1932. He was born in Dorchester, N. J., May 29, 1867, and was graduated from Cornell University in 1887. In 1892 he was appointed second assistant engineer in the U. S. Revenue Cutter Service; commissioned first assistant in 1895, and chief engineer in 1902. During the Spanish-American War he was summoned by President McKinley to give a list of the ships in the revenue cutter service that were suitable for use in combat. Next he served in the U. S. Navy as assistant engineer on the U. S. Flagship *Philadelphia*, and after the war returned to the coast guard service where he remained over 30 years. After his retirement in 1919 he became vice-president of the American Bureau of Shipping, and president in 1926. This post he held at the time of his death. His contributions for the betterment of the merchant marine were recognized as authoritative in shipping circles, as was also his tireless work for the passage of the Jones-White bill through which the Merchant Marine Act of 1928 was passed. In 1929 he was the American delegate to the International Council on Safety of Life at Sea, held at London. He wrote *The Professor on Shipboard* (1902); and *McAndrew's Floating School* (1913). See NEW INTERNATIONAL YEAR BOOK, 1928 under SHIPPING.

McClure, James Gore King, died Jan. 18, 1932.

McCormick, Edith Rockefeller. American philanthropist and social leader, died in Chicago, Ill., Aug. 25, 1932. She was born in Cleveland, Ohio, Aug. 31, 1872, and was educated privately. In 1902 she was co-founder, with her husband, Harold Fowler McCormick, Sr., of the John McCormick Institution of Infectious Diseases. While residing in Chicago she promoted the Civic Opera, was patroness of opera in English for American audiences, patroness of the arts, and also founder of the Chicago Zoological Gardens. In 1907 she founded a French school for the study of French language and literature; organized a club to encourage the study of Italian language, art, literature and history in 1908; and also supported one of Chicago's first probation offices which was a forerunner of the first juvenile court in that city. She then went abroad where she resided for 15 years, and became active in the social life of the communities where she lived. She donated the next highest amount to that of the Italian Government for the erection of a monument to Verdi, at Parma in Italy, also endowed a prize for the best opera written under certain conditions, and provided the means to modernize and redecorate the Teatro Regio for the Verdi opera season in 1918. In return for these

benefactions the Italian Government made her an honorary citizen. While in Switzerland, in 1914, she provided funds for the translation of the works of Dr. C. G. Jung into many languages, and in 1916 founded and endowed the Psychological Club in Zurich, to promote the development of analytical psychology, and established, also in Zurich, a fund to help sculptors, painters, musicians, and authors made destitute by the World War. She then returned to America and continued her social and philanthropic activities until the time of her death.

McGinnis, Monsignor William F. American churchman, educator, and author, died May 16, 1932, in Brooklyn, N. Y., where he was born Dec. 28, 1867. He was graduated from St. John's College in Brooklyn with an A.B. degree in 1887. In 1892 he received the D.D. degree from the North American College in Rome, Italy, where he completed his training for the priesthood. He was ordained a priest in 1891. In 1904 he was appointed pastor of St. Brigid's Church in Westbury, L. I., N. Y., and in 1919 rector of St. Thomas Aquinas' Church in Brooklyn, which office he held at the time of his death. He was president of the International Catholic Truth Society which he founded in 1899, for the purpose of spreading "Knowledge of the doctrines, sacraments, practices, and history of the Catholic Church and to defend the same when attacked, misrepresented, denied, and calumniated," and was editor-in-chief of *Truth* its official organ. He also lectured on patriotic, civic, and religious subjects. The title of Monsignor was conferred upon him by the Vatican at Rome in 1926.

MacGrath, Harold. American author, died Oct. 30, 1932, in Syracuse, N. Y., where he was born Sept. 4, 1871, and was educated there. He engaged in journalism in 1890 and later devoted his time to writing novels, among which are *Arms and the Woman* (1899); *The Puppet Crown* (1901); *The Man on the Box* (1904); *Enchantment* (1905); and *Half a Rogue* (1906). He continued writing and among some of his later works are *Private Wire to Washington* (1919); *The Drums of Jeopardy* (1920); *The Pagan Madonna* (1921); *The World Outside* (1932); *The Green Stone* (1924); and others.

McKinnel, Norman, died Mar. 29, 1932.

Mack, Norman Edward, died Dec. 26, 1932.

Mackintosh, George Lewis. American educator and clergyman, died in Crawfordsville, Ind., Feb. 29, 1932. He was born in Nova Scotia, Can., Jan. 1, 1860. He came to the United States at the age of 18 and entered Wabash College in Indiana from which he graduated in 1884 with an A.B. degree. He then attended the Lane Theological Seminary in Cincinnati, Ohio; in 1889 was ordained Presbyterian minister, received an appointment as pastor of the Fourth Church of Indianapolis and served from 1891 to 1907. While serving as pastor in 1905 he was appointed lecturer of philosophy at Wabash College and served until 1907, when he was elected president of that college. He held that post until 1926 when he retired, and was created president emeritus.

Maclean, Sir Donald. British statesman, died in London, June 15, 1932, aged 68. He became a member of Parliament as a Liberal in 1906 representing Bath until 1910, Peebles and Selkirk until 1918, and Peebles and South Midlothian until 1922. Also, he served as deputy chairman of the House of Commons from 1911 to 1918, chairman of the London Appeal Tribunal, from 1916 to 1918, and chairman of the Liberal Parliamentary party from 1919 to 1922. At the time of his death he was a member of Parliament representing the northern division of Cornwall, which office he took in 1929. Also, he was the president of the board of education. He served as privy counselor in 1916. In 1917 he was created Knight Commander of the British Empire.

McLean, George Payne, died June 6, 1932.

McLeod, Thomas Gordon. American governor, died in Columbia, S. C., Dec. 11, 1932. He was born in Lynchburg, S. C., Dec. 17, 1868, and graduated from Wofford College, Spartanburg, S. C., with an A.B. degree in 1892. He was admitted to the South Carolina bar in 1896 and became a member of the firm of McLeod and Dennis in Bishopville, S.C. in 1905, and was the senior member of that firm at the time of his death. In 1901 he was elected a member of the South Carolina House of Representatives, and in 1903 was elected to the State Senate and served until 1906. He held the office of lieutenant-governor from 1907 to 1910. In 1922 he was elected Governor of South Carolina and was re-elected in 1924 to serve a second term. During the World War he was chairman of the Lee County Exemption Board. McLeod took an interest in farming and was a pioneer in the promotion of coöperative marketing among southern farmers.

McMaster, John Bach, died May 24, 1932.

McNichols, John Patrick. American clergyman and educator, died in Ann Arbor, Mich., Apr. 26, 1932. He was born in St. Louis, Mo., Feb. 24, 1875, was educated in parochial schools there and at the University of St. Louis from which he graduated in 1896 with an A.B. degree. Also, he studied at St. Stanislaus' Seminary in Missouri.



He joined the Jesuit Society in 1891 and became instructor of English and the classics at St. Xavier's College in Cincinnati, Ohio, in 1898. He was ordained priest in 1906 and remained at St. Xavier's as an instructor until 1912 when he was appointed professor. In 1918 he held the chair of professor of English at Champion College, Prairie du Chien, Wis., and remained until 1915. From 1919 to 1921 he was the dean of the college of Arts and Science at Marquette University, and in 1921 was appointed president of the University of Detroit, which office he held at the time of his death. He wrote *Fundamental English* (1908); *Teachers' Handbook* (1908); and other text-books.

Macy, John Albert. American author, died in Stroudsburg, Pa., Aug. 26, 1932. He was born in Detroit, Mich., Apr. 10, 1877, and graduated from Harvard with an A.B. degree in 1899, and received an A.M. degree in 1900. He then became an instructor in English at Harvard and in the following year the editor of *Youth's Companion*, which office he held until 1909. He then served as secretary to the Mayor of Scheuchetady, N. Y., until 1912, when he was appointed literary editor of the *Boston Herald*. From 1922 to 1923 he served as literary editor of *The Nation*. In 1926 he became literary adviser to the newly formed publishing firm of William Morrow and Company. He then devoted his time to lecturing and writing. He wrote a *Life of Poe* (in Beacon Biographies, 1907); a *Guide to Reading* (1909); *The Spirit of American Literature* (1913); *Socialism in America* (1915); *Walter James Dill, a Biography* (1918); *The Critical Game* (1922); *The Story of the World's Literature* (1925); *About Women* (1930); and *Do You Know English?* (1930).

Maginot, André, died Jan. 7, 1932.

Malatesta, Enrico. Italian anarchist, died in Rome, July 25, 1932. He was born in Santa Maria Capua Vetere, in 1850, and was of the family of Malatesta di Rimini of Dante fame. He was a Count by right of birth though he renounced his title. Early in his youth he stopped his medical studies to become a party to the formation of political plots and revolutions and three times was sentenced to death for participating in these. His first attempt was to incite Rumania against Turkey but he was driven back into Italy by the Turks. In 1876 his plot at insurrection in Italy failed, he fled to Spain where he was blamed for a riot, and a warrant was issued for his arrest, but he escaped. Two years later Malatesta started an insurrection in Italy, was captured, and exiled to an island in the Mediterranean. He escaped from this and went to South America where he became editor of a revolutionary paper, and pamphleteer. He then went to France and founded *Le Revolte*, an anarchistic paper, and traveled through Belgium and Switzerland organizing workers and urging them to arm and revolt. Next he turned to the United States and was editor of *La Question Sociale*. While attending an anarchistic meeting there he was shot but recovered and returned to London. Restlessness sent him to South America again and his presence there was followed by riots. He was seized by the Argentine Government and sentenced to death. Again he escaped and returned to London where he remained several years as a political refugee. In 1919 an amnesty was declared and he was allowed to return to Italy, but was kept under strict surveillance by Mussolini and was forbidden to leave the country.

Manahan, James. American congressman, died in St. Paul, Minn., Jan. 8, 1932. He was born in Chatfield, Minn., Mar. 12, 1866. He graduated from the Winona Normal School in Minnesota in 1886, and from the Law School of the University of Minnesota in 1889. He then practiced law in St. Paul, Minn., Lincoln, Neb., and Minneapolis, Minn., and took part in many prominent cases before the Interstate Commerce Commission, among them being the Pullman rate case and the general express investigation (*Sunberg vs. American Express Company* et al.). In 1913 he was elected a member of the 63d Congress and served until 1915, representing Minnesota at-large. He later returned to the practice of law.

Mann, The Rt. Rev. Cameron. American bishop, died in Winter Park, Fla., Feb. 8, 1932. He was born in New York City, Apr. 3, 1851, and graduated from the Hobart College in Geneva, N. Y., with an A.B. degree in 1870, and an A.M. degree in 1874. Also, he graduated from the General Theological Seminary in New York City, in 1873, and was made a deacon in the same year. He then became curate of St. Peter's in Albany, N. Y., in 1875, and was ordained a priest of the Protestant Episcopal Church in 1876 and immediately succeeded his father as the rector of St. James' in Watkins, N. Y. He was called to Grace Church in Kansas City, and served until 1901 when he was consecrated Bishop of North Dakota and remained there until 1913 when he was transferred to Southern Florida where he was an active bishop at the time of his death. He wrote *October Sermons - Discourses on Future Punishment* (1888); *Comments at the Cross* (1893); *The Longing of Vice and Other Poems* (1922); and *A Concordance to the English Poems of George Herbert*.

Manning, Van (noy) H (artrog), died July 13, 1932.

Manning, Brig. Gen. Sir William (Henry). British soldier, died in Faversham, Kent, Jan. 1, 1932. He was born July 9, 1863, and attended Cambridge University and the Royal Military College. Entering the army, he was promoted through the grades to Honorary Brigadier General in 1913. He joined the Indian army in 1888 and served with distinction in the second Burmese War in which he was wounded and received a medal and clasp. In 1891 he took part in the Hazara expedition on the northwestern frontier of India, and from 1893 to 1894 in the Central African conflicts. From 1894 to 1898 he served in Central Africa and Rhodesia receiving brevets of major and lieutenant colonel. He fought also in Somaliland and from 1897 was British Central African Commissioner and Consul General. For his military activities he received various medals and clasps. From 1901 to 1907 he raised and commanded regiments in Central Africa. In 1907 he was appointed acting governor and commander-in-chief of Nyasaland Protectorate where he served until 1908 when he was appointed commissioner and commander-in-chief of Somaliland Protectorate. In 1910 he became governor of Nyasaland and served until 1913. He then became successively Governor of Jamaica, 1913 to 1918, and Ceylon, from 1918 to 1925 when he retired. He was created Knight Commander of St. Michael and St. George in 1904, Knight Commander of the British Empire in 1918, and Knight Grand Commander of St. Michael and St. George in 1921.

Manoel, Dom (Ex-King of Portugal), died July 2, 1932.

Marden, Charles Carroll. American educator, died in Princeton, N. J., May 11, 1932. He was born in Baltimore, Md., Dec. 21, 1867, and was graduated from Johns Hopkins University in 1889 with an A.B. degree and received a Ph.D. degree in 1894. From 1889 to 1890 he was an instructor of modern languages in Norfolk, Va., and in the following year he taught French at the University of Michigan. He then became associate professor and later professor of Romance languages at the Johns Hopkins University. He held that chair until 1900 when he became associate professor of Spanish and, in 1905, professor of that language in the same university where he remained until 1917. He was appointed professor of Spanish at Princeton University in 1917 and held that office at the time of his death. From 1911 to 1915 he was the managing editor of *Modern Language Notes*. He served as a chief examiner in Spanish for the College Entrance Examination Board from 1922 to 1924. In 1928 he was appointed visiting professor to Spanish universities for the Carnegie Foundation and was decorated by the King of Spain. Also, he was president of the Modern Language Association. He wrote *Phonology of the Spanish Dialect of Mexico City* (1896), *Bibliography of American Spanish* (1911 and 1926), and *A First Spanish Grammar* (with F. C. Tarr, 1926). Also, he edited several Spanish books.

Margolis, Max Leopold, died Apr. 2, 1932.

Marr, Sir James. British baronet and shipbuilder, died in Sunderland, England, Nov. 24, 1932, aged 78. He was educated privately and entered the field of shipping. He was a chairman of Sir James Laing & Sons, Ltd., Jos L. Thompson & Sons, Ltd., T. W. Greenwell & Co., Ltd., and the Sunderland Forge and Engineering Co. Also, he was a member of Lloyd's Register of Shipping. He was created Baronet in 1919.

Martin, Alfred Wilhelm. American author and lecturer, died in New York City, Oct. 15, 1932. He was born in Cologne, Germany, Jan. 21, 1862, and removed to Canada and attended the McGill University in Montreal and graduated with an A.B. degree in 1882. He then attended Harvard and graduated with an S.T.B. degree in 1885 and an A.M. degree in 1886. In 1888 he was ordained a Unitarian Minister and served as pastor of the Chelsea (Mass.) Unitarian Church for the next four years. He went to Tacoma, Wash., in 1892 and founded an independent church there and served as its head until 1907. In the latter year he removed to New York City and became head of the Ethical Culture Society which office he held at the time of his death. Also, he was a lecturer of the University Extension Course at Columbia University, in the Brooklyn Institute of Science, and for the league for political education in New York. He wrote *Great Religious Teachers of the East* (1911); *The Dawn of Christianity* (1914); *Faith in a Future Life* (1916); *A Philosophy of Life and Its Spiritual Values* (1923); *Comparative Religion and the Religion of the Future* (1925); and others.

Massard, Emile Nicolas. French author and journalist, died in Paris, Jan. 25, 1932. He was born in Arlen, Belgium, of French parents, Mar. 15, 1857, and attended the Institut Chevalier. During the World War he was attached to the general staff of the 6th Army in France and won the Croix de Guerre. Also, he was made an officer of the Legion of Honor. He served as president of many societies and commissions and was instrumental in getting many civic improvements for Paris. Among his books are *La France héroïque*, *La Guerre de mon-*

*tagnes, Le Crime de la Joliette, Les Espionnes et les espions à Paris pendant la grande guerre.*

Massieu, Jeanne Isabelle. French explorer, died Dec. 7, 1932, in Paris where she was born in 1843. She traveled through Asia, being placed in charge of many Asiatic missions. She was created a Chevalier of the Legion of Honor, and twice her books were crowned by the French Academy. Also, she was decorated with the Order of the Million Elephants and the White Umbrella, by the ruler of the Kingdom of Laos. She was a laureate of the Parisian Geographical Society and wrote *How I Transversed Indo-China* (1901); and *Nepal and the Himalayan Countries* (1914); and other books.

Maurer, Alfred Henry. American painter, died suddenly Aug. 4, 1932, in New York City where he was born Apr. 21, 1868. He studied art in New York and Paris. He received many awards for his paintings, among them being the Innes prize of the Salmagundi Club in 1900, first prize from the Carnegie Institute in Pittsburgh in 1901; the bronze medal at the Pan-American Exposition in Buffalo, N. Y. in 1901, the silver medal at the St. Louis Exposition in 1904; the third medal at Liege Exposition in 1905, and also the gold medal at the International Exposition at Munich in the same year. His last private exhibition won widespread notice because of his departure from the expected form in painting. He is represented in Memorial Hall Museum in Philadelphia, Pa., and the Barnes Collection in that city, and in the Phillip's Memorial Gallery in Washington, D. C. He was the son of Louis Maurer (q.v.).

Maurer, Louis. American painter, died in New York City, July 20, 1932. He was born in Biebrich, Germany, Feb. 21, 1832, and was educated at Mainz. In about 1851 he came to the United States. He was a member of the staff of Currier and Ives, and among his works were many water colors of American life from 1830 to 1880. Also, he was a lithographer, cabinet maker, shell expert, wood and ivory carver, and anatomist. During the Civil War he taught sharpshooting in Palisades Park, N. J., then used as a training ground. At the age of 50 he started to study oil painting, later being a pupil of William Chase in the National Academy. He was the father of Alfred H. Maurer (q.v.).

Mees, Carl Leo. American educator, died in Terre Haute, Ind., Apr. 19, 1932. He was born in Columbus, Ohio, May 20, 1853, was educated privately and then entered high school from which he graduated in 1869. While a student at the Starling Medical College he became assistant professor of chemistry and later developed a method of microscopic identification that was used throughout the profession. He was the first to photograph blood for comparison and exhibition to juries. His method of blood measurement became standard for the U. S. Army and Navy. He received the M.D. degree from the Starling Medical College in 1875. He then studied physics at the Ohio State University (then known as the Ohio Agricultural and Mechanical College), and at the same time was an assistant professor and gave lectures upon the microscope at Starling and Columbus Medical colleges. He then taught at the University of Louisville (now known as the Louisville Male High School). He resigned in 1880 to go abroad to study and spent some time in Berlin under Hoffmann, Helmholtz, and Kirchoff, in London under Professor Frankland, and Professor Tyndall. In 1882 he returned to the United States and was appointed professor of physics and chemistry at the newly organized Ohio University at Athens, Ohio. He resigned in 1887 to become assistant professor under Dr. Thomas Corwin Mendenhall (q.v. p. 393, vol. xv *NEW INTERNATIONAL ENCYCLOPEDIA*), at the Rose Polytechnic Institute at Terre Haute, Ind., and was appointed professor of physics and chairman of the faculty in 1890, acting president in 1894, and president in 1895. In 1919 he resigned and later became president emeritus. He served as general secretary of the American Association for the Advancement of Science in 1889, president of section B in 1896, and president of section E in 1920.

Melchers, Gari, died Nov. 30, 1932.

Metcalf, Henry Harrison. American editor and publisher, died in Concord, N. H., Feb. 5, 1932. He was born in Newport, N. H., Apr. 7, 1841. He attended Mt. Caesar Seminary, Swanzey, N. H., graduated from the University of Michigan with an LL.B. degree in 1865, and was admitted to the bar in 1866. In 1867 he became editor of the *White Mountain Republic* in Littleton, N. H., and in 1868 took up the duties of editor with *The People* in Concord, N. H., where he remained until 1872. He then purchased the *White Mountain Republic* and conducted it until 1874 when he established the *Democratic Press*, in Dover, N. H. This paper he edited until 1879. He was then editor, respectively, of the *Manchester Daily Union*, and *The Concord People and Patriot* until 1892. Also, in 1877, he founded the *Granite Monthly* at Dover and later moved it to Concord and published it until 1919. In 1913 he became State historian for New Hampshire and held the office at the time of his death. Also, he edited several books.

Methuen, Paul Stanford Methuen, Third Baron, died Oct. 30, 1932.

Michaelis, Sophus, died Jan. 28, 1932.

Miller, Frank Ebenezer. American laryngologist, died in Oopake, N. Y., Apr. 15, 1932. He was born in Hartford, Conn., Apr. 12, 1859, and graduated from Trinity College in Connecticut with an A.B. degree in 1881. He then attended the College of Physicians and Surgeons at Columbia University and graduated with an M.D. degree in 1884. He served on the staff of the St. Francis Hospital for the next two years and was appointed sanitary inspector for the City of New York from 1886 to 1889. He served as assistant to many throat specialists and in 1896 began private practice. Miller was a tenor singer, made a special study of the singer's voice, and was the originator of "voice-art-science"; a method of voice cultivation. He invented a system of "finger surgery" used in the treatment of deafness and an electrical system used to produce musical tones. Miller was author of *Observations in Vocal Art Science* (1909); *The Voice, Its Production, Care, and Preservation* (1910); and *The Banner of Universal Harmony* (1919).

Miller, Ransford Stevens. American diplomat, died in Washington, D. C., Apr. 26, 1932. He was born in Ithaca, N. Y., Oct. 21, 1867, and graduated from Cornell University in 1888. In 1891 he was sent to Japan as the secretary of the International Committee of the Young Men's Christian Association. He then studied the Japanese language and was appointed to the staff of the American Legation in Tokyo and served from 1895 to 1906, when he became Japanese secretary to the American Embassy. In 1909 he returned to Washington, D. C. and became chief of the division of Far Eastern Affairs in the Department of State until 1913. He was then appointed consul-general of Seoul, Korea. The Ishii special mission called him to Washington in 1917 and in 1918 he was detailed to the American Embassy at Tokyo. He was again recalled to Washington and again appointed chief of the division of Far Eastern Affairs, and in 1919 reappointed consul-general of Seoul, Korea. At the time of his death he was a Foreign Officer, Class I, in the State Department.

Mills, Sir William. British engineer and inventor, died in Weston-Super-Mare, England, Jan. 7, 1932. He was born in Sunderland, Apr. 24, 1856. His father was a shipbuilder and at an early age he was apprenticed to a marine engineer. He obtained his first-class certificate and worked at sea repairing cables and as an engineer. He was interested in alloys and did much research in metals, being recognized as a pioneer in that field. He was the founder of William Mills, Ltd., of Sunderland, makers of aluminum for aeroplanes, and also of the Mills Munitions Company, manufacturers of the Mills hand grenade, of which he was the inventor, and of which 75,000,000 were made during the World War. Many of his inventions are being used in the telegraph, naval, and marine services, among the most notable being the disengaging or launching gear for life boats on steamships, for which he won the only prize of the Royal Naval Exhibition. His contributions to the sports world were telescopic seats and specially made golf clubs. He was knighted in 1922.

Millward, Jessie, died July 13, 1932.

Milovanovic, Gen. Milan. Yugoslavian soldier, died in Belgrade, Oct. 9, 1932, aged 57. During the World War he served as chief of the general staff for a short while. He was the secretary of "Unity or Death," a secret organization formed in Yugoslavia, and in 1903 his name was linked with the assassination of King Alexander and Queen Draga.

Miyatovitch, Count Chedomille, died May 14, 1932.

Moler, George Sylvanus. American engineer and inventor, died in Trenton, N. J., May 20, 1932. He was born in Columbus, Ohio, Oct. 4, 1851, and graduated from Cornell University with an M.E. degree in 1875. From 1875 to 1880 he was an instructor in physics at Cornell University, and from 1880 to 1911 he served as an assistant professor in the same subject there. He then was appointed professor and served until 1917 when he resigned. He later became professor emeritus. In 1875, in collaboration with Prof. W. G. Anthony, he perfected a dynamo that was used to light the buildings at Cornell University at a time when large cities were still using gas for lighting purposes. It is said to have been the first dynamo used for commercial purposes in the Western Hemisphere. Also, he was considered to be the first to make X-ray photographs after the news was transmitted from France that it was a possibility. He had many inventions to his credit but never commercialized them.

Montgomery, The Rt. Rev. Henry Hutchinson. British Bishop, died in London, Nov. 27, 1932, aged 85. He attended Harrow School and graduated from Trinity College, Cambridge, with the M.A., D.D., and D.C.L. degrees in 1871. He was then ordained a priest and was appointed vicar of St. Mark's in Kennington in 1879 and served for 12 years. In 1889 he was made the Bishop of Tasmania where he served until 1901. At the time of his death he was a prelate of the Order of St.

Michael and St. George, holding the rank of Knight Commander. He wrote biographies and other works, among them being *Life Journey* (1916); *Visions* (3 vols. 1905-1918); *Musings* (1919); *Life of Bishop Lefroy* (1920); *Bishop Balfour* (1925); *Bishop Corfe* (1926); *Bishop Scott* (1928); and *Joy of the Lord* (1931).

Moore, Charles Cadwell. American engineer, died in Santa Cruz, Calif. Apr. 17, 1932. He was born in Alpine, N. Y., July 12, 1868. He graduated from St. Augustine's College, which was then located at Benicia, Calif., but has since become extinct. From 1885 to 1895 he was connected with the San Francisco Tool Co. Later he founded the firm of C. C. Moore & Co., of engineers which specialized in motive power and hydraulic work. On its incorporation he became president, and held this office at the time of his death. From 1908 to 1909 he was president of the San Francisco Chamber of Commerce and vice-president of the Boy Scouts of America. In 1906 he was commissioned to go to Europe to secure foreign warships for the Portola Celebration in San Francisco. He was granted the use of seven ships. In 1908 he was chairman of the executive committee of the San Francisco Citizens' Health Committee for eradication of bubonic plague through the extermination of rats. From 1910 to 1911 he served as chairman of the financial committee of the Panama-Pacific International Exposition, and in the latter year was elected president of the exposition. His most notable engineering achievement was the installation of the power plant of the Huntington Electric Power Company in Southern California.

Moore, Elakim Hastings, died Dec. 30, 1932.

Morehouse, Frederick Cook. American editor, died June 25, 1932, in Milwaukee, Wis., where he was born Mar. 19, 1868. He was educated privately in 1896 he was the editor of *Church Eclectic* and served until 1899 when he became the editor of *The Living Church*. In 1915, upon the death of his father, he succeeded to the presidency of the Morehouse Publishing Co., which post he held at the time of his death. He was one of the lay-leaders of the Anglo-Catholic group of the Protestant Episcopal Church and a member of the General Convention of that Church from 1910. During the World War he served as president of the Milwaukee Chapter of the American Red Cross, and through the columns of his paper *The Living Church* he raised several hundred thousand dollars for relief in Europe and the Near East. This work was recognized by President Wilson and the King of the Belgians. He wrote *Some American Churches* (1892); and *Evolution of Parties in the Anglican Communion* (1905).

Mori, Kaku. Japanese statesman, died in Tokyo, Dec. 11, 1932, aged 49. He was born and educated in Japan and became an influential leader of the Seiyukai. He was chief secretary of the Inukai Cabinet and was a strong advocate of the "Back-to-Asia" movement.

Motoyama, Hikoichi, died Dec. 30, 1932.

Murat, Prince Joachim Napoleon. French nobleman, died in Paris Nov. 2, 1932. He was born in Boissy-St. Léger, Feb. 26, 1856. He became a soldier and reached the rank of captain, but because of a French law forbidding anyone of noble birth from serving in the army he was forced to resign. During the World War he was allowed to serve his country by taking special assignments, such as conferring with leaders in Canada and the United States. He was a direct descendant of the famous General Murat of the first Napoleon's army. He placed his residence in Paris at the disposal of President Woodrow Wilson who resided there for a short time in 1919.

Napoleon, Prince Louis. French nobleman, died in Pragins, France, Oct. 14, 1932. He was born July 16, 1864 and later attended Cheltenham College, in England. He was appointed a lieutenant-general in the Russian Military service and later became a commandant of the cavalry division of the Caucasus at Tiflis. For a while he served as Governor-General of the Province of Coraven. Because of his noble birth he was denied the opportunity of serving France during the World War and was refused admittance to any of the other armies that were allies of the French. He was the grandnephew of Napoleon I. He edited the *Memoirs of Queen Hortense* (1928).

Naulin, Gen. Stanislas. French soldier, died in Paris, Nov. 3, 1932. He was born in Saint-Loup Apr. 27, 1870 and attended the École de Saint-Cyr. He then served as an officer in Morocco, and in 1915, during the World War, was promoted Colonel and placed in command of the 5th Division when they fought on the Somme in 1916 and the Aisne in 1917. At Verdun he led a brigade. In July, 1918, he had in his command the Rainbow Division of American troops, which he praised highly for the fighting qualities of its men and for their valor on July 15-16 in the offensive of the French Fourth Army that broke the German advance. Later he led the 21st army corps to victory during the Champagne campaign in September, 1918. After the war he was returned to Morocco and also served in Algeria and Syria. He was serving as commandant of a division of the

French Troops in Syria at the time of his death. He was a Commander of the Legion of Honor.

Newell, Frederick Haynes, died July 5, 1932.

Nicholson, Admiral Sir William Coldingham Masters. British naval officer died in London, Jan. 10, 1932. He was born Oct. 28, 1863. He entered the British Navy and during the World War served as a torpedo expert. He commanded the *Canada* in the battle of Jutland in 1916. Later he served as Third Sea Lord until 1920. He then served as vice admiral commanding the First Battle Squadron and in 1922 was promoted to admiral, which office he held until 1925, when he was retired. He served as head of the Torpedo School, and also as assistant secretary of the Imperial Defense Committee.

Niemeyer, John Henry, died Dec. 7, 1932.

Nordenskiöld, Nils Erlend Herbert, Baron, died, July 4, 1932.

Norwood, Robert, died Sept. 28, 1932.

O'Brien, Frederick, died Jan. 9, 1932.

Oemler, Marie Conway. American novelist, died in Charleston, S. C., June 7, 1932. She was born in Savannah, Ga., May 29, 1879, and educated at public school, and a convent, but mostly by private teachers at home. Among her works are *Slippy McGee* (1917); *A Woman Named Smith* (1919); *The Purple Heights* (1920); *Where the Young Child Was and Other Christmas Stories* (1921); *Two Shall Be Born* (1922); *His Wife in Law* (1925); *The Holy Lover* (1927); *Sheaves* (1928); *Johnny Reb* (1929); and *Flower of Thorn* (1931).

Olcott, Chauncy (Chancellor John), died Mar. 18, 1932.

Olds, Robert Edwin, died Nov. 24, 1932.

O'Malley, Frank Ward, died Oct. 19, 1932.

Oppenheim, James, died Aug. 3, 1932.

Orth, John. American musician and composer, died in Boston, Mass., May 3, 1932. He was born in Annweiler, Germany, Dec. 2, 1850, and was brought to the United States when he was one year old. His parents settled in Taunton, Mass., and he was educated there. He began learning to play the piano at the age of eight and played the organ in church when only twelve. He then studied music in Boston, Mass., at the same time teaching piano at the New England Conservatory and playing in church to enable him to continue his studies abroad. In 1870 he went to Germany and studied piano under Lebert, Kullak, Puckner, Deppe, and Liszt, and composition under Weitzman, Faiszt, Scharwenka, and Keil. He returned to the United States and taught music in Boston from 1875 until the time of his death. He was well known for his Liszt lectures and recitals, and had composed many pieces for the piano. Also, he was interested in reform and humanitarian causes.

Orton, Edward, Jr., died Feb. 10, 1932.

O'Shea, Michael Vincent, died Jan. 14, 1932.

Ostrorog, Count Leon. Polish authority on international law, died in London, July 31, 1932. He was born June 20, 1867, and was graduated from the University of Paris with a B.A., B.Sc., and LL.D. degrees. He was then sent to Turkey in an official capacity and while there he attended the Turkish University of Stamboul and studied Mohammedan law, completing his course in 1897. In 1893 he also served as head of the legal department of the Ottoman Public Debt in Constantinople. In 1898 he was appointed legal adviser to the Ottoman Ministry of Mines and Forests and served until 1909 when he was made a legal adviser to the Ottoman Government. In 1913 he was given the rank of minister plenipotentiary, and served as adviser to the Sublime Porte, and in the same year was arbitrator between Greece and Holland on a question of international law. In 1919 he was a member of the Paris Peace Conference representing Poland. He lectured on international law at the University of London in 1926. Ostrorog translated many Turkish and Spanish books and wrote many treatises on law.

Ostwald, Wilhelm, died Apr. 4, 1932.

Outerbridge, Eugene Harvey. American merchant, died in New York City, Nov. 10, 1932. He was born in Philadelphia, Pa., Mar. 8, 1860, and was educated in private schools. He then went to St. John's, Newfoundland, and later removed to New York City where he became agent for Harvey & Co., of Newfoundland, importers and exporters, from 1878 to 1881, when he was taken into partnership and became sole resident partner in New York City. In 1923 he was made president of the firm, by this time known as Harvey & Outerbridge, Inc. He was president and treasurer of the Pantasote Leather Company of New Jersey and also of the same company in New York. He served as vice-president of the Agasote Millboard Company of New Jersey. In 1916 and again in 1917 he was president of the Chamber of Commerce of the State of New York and served as vice-president in 1924 and again in 1927 and 1931. In 1921 he was appointed commissioner and chairman of the Port of New York Authority and served until 1924 when he resigned. At the time of his death he was chairman of a special committee on National defense.

Palmer, Walter Launt, died Apr. 16, 1932.  
 Parker, Sir Gilbert, died Sept. 6, 1932.  
 Parrish, Samuel Longstreth. American lawyer, died in New York City, Apr. 22, 1932. He was born in Philadelphia, Pa., Feb. 28, 1849, and graduated from Harvard College with an A.B. degree in 1870. He then returned to Philadelphia and studied law; was admitted to the bar in 1872, and began to practice there in 1873. In 1877 he removed to New York City and engaged in the practice of law until his retirement in 1897, when he became active in social and political life. He was elected president of the Village of Southampton, L. I., N. Y., where he made his home in the summer time. He founded the Parrish Museum there and also, with his brother, he had erected the Memorial Hall as a tribute to the soldiers from that village who fell in the World War. He was appointed a member of the American Relief Committee, and for his work during the great disaster caused by the Messina earthquake was decorated by the King of Italy, the Italian Government, and the American Red Cross. He was the author of several open letters and pamphlets on political questions of the moment.

Parshall, Horace Field, died about Dec. 20, 1932.  
 Parsons, William Barclay, died May 9, 1932.  
 Pasha, Baron Rudolf Carl Slatin, died Oct. 4, 1932.  
 Paton, Lewis Bayles, died Jan. 24, 1932.  
 Patten, William, died Oct. 27, 1932.  
 Patton, Francis Landey, died Nov. 25, 1932.  
 Pau, Paul Marie César G  rald, died Jan. 2, 1932.  
 Paul, Emil, died June 15, 1932.  
 Pettv, A. (Ionzo) Ray. American Baptist minister, died in Philadelphia, Pa., Oct. 26, 1932. He was born in Santa Ana, Calif., July 17, 1887, and attended the Rochester Theological Seminary from 1909 to 1910. He graduated from the Occidental College, Los Angeles, Calif., with a B.A. degree in 1915. In the same year he entered the Union Theological Seminary and studied for one year. After his ordination in the Baptist Ministry in 1917 he became pastor of the Judson Memorial Church in New York City and remained there until 1926 when he was transferred to the Baptist Temple in Philadelphia, Pa. In 1929 he was called to the First Baptist Church in Kansas City, Mo., and remained the pastor there until the time of his death. While in New York City he was one of the founders and served as vice-president of the Judson Health Centre. He contributed to the "Best Sermons" of 1928 and wrote *Songs of the Tenements and Other Verses* (1925).

Phillips, Marion. British labor leader and writer, died in London, Jan. 23, 1932. She was born in Melbourne, Australia, in 1881 and graduated from Melbourne University. Then she went to London where she graduated from the London University. From 1905 to 1906 she was a research scholar and Hutchinson medalist at the London School of Economics. From 1907 to 1908 she served as investigator on the Royal Commission on the Poor Law. In 1912 Marion Phillips was organizing Secretary of the Women's Trade Union League and in the following year became general secretary of the Women's Labor League. She was a member of many welfare organizations and served as secretary of a standing Joint Committee of Industrial Women's Organizations. Also, she was a justice of the peace and chief woman officer of the Labor party. In 1929 she was elected a member of Parliament for the Labor party representing Sunderland. She wrote *A Colonial Autocracy* (1907); *A Working Woman's House* (1919); *Women and the Miner's Lock Out* (1927); and edited *The Labor Woman*, a magazine.

Piffi, Cardinal Gustave Frederick, died Apr. 20, 1932.  
 Pitt, Percy, died Nov. 23, 1932.

Plowman, George T. (aylor). American etcher, and author, died in Cambridge, Mass., Mar. 26, 1932. He was born in Le Sueur, Minn., Oct. 19, 1869, and graduated from the University of Minnesota in 1892. He studied art here and abroad. In 1915 he was awarded the bronze medal for his exhibits at the Panama-Pacific Exposition in San Francisco, Calif. He was noted for his etchings of landscapes, covered bridges, and college buildings. His work is exhibited by the Boston Museum of Fine Arts; the New York Public Library; the Library of Congress, Washington, D. C.; the British Museum, the Luxembourg Museum in Paris, and many others. He was the author of two books on art, *Etchings and Other Graphic Arts* (1914); and *Manual of Etching*.  
 Plumer, Herbert Charles Onslow (1st Viscount), died July 16, 1932.

Plummer, Edward Clarence. American lawyer and author, died in Washington, D. C., Mar. 20, 1932. He was born in Freeport, Me., Nov. 28, 1863, and graduated from Bowdoin College, Brunswick, Me., with an A.B. degree in 1887 and received an A.M. degree in 1890 from the same college. From 1888 to 1896 he engaged in newspaper work in Bath, Me. During the Spanish-American War he was assistant paymaster for the U. S. Navy. In 1898 he started to practice law in Bath, Me., and became a corporation counsel. He served as president of the Atlantic Carrier's Association. In

1921 he became a member of the U. S. Shipping Board, and in 1923 was appointed vice-chairman of that organization, which office he held at the time of his death. He wrote *Tercentennial of the City of Bath* (1907); *Shipping Sense* (1926); and *Reminiscences* (1926).

Plunkett, Sir Horace (Curzon), died Mar. 26, 1932.  
 P  lit, Most Reverend Manuel Maria Ecuadorian prelate, educator, statesman, and writer, died Oct. 1, 1932. He was born in Quito, in 1862, and studied in France and England. He returned to Ecuador in 1881, practiced law and taught at the Central University in Quito. He served in the Chamber of Deputies, and in 1891 entered the priesthood. At the time of his death he was Archbishop of Quito. He wrote many treatises and monographs. His best known historical work is *The Family of St. Teresa in America*.

Porter, Charles Talbot. American aeronautical engineer, died in Torresdale, Pa., Jan. 22, 1932. He was born in Montclair, N. J., Nov. 18, 1865, and graduated from Yale University with a Ph.D. degree in 1907 and received an M.E. degree in 1913. During the World War he was prominent as an aeronautical expert, and was connected with the Naval Aircraft factory from 1918 to 1920. In 1920 he helped to organize the Huff Daland Aircraft Company of Ogdensburg, N. Y., and held the offices of vice-president, treasurer, and chief engineer. He had a large part in the development of the XLB-1 bombing plane that won the race between New York and Philadelphia for large capacity planes; the LB-5 standard plane, also a bomber; the XHB-1 (*Cyclops*) the largest single engine ship up to that time, and the XB-1 (*Super-Cyclops*). His firm was merged with the Keystone Aircraft Corporation and he continued to serve as vice-president, treasurer, and chief engineer of the latter company at Bristol, Pa., until the time of his death.

Powers, Caleb. American congressman, died in Baltimore, Md., July 25, 1932. He was born in Whitley Co., Ky., Feb. 1, 1869, and attended the Union College, Barbourville, Ky. Later he graduated from the State University of Kentucky at Lexington, and also from Valparaiso University in Valparaiso, Ind., with an LL.B. degree in 1894. He took a post-graduate law course at Center College in Danville, Ky., and was admitted to the Kentucky bar. Appointed superintendent of schools in Knox Co., Ky., he served until 1898. In 1899 he was elected Secretary of State, being unseated after a contest. He was implicated in the assassination of Gov. William Goebel in 1900, and was convicted three times and sentenced to life imprisonment or death, the decision being twice reversed by a higher court. He served eight years in all in different jails in Kentucky but was at last pardoned by Governor Willson. He was elected to the 62d Congress, representing the eleventh Kentucky district (1911-1913), and reelected in 1913, 1915, and 1919. At the time of his death he was assistant counsel to the U. S. Shipping Board. He wrote *My Own Story* (1905).

Priest, Irwin Gillespie. American physicist, died in Washington, D. C., July 19, 1932. He was born in Loudonville, Ohio, Jan. 27, 1886. He graduated from the Ohio State University in 1907 and engaged in work immediately with the National Bureau of Standards in Washington, D. C., where he specialized in optics and never departed from that field. In 1913 he was appointed chief of the colorimetry division which office he held at the time of his death. He was one of the first to recognize the importance of the spectro-photometer in colorimetric analysis and contributed many ideas to the development of various types of spectro-photometric equipment. He perfected an apparatus to determine the validity of the theory of interpreting spectro-photometric data in terms of dominant wave-length and purity. He designed other apparatus which enabled science to measure the sensibility of the human eye to wave-length changes, especially in determining nearly white color. He made many other contributions to science in connection with color. He was secretary of the Optical Society of America from 1921 to 1924 and president of that organization from 1928 to 1929. In 1931 he was appointed special representative of the U. S. Department of Commerce at the International Congress on Illumination held in England.

Pringle, Rear Admiral Joel Roberts Poinsett, U.S.N., died Sept. 25, 1932.

Quick, Sir John. Australian jurist, died in Melbourne, June 17, 1932. He was born in St. Ives, Cornwall, Eng., Apr. 14, 1852, and at the age of two was taken to Bendigo, Australia, by his parents. He left school at the age of 15 and became a reporter on a Bendigo newspaper, and at the same time studied law at the Melbourne University where he graduated with honors. He was admitted to the bar and practiced law until 1880 when he was elected a member of the Victorian Parliament to represent Bendigo. He retired from this office in 1889 to return to the practice of law. In 1893 he originated a plan for the Federal Convention to frame an Australian Constitution and for this service he received a knighthood in 1901. He devoted much time

to writing, most of his works being on the subject of law. He also wrote *My Book* (describing his career) (1926); and *The Book of Australian Authors* (1928).

Reavis, Charles Frank. American congressman, died in Lincoln, Neb., May 26, 1932. He was born in Falls City, Neb., Sept. 5, 1870, graduated from Northwestern University in Evanston, Ill., in 1898, and was admitted to the Nebraska bar in 1902. He practiced law in Falls City, Neb., with his father, until 1914 when the partnership ended with the death of the latter. In 1904 he was elected prosecuting attorney for Richardson County, Neb., and served until 1906. In 1914 he was elected to the 64th Congress of the U. S. House of Representatives and served successively in the 65th, 66th, and 67th Congresses. He resigned from the latter Congress to accept an appointment as special assistant to the attorney-general in the prosecution of alleged war frauds and served until 1924. Later he took up his residence in Lincoln, Neb., where he practiced law until the time of his death.

Redfield, William Cox, died June 13, 1932.

Reeves, William Pember, died May 16, 1932.

Reina, Antonio R. Honduran jurist, died in Honduras, Mar. 12, 1932. During his career he served in high offices in his native country, serving in Congress; as president of the Supreme Court, and also president of the National Congress. He represented the department of Tegucigalpa as deputy in the National Congress at the time of his death.

Reinach, Salomon, died Nov. 4, 1932.

Retting, John. American painter, died May 1, 1932, in Cincinnati, Ohio, where he was born in 1859, and attended the Cincinnati Art School. He then went to Paris and studied art under Courtois and Prinetti. He was noted for his paintings of life in Dutch fishing villages. He spent much time abroad and is represented in many museums in the United States and Europe.

Rey, Santiago. Cuban Conservative leader, died in Havana, Cuba, Oct. 1, 1932. He was born in Spain in 1881 and was brought to Cuba by his parents in 1886. When but 14 years of age he joined the Cuban insurrection, fought against Spain, and was promoted to the rank of lieutenant. He resigned from the army in 1910 and in 1916 became a member of the Cuban House of Representatives in which he served until the time of his death.

Richardson, William Lambert. American educator, died Oct. 20, 1932 in Boston Mass., where he was born Sept. 6, 1842. He graduated from Harvard with an A.B. and A.M. degree in 1864, and with an M.D. degree from the Medical School of the same college in 1867. From 1871 to 1872 and again from 1874 to 1882 he served as an instructor of obstetrics at Harvard. In the latter year he was appointed assistant professor in the same department. In 1886 he became a full professor and served until 1907 when he was retired and made professor emeritus. He was the author of several medical text-books.

Robbins, Edward Denmore. American lawyer, died in New Haven, Conn., Oct. 7, 1932. He was born in Wethersfield, Conn., Oct. 20, 1859, and graduated from Yale University with a B.A. degree in 1874. He then studied in European universities and returned to Yale University from which he graduated with an LL.B. degree in 1880. In the following year he started to practice law and from 1882 to 1893 served in the Connecticut House of Representatives. In 1896 he became a professor of jurisprudence at Yale University and served until 1902. He was vice-president of the New England Railroad Company and for many years was counsel for the New York, New Haven & Hartford Railroad Company. He retired in 1914.

Roberts, Peter. American Congregational minister and writer, died in Mt. Vernon, N. Y., Dec. 2, 1932. He was born in Dowlais, South Wales, July 29, 1859, and graduated from Brecon Memorial College in 1883. He then came to the United States and graduated from Yale with a B.D. degree in 1886. In the same year he was ordained a minister of the Congregational Church and held pastorates in Scranton, Olyphant, and Mahanoy City, all in Pennsylvania. In 1907 he became secretary of the International Committee of the Y.M.C.A. and held that office until the time of his death. He was an authority on the Americanization of the immigrant and wrote several books on this subject, among them being *English for Coming Americans* (1908); *Immigrant Races in North America* (1910); *The New Immigration* (1912); and *The Problem of Americanization* (1921).

Rodríguez, Aníbal. Chilean politician, died in Santiago, Oct. 2, 1932. While a student of law he entered the ministry of the interior in 1886. He received rapid promotion, being appointed undersecretary, at the same time serving as secretary of the Council of State. He was elected to the Chamber of Deputies to represent in turn, Temuco, Concepción, Talcahuano, and Lautaro. In 1908 he was appointed a member of the cabinet as minister of war and the navy, and was reappointed to that office four times. In 1909 he was made president of the Chamber of Deputies and in 1923 was appointed Minister of Fi-

nance. In 1925, after having retired from active political life he was prevailed upon to take the office of real estate custodian and while serving in that capacity introduced many important reforms.

Rogers, Jason. American publisher and author, died in Falmouth, Mass., Apr. 26, 1932. He was born in New York City, Aug. 5, 1868, and attended the public schools there. He entered the newspaper field when very young, starting with the *Sunday Mercury* in New York City. In 1911 and 1912 he traveled extensively in the United States interesting many newspaper men in forming an association of newspaper publishers. The enterprise was known as the American Newspaper Publishers' Association. Also, he organized a Bureau of Advertising for that association and a Publishers' Buying Corporation; a combination of 240 newspapers to purchase collectively to defeat the high prices asked by the paper manufacturers. From 1924 to 1926 he was the editor and publisher of *The Advertiser's Weekly*. He was general manager of the *Kansas City Journal Post* from 1926 until 1928 when he retired. He wrote *Newspaper Building* (1918); *Fundamentals of Newspaper Building* (1919); and *Newspaper Making* (1920).

Roscoe, John, died Dec. 4, 1932.

Rosenwald, Julius, died Jan. 6, 1932.

Ross, Ronald, died Sept. 16, 1932.

Ruta, Gilda. Italian-American composer, died in New York City, Oct. 26, 1932. She was born in Naples, Italy, in 1853, and studied music under her father, Michele Ruta, who was a musician of note, and then received instruction from Franz Liszt. In 1890 she was awarded the Gold Medal by the International Exposition at Florence for her compositions and four years later came to the United States where she played in concerts. She accompanied the Metropolitan Opera House Orchestra under the direction of M. Bevingani, and played in other leading orchestras of the day as solo pianist. She won recognition as a composer for both piano and voice. Among her compositions was a concerto for piano and orchestra which was played by Mme. Ruta at the Costanzi in Rome in the presence of Queen Margherita, with Edoardo Mascheroni directing the orchestra. Later it was repeated at the Carignano di Torino under Arturo Toscanini. Her most noted piece of work was an opera called *The Fire Worshippers*.

Saastamoinen, Armas Herman, died Oct. 20, 1932.

Sanford, Elias Benjamin. American clergyman, author, and editor, died in Middlefield, Conn., July 3, 1932. He was born in Westbrook, Conn., June 6, 1843, and was graduated from Wesleyan University in Middletown, Conn., with an A. B. degree in 1865. In 1869 he was ordained a minister of the Congregational Church and became pastor, successively, in churches in Cornwall, Thomaston, and Westbrook, Conn., until 1894, when he was appointed secretary of the Open and Institutional Church League and served until 1900. He then became general secretary of the National Federation of Churches in 1908, and was appointed corresponding secretary of the Federal Council of Churches of Christ in America and served until 1918 when he was made honorary secretary. He wrote *A History of Connecticut* (1887). This book was revised and enlarged in 1923. Also, he wrote *Origin and History of the Federal Council of Churches of Christ in America* (1916); and *History of the Reformation* (1917). He edited *Concise Encyclopedia of Religious Knowledge* (1890).

Santos-Dumont, Alberto, died July 24, 1932.

Sartorio, Giulio Amstide, died Oct. 4, 1932.

Scaccia, Prospero. Italian Archbishop, died in Siena, Italy, Sept. 28, 1932. He was born in Citta della Pieve, May 30, 1857. He spent all of his life in the service of the church and was appointed Bishop of Tivoli, near Rome, by Pope Leo XIII in 1903. In 1905 he was appointed Archbishop of Siena. Also he served as great chancellor of the Theological College in Siena, and had formerly been assistant to the Pope.

Schleswig-Holstein, Caroline Matilde von. German princess, died in Eckernförde, Feb. 20, 1932, aged 72. She was a sister of the late Kaiserin Augusta Victoria, and immediately after her marriage to Prince Frederick Ferdinand of Prussia in 1885 she retired to private life and was seldom seen outside of the estate.

Schober, Johann, died Aug. 19, 1932.

Scollard, Clinton, died Nov. 19, 1932.

Scott, Charles Prestwich, died Jan. 1, 1932.

Scott, Wilfred Welday. American chemist, died in Los Angeles, Calif., May 2, 1932. He was born in Zanesville, Ohio, Aug. 13, 1876, and graduated from the Ohio Wesleyan University in 1897 with an A.B. degree. He then went to Naini Tal, India, and taught at the Philander Smith College from 1898 to 1901, when he returned to the United States and took post-graduate courses at Cornell and Chicago universities and at the Colorado School of Mines. From 1905 to 1910 he served as professor of chemistry at Morningside College in Sioux City, Ia. He then went to Philadelphia, Pa., and became chief chemist of the Baldwin Locomotive Works for one year and then joined the General Chemical

Company in New York City where he remained until 1921. During the next four years he was a professor of chemistry at the Colorado School of Mines, and was then appointed professor of chemistry at the University of Southern California, which office he held at the time of his death. He wrote several books on scientific matters, among them being *Qualitative Chemical Analysis* (1910, fifth edition 1925); *Standard Methods of Chemical Analysis*, 2 vols. (1917, fifth edition 1938); *Technical Methods of Metallurgical Analysis* (1928); *Chemical Methods of Metallurgical Analysis* (1927); and *Elements of Qualitative Chemical Analysis*, 3d edition (1932).

Seaman, Louis Livingston, died Jan. 31, 1932.

Seipel, Mgr. Ignaz, died Aug. 2, 1932.

Sellers, Matthew Bacon, died Apr. 5, 1932.

Semple, Ellen Churchill, died May 8, 1932.

Sexton, Thomas, died Nov. 1, 1932.

Shaf, Sir Muhammad Khan Bahadur Mian. Indian statesman, died in Lahore, Jan. 7, 1932. He was born Mar. 10, 1869. In 1896 he became a barrister in the Middle Temple. He served in an official capacity in many of India's conferences and leagues, in 1911 was president of the All Indian Urdu Conference, and from 1913 to 1927 president of the All Indian Moslem League. Also, in 1916, he was president of the All Indian Mohammedan Educational Conference, and the president of the Punjab High Court Bar Association from 1917 to 1919. He served as pro-chancellor at Delhi University from 1922 to 1925. He was a member of the Round Table Conference in London in 1930, and wrote several pamphlets on political questions in India. He was created Knight Commander of the Star of India in 1922.

Shahan, Thomas, Joseph, died Mar. 9, 1932.

Shaw, Leslie Mortier, died Mar. 28, 1932.

Shelton, William Henry. American writer and soldier, died in New York City, Oct. 4, 1932. He was born in Ontario Co., N. Y., Sept. 4, 1840, and attended the Canandaigua Academy. When about to enter college he decided to join the army. He served with the Army of the Potomac and was later transferred to the Reynolds Rochester Battery L, First New York State Artillery. During the Wilderness battle he was taken prisoner and held in camps at Macon, Ga., Charleston, and Columbia, S. C. for 10 months. He escaped four times, being captured and returned. He finally reached the Union lines in March, 1865. Among his works are *A Man Without a Memory* (1895); *The Last Three Soldiers* (1897); *The Three Prisoners* (1904); and a history of the Salmagundi Club of New York City of which he was a co-founder. Also, he served as curator of Jumel Mansion for many years.

Shirakawa, Gen. Yoshinori, died May 26, 1932.

Simpson, Charles Torrey. American scientist, died in Miami, Fla., Dec. 17, 1932. He was born in Tiskilwa, Ill. June 3, 1846, and was educated in private schools. From 1889 to 1902 he served on the staff of the National Museum at Washington, D. C., and in 1914 became a collaborator for the Department of Agriculture and remained there until the time of his death. He lectured at times at Georgetown University and in 1923 was awarded the Mayer medal for plant introduction. He wrote several books on mollusks among them being *Geographical Distribution of the Land and Freshwater Mollusks of the West Indies* (1895); *Synopsis of the Naides or Pearly Freshwater Mussels* (1900); *Report on the Mollusks of the Fish Hawk Expedition to Porto Rico* (1901); *Native and Exotic Plants of Dade County, Florida* (1913); *Florida Tree Snails of the Genus *Liguus** (1929); and many others.

Skinner, Frank W., died Dec. 24, 1932.

Slattery, John Rodolph, died Sept. 23, 1932.

Slevogt, Max, died Sept. 20, 1932.

Smith, David. Irish theologian, died in Belfast, Oct. 2, 1932. In 1894 he was ordained a minister of the Free Church. He became a pastor at Tullilliam and was transferred to the United Free Church in Blairgowrie in 1909. He later became professor of theology at the McCrae Magee College in Londonderry and in 1912 was appointed Bruce lecturer at the Glasgow University Free College. In 1921 he made a visit to the United States and lectured in Pittsburgh, Pa., and Chicago, Ill. Upon his return to Ireland in 1922 he was appointed professor of New Testament Literature and Language at the Assembly College in Belfast and served until the time of his death. Also, he conducted a column for *The British Weekly* for over 25 years and wrote many books of a religious character. Three of his books were translated into the Japanese, they were *The Days of His Flesh*, *The Historic Jesus*, and *The Life and Letters of St. Paul*.

Smith, Harold Babbitt. American electrical engineer, died in Worcester, Mass., Feb. 9, 1932. He was born in Barre, Mass., May 23, 1869, and graduated from Cornell University with an M.E. degree in 1891. He then took a post-graduate course at the same university and graduated in 1893. He became head designer and electrical engineer for the Elektron Manufacturing Company in the same year, and for the next three years was a professor of electrical engineering at the School of Engi-

neering at Purdue University in Lafayette, Ind. In 1896 he was appointed to the same offices at the Worcester Polytechnic Institute and remained there until 1930 when he resigned. In 1904 he was chairman of the International Group Jury of Awards for electrical engineering at the St. Louis Exposition. From 1905 until the time of his death he was also serving as a designer and consulting engineer for the Westinghouse Electric and Manufacturing Company of Pittsburgh, Pa. During the World War he was a consulting engineer with a special board of the United States Navy on anti-submarine devices. He traveled extensively and studied engineering methods in all the countries he visited. He had many inventions to his credit, and was the author of many monographs on the subject of engineering.

Smith, John Hammond. American civil engineer, died in Pittsburgh, Pa., Apr. 13, 1932. He was born in Wellsville, Ohio, Oct. 14, 1867, and graduated from the School of Engineering of the University of Pittsburgh in 1898. In 1909 he was appointed professor in charge of the department of civil engineering at the University of Pittsburgh, and held that office at the time of his death. He was noted for his ability to develop new methods and apparatus for testing engineering materials, and was a consulting engineer for many of the prominent Pittsburgh industrial plants. He had charge of the seismograph at the University of Pittsburgh. Also, he invented a photo-sculpturing device.

Smith, J(ohn) M(erlin) Powis, died Sept. 26, 1932.

Smith, Seymour Wemyss. American author, and editor, died in New York City, Jan. 4, 1932. He was born in Cleveland, Ohio, Jan. 18, 1896, and was educated at private schools. From 1917 to 1918 he was a feature writer for the New York *Sun* and *Herald*, and in 1918 became the financial editor of the *Hartford Courant* where he remained until 1923 when he was appointed editor of the *Financial Digest* of New York and Hartford. Also, he was president of the Financial Digest Company. He became noted for his contention that John Hanson and not George Washington was the first President of the United States. At the time of his death his book called *John Hanson, Our First President*, was about to be published.

Smith, William Alden, died Oct. 11, 1932.

Snow, Albert Sydney. American naval officer, died in Brookline, Mass., July 14, 1932. He was born in Rockland, Me., Nov. 18, 1845. He received an appointment to the U. S. Naval Academy in 1861, and graduated in 1865 with the rank of ensign. He was promoted through the grades to rear admiral in 1905. He served on the *Pennacola* until 1869 when he was transferred to the *Alaska* in 1873; then placed on duty at the torpedo station in Newport, and in the following year on the *Congress*. In 1877 he was stationed on the receiving ship *Wabash*. He was then sent to the Boston Navy Yard in 1878 and remained there until 1879 when he served as an executive officer on the *Portsmouth*. In 1881 he was again returned to the Boston Navy Yard. In 1883 he was put on coast guard survey duty and did special duty at Newport as a member of the board of inspection and survey. He then became successively commander of the *Essex*; officer of the Naval Academy; lighthouse inspector of the third district, and officer at the Portsmouth Navy Yard until 1898. Snow was then placed on alternating duty at the Navy Yards of New York and Boston. During the Spanish-American War he commanded the *Badger*, and was commandant of the naval station at San Juan, P. R., until 1899. Though he was officially retired in 1907 he was recalled to service from 1918 to 1919 and was appointed president of the general court-martial at the Boston Navy Yard.

Sokal, Franciszek. Polish diplomat, died in Berne, Switzerland, Mar. 31, 1932, aged 49. He entered politics when a very young man and held many ministerial portfolios. He served as the Chief of the Protocol and in 1926 was appointed Minister to Switzerland, which office he held at the time of his death. Also, he was a permanent delegate from Poland to the League of Nations. In May, 1931 he was elected president of the International Labor Conference held at Geneva. He wrote *Social Insurance in Germany* and other books.

Sophie, Queen of Greece, died Jan. 13, 1932.

Sousa, John Philip, died Mar. 6, 1932.

Specht, Richard. Austrian musicologist, died Mar. 10, 1932, in Vienna where he was born Dec. 7, 1870. He at first had planned to become an architect and had studied for that profession but was later dissuaded by Brahms, and also by Goldmark, to take up musical journalism. He became a music critic for *Die Zeit* and *Die Musik*. In 1919 he founded the bi-weekly *Der Merker* and conducted it until 1919. He then turned to writing biographies of musicians, among them being the lives of Beethoven, Brahms, Mahler, Puccini, and Richard and Johann Straus and others. Among his critical sketches are *Kritisches Skizzenbuch* (1900); and *Das Wiener Operntheater: Erinnerung aus fünfzig Jahren* (1919). He was the originator of the new opera-text library.

Speyer, Edgar. American banker, died in Berlin, Ger-



many, Feb. 16, 1882. He was born in New York City, Sept. 7, 1862 and at an early age removed with his family to Frankfort-on-Main where he was educated. In 1886 he went to England and engaged in the banking business with his brothers, and later became the head of the firm known as Speyer Brothers. While there he became active in many works for public welfare, being chairman of the London Hospital and co-founder of the Art Gallery in Whitechapel, in London's East End, and chairman of Queen's Hall Symphony Orchestra. His most notable enterprise in the business world in London was the consolidation of the separate units of the London Underground Railway into one system. He retired as chairman of that system in 1915. He then returned to the United States and devoted his time to furthering the interests of art and music and spent much time in traveling. In recognition of the service he rendered Richard Straus in bringing his work before the public the composer dedicated his opera *Salome* to Speyer.

Spronck, Charles. Dutch bacteriologist, died in Zeist, Dec. 5, 1932, aged 74. He was the founder of the Serological Institute at Utrecht. During the World War the tetanus serum which he contributed to science was widely used.

Stanley, Albert Augustus. American composer and musical educator, died at Ann Arbor, Mich., May 19, 1932. He was born in Manville, R. I., May 25, 1851. At the age of 14 he was placed in charge of the organ at the Congregational Church at Slaterville, R. I., and three years later was in charge of a larger organ at the Church of the Mediator in Providence, R. I. He was then sent abroad to study music and graduated from the Leipzig Conservatory. Later he returned to the United States and from 1888 to 1921 was professor of music at the University of Michigan and director of the school of music of that university from 1903 to 1921. At the time of his death he was director emeritus. He served twice as the president of the Music Teachers' National Association, and was one of the founders of the College of Musicians. Also, he established and conducted the Ann Arbor May Festival. He composed some notable church music, and also the incidental music for Percy Mackaye's tragedy of *Sappho and Phaon*, and many other musical scores.

Starks, Edwin C. American ichthyologist, died in Palo Alto, Calif., Dec. 30, 1932. He was born in Baraboo, Wis., Jan. 25, 1867, and graduated from Stanford University in 1897. He was appointed assistant for the U. S. Biological Survey and in 1899 was appointed assistant professor of zoology and curator of Washington University in Seattle. He remained until 1900 and then went to Stanford where he was appointed curator. He retired in 1927. For many years he assisted the late David Starr Jordan (see the NEW INTERNATIONAL ENCYCLOPEDIA, vol. xii, p. 776).

Starr, M(oses) Allen, died Sept. 4, 1932.

Starrett, William Aiken, died Mar. 25, 1932.

Stephens, Alice Barber. American illustrator, died in Media, Pa., July 14, 1932. She was born in Salem, N. J., in 1858, and educated in public schools in Philadelphia, Pa., and also studied art there at the School of Design for Women, and the Academy of Fine Arts. Then she went abroad to study at the Julian Academy in Paris. After her return to the United States she taught portrait and still life painting at the Philadelphia School of Design for Women. Also, she was a wood engraver and illustrator for *Harper's*, *the Century*, and *Scribner's* magazines, and had illustrated many well-known novels.

Stetson, Caleb Rochford, died June 15, 1932.

Stewart, George Black, died June 23, 1932.

Stewart, Humphrey John. American musician and composer, died in San Diego, Calif., Dec. 28, 1932. He was born in London, England, May 22, 1854, and graduated from Oxford in 1875. He showed an early adaptability for the organ and at the age of 11 was playing the organ at times in churches in England. In 1886 he came to the United States and played the organ in San Francisco until 1901 when he went to Boston, Mass., and became organist at Trinity Church there. In 1902 he returned to California and became organist of St. Dominic's in San Francisco. He was appointed the official organist at the Panama-California Exposition in San Diego in 1915. In the same year he was appointed municipal organist of the City of San Diego where he played daily until the time of his death. He founded the American Organists' Guild and later was presented with a gold medal by that organization. He composed many oratorios, masses, light operas, and orchestral suites, among them being *His Majesty*, comic opera (1890), *The Conjurators*, comic opera (1900); *The Nativity*, oratorio (1888), *Montezuma*, orchestral suite (1903), *Mass in D Minor* (1907); and others.

Stickney, William Wallace. American governor, died in Sarasota, Fla., Dec. 15, 1932. He was born in Plymouth, Vt., Mar. 21, 1858 and graduated from Phillips Exeter Academy at Exeter, N. H., in 1877. In 1878 he was admitted to the bar and practiced law under the firm name of Stickney, Sargent and Skeels. From 1882

to 1892 he served as a clerk in the Vermont House of Representatives and during part of that time served as State's Attorney. He served as speaker of the Vermont House of Representatives and in 1900 was elected Governor of Vermont and served one term. In 1905 he was president of the Vermont Bar Association and was elected president of the Vermont Historical Society.

Stinson, Edward A. American aviator, died in a plane crash in Chicago, Ill., Jan. 26, 1932. He was born in Fort Payne, Ala., July 11, 1894. At the age of 17 he started flying in a plane of his own manufacture, and he with his brothers and sisters became known as "the flying Stinson family," which did stunt flying at carnivals all over the country. During the World War he was the chief civilian instructor of flying for the U. S. Aviation Corps and made a notable record. After the war he became engaged in the manufacturing of aeroplanes that bore his name. At the time of his death he was testing a new model for the Stinson Aircraft Corporation of which he was president. Twice in his career he held records for endurance flights, and was known as the "dean" of aviators. In 1927 he won the Ford Reliability Tour against many competitors.

Stirling, William. British physiologist, died in Manchester, Oct. 2, 1932. He was born in Grangemouth, Stirlingshire, Scotland, Jan. 25, 1851, and graduated from Edinburgh University with an M.D. degree. He then studied in Leipzig, Germany and Paris, France. He became assistant and later Regius professor of the Institute of Medicine in the University of Aberdeen. He was then appointed professor of physiology and histology at the Victoria University in Manchester. He was serving as Fullerian professor of physiology at the Royal Institution in London at the time of his death. He wrote many textbooks on historical and physiological subjects. He was one of the first educators to sanction the use of talking motion pictures in teaching.

Stoney, Florence Ada. British electrical specialist and physician, died in London, Oct. 7, 1932, aged 62. She was educated at home and graduated from the London School of Medicine for Women with an M.D. degree in 1898. She then served on the staff of several hospitals in and around London, taking special interest in X-ray. During the World War she was on the staff of a hospital in Antwerp and was on duty during the bombardment by the Germans in 1915. She later served as head of the electrical department of the Fulham Military Hospital. For her notable services during the war she was awarded the Star of the Admiralty and the Order of the British Empire. Among her works are *Chronic Congestion Treated by Electricity*, *On the Connection Between Soldier's Heart and Hyperthyroidism*, *Case of Fibroid Ovid by X-Rays*, and others.

Story, Daisy Allen, died July 15, 1932.

Strachey, (Giles) Lytton, died Jan. 21, 1932.

Stuart, Charles Macaulay, died Jan. 26, 1932.

Sutcliffe, Halliwell. British novelist, died at Linton in Craven, England, Jan. 14, 1932, aged 62. He was educated at Bingley, Yorkshire, and later attended King's College, Cambridge. Most of his life was devoted to literary pursuits, and beginning in 1893 he wrote more than 35 novels. Among his later works are *Storm* (1925), *Winds of March* (1927), *The Striding Dales* (1929), *Batting Keep* (1930); and *Persons Unknown* (1931).

Swearingen, Henry Chapman. American clergyman, died on a train near Omaha, Neb., June 2, 1932. He was born at Hookstown, Pa., Apr. 28, 1869, and graduated from Westminster College, New Wilmington, Pa., in 1891, and the Allegheny Theological Seminary in 1894. He was ordained a United Presbyterian minister in 1894 and became pastor of the Espyville, Pa., Presbyterian Church for one year when he was called to the Third Presbyterian Church of Allegheny, Pa., where he remained until 1902. From 1902 to 1907 he served as pastor of the First Presbyterian Church of Lincoln, Neb., and from there was called to St. Paul, Minn., where he took charge of the House of Hope Presbyterian Church and was pastor there at the time of his death. He was a delegate to many of the church conferences and in 1912 and 1913 he served as moderator of the Synod of Minnesota and also of the General Assembly of Churches of Christ in America. From 1915 to 1916 he served as president of the Presbyterian Home Mission Council. During 1923 he was president *pro tempore* of the Macalester College and remained a trustee of that institution. In 1925 he was chairman of the General Assembly's special committee. He wrote many pamphlets on religious and historical subjects and many of his addresses and sermons were published.

Swift, Edgar James. American psychologist, died in Hollis, Me., Aug. 30, 1932. He was born in Ravenna, Ohio, July 24, 1860, and graduated from Amherst College with an A.B. degree in 1886. He then went abroad and studied at Berlin and Leipzig universities in Germany from 1889 to 1892 when he returned to the United States. He taught psychology at the Stevens Point Normal School until 1900 when he was appointed professor of psychology and education at Washington University



in St. Louis, Mo., in 1903, and in 1925 was appointed head of the department of psychology, which office he held at the time of his death. Swift lectured at many schools and colleges during the summer months, and from 1920 to 1924 was a special lecturer on applied psychology at the Post-Graduate School of the U. S. Naval Academy and the Naval War College. He wrote *Mind in the Making* (1908); *Youth and the Race* (1912); *Learning by Doing* (1914); *Psychology and the Day's Work* (1918); *Business Power Through Psychology* (1925); *Psychology of Youth* (1927) *How to Influence Men* (1927); and *The Jungle of the Mind* (1931).

Taranto, Gen. Alfredo Italian soldier, died in Naples, Dec. 6, 1932, aged 68. He commanded a brigade in the fourth army during the World War and later served in Dalmatia where he headed the army and navy forces. Also, he led colonial troops in Tripoli, and shortly before his death had retired as head of the army corps at Naples.

Taylor, Fred Manville. American educator, died in Pasadena, Calif., Aug. 6, 1932. He was born in Northville, Mich., July 11, 1855. He graduated from Northwestern University with an A.B. degree in 1876; received an A.M. in 1879; a Ph.D. from the University of Michigan in 1888, and an LL.D. from Northwestern University in 1926. From 1879 to 1892 he held the chair of professor of history at Albion College, in Albion, Mich., and was then called to the University of Michigan, Ann Arbor, and became assistant professor of political economy and finance there from 1892 to 1894. He then became junior professor until 1904 when he was appointed professor and held that office until 1929 when he retired. He wrote *Chapters on Money* (1906); *Readings in Economics* (1907), and *Principles of Economics* (1911), which latter reached the ninth edition by 1925.

Taylor, Col. James D. American army officer, died in Washington, D. C., Nov. 24, 1932. He was born in Florida, Feb. 3, 1877, and graduated from the Virginia Military Institute in 1898. He then attended the Army War College from which he graduated and later from the Army Service School in Fort Leavenworth, Kan. He was an instructor at times in both colleges. He fought in the Philippine uprising, having given information that caused the capture of Emilio Aguinaldo which ended the trouble, in the occupation of Vera Cruz, Mexico, and in the major battles on the Western Front during the World War. He commanded a regiment in France during the St. Mihiel attack and was cited for his bravery. He was awarded the distinguished service medal and the French Croix de Guerre. After the war he organized the survey office for maritime affairs to investigate claims of loss during the war against the U. S. Government by shippers. This organization saved the government millions of dollars. He commanded the U. S. troops in China in 1932 during the attack by the Japanese on Shanghai. He was about to assume charge of regular army work in connection with the organized reserves of the 80th division at the time of his death.

Taylor, Julian Daniel. American educator, died in Waterville, Me., Oct. 13, 1932. He was born in Winslow, Me., Jan. 29, 1846, and graduated from Colby College, Waterville, Me., with an A.B. degree in 1868, and an A.M. degree in 1871. He then taught at Colby College and in 1873 was appointed a professor of Latin. He served until 1918, in which year he had completed 50 years of service to Colby. The trustees named a professorship in his honor and he then became Taylor professor of Latin and served until the time of his death.

Thayer, William Sidney, died Dec. 10, 1932.

Thomas, Albert, died May 8, 1932.

Thomson, Gaston Armand Marie. French dean of the Chamber of Deputies, died at Bone, Algeria, May 14, 1932. He was born in Oran, France, in 1848. He served as editor of *La République Française* with Gambetta, and at the age of 29 began a political career that lasted over 55 years, during which time he served France in various official capacities. He was a supporter of the colonial policies of Jules Ferry.

Threlfall, Sir Richard. British chemist, died in Edgbaston, Birmingham, England, July 10, 1932. He was born in Hollowforth, Aug. 14, 1861. He graduated from Cambridge with an A.M. degree and also attended Strassburg and Victoria universities. In 1886 he became professor of physics at the University of Sydney, N. S. W. From 1869 to 1899 he served as president of the New South Wales Royal Commission on the loading and carriage of coal to sea to investigate the causes of spontaneous combustion. Also, he was chairman of the board of fuel research. During the World War he developed the smoke screen and the tracer bullet. He wrote many papers on physical and chemical subjects and a book *Laboratory Arts* (1898).

Todd, Mabel Loomis. American author and editor, died in Muscongus, Me., Oct. 14, 1932, aged about 70. She was born in Cambridge, Mass., and educated at private schools. Immediately after her marriage she accompanied her husband, an astronomer, on trips to Japan (1887-

1896), Tripoli (1900-1905), around the world in 1906, and to the Dutch East Indies; Chile (1907), and Russia in 1914, all for the purpose of studying the total eclipse of the sun. She wrote many books on the subject, among them being *Total Eclipses of the Sun* (1894); *Corona, Comet* (1898); *A Cycle of Sunsets* (1909); *Tripoli the Mysterious* (1912); and many others. Also, she was an authority on Emily Dickinson, the American poetess, and edited several volumes of her poems and letters.

Toumey, James William, died May 6, 1932.

Toynbee, Paget, died May 13, 1932.

Troland, Leonard Thompson. American scientist, psychologist, and inventor; killed by a fall from Mt. Wilson, Calif., May 27, 1932. He was born in Norwich, Conn., Apr. 26, 1889. He graduated from the Massachusetts Institute of Technology with a B.S. degree in 1912 and continued his studies at the Harvard Psychological Laboratory under Munsterberg where he received an A.M. degree in 1914 and a Ph.D. degree in 1915. He engaged in optical research work for the General Electric Co., through a fellowship from Harvard. When he returned to Harvard in 1916 he became an instructor of psychology and later became an assistant professor. Also, he was lecturing and directing research in vision for Harvard and was serving in that capacity at the time of his death; being in California on a leave of absence. He was vice-president of the Technicolor Motion Picture Corporation and co-inventor of the color process for motion pictures. From 1922 to 1923 he was president of the Optical Society of America. During the World War he served in the Navy Department in the development of a submarine listening device, and also with the National Research Committee on vision and aviation psychology. Among his many works are *The Present Status of Visual Science* (1922); *The Mystery of Mind* (1925); *The Fundamentals of Human Motivation* (1928); and *The Principles of Psychophysiology*, 4 vols. (1929-32).

Tucker, Gilbert Milligan. American author and editor, died Jan. 13, 1932 in Albany, N. Y., where he was born Aug. 26, 1847. He graduated from Williams College in Williamstown, Mass., with an A.B. degree in 1867, and received an A.M. degree in 1870. He joined his father who was publisher and editor of the *Country Gentleman*, a farm magazine, and became editor-in-chief of that periodical in 1897. He served until 1911 when the publication was bought by the Curtis Publishing Company of Philadelphia, Pa. He was president of the New York State Agricultural Society for several years. Among his works are *Our Common Speech* (1895); *History of American Agricultural Periodicals* (1909); *A Layman's Apology* (1913); and *American English* (1921).

Tucker, Henry St. George, died July 23, 1932.

Turati, Filippo, died Mar. 28, 1932.

Turck, Fenton Benedict. American surgeon, died in New York City, Nov. 16, 1932. He was born in Milwaukee, Wis., Aug. 25, 1857 and graduated from the Chicago Medical College of Northwestern University with an M.D. degree in 1891. He then became house surgeon for the Alexian Hospital in Chicago and in 1892 was appointed professor of internal medicine at the Post-Graduate Medical School. From 1893 to 1896 he was a lecturer at the Jefferson Medical College in Philadelphia, Pa., and in the same capacity at the College of Physicians and Surgeons in Chicago from 1901 to 1902. He taught at the University of Rome, Italy, in 1906 and upon his return to the United States was admitted to practice in New York State without examination by the Board of Regents because of the notable record he had made. He was a director of the research laboratory of the Turck Foundation, and during the World War was a captain in the medical corps of the U. S. Army. His book entitled *The Action of the Living Cell*, published in 1932, was the sum total of over 40 years' research into the reaction of plant and animal life. Also, he was the inventor of the gyromele and other medical instruments.

Turner, Frederick Jackson, died Mar. 14, 1932.

Turner, George, died Jan. 26, 1932.

Turrell, Charles James. British-American miniaturist, died in White Plains, N. Y., Apr. 13, 1932. He was born in London in 1845 and studied art at an early age. He first gained renown through a miniature portrait of Queen Victoria, and after this came many commissions to paint royalty, among them being the late Queen Alexandra and Princess Mary of Great Britain, and such notable Americans as the Vanderbilts, Astors, Whitneys, Morgans, and others.

Udden, Johan August. American geologist, died in Austin, Tex., Jan. 5, 1932. He was born in Lekasa, Sweden, Mar. 19, 1859, and came to the United States with his parents who settled in Carver, Minn., in 1861. In 1881 he graduated from Augustana College in Sioux Falls, So. Dakota, with an A.B. degree and received a Ph.D. degree in 1900; an Sc.D. from Bethany in Lindborg, Kan., in 1921, and also from the Texas Christian University in Fort Worth, Tex., in 1923. From 1881 to 1888 he taught at Bethany College and at the same time studied at the University of Minnesota during

1886. He held the Oscar II chair of geology and natural history at Augustana College from 1888 to 1911. In 1911 he was appointed director of the University of Texas Bureau of Economics, Geology, and Technology, and held that office at the time of his death. Udden was appointed special assistant to the Iowa Geological Survey from 1899 to 1903; to the Mineral Survey 1903-04; and to the Illinois Geological Survey 1906-11; and also special agent to the U. S. Geological Survey from 1908 to 1914. He was knighted by the King of Sweden in 1911 (Riddare af nordstjernerorden). He was the first to discover potash in the Permian Basin of Texas. His scientific works include *The Mechanical Composition of Wind Deposits* (1898); *An Old Indian Village* (1900); *The Mechanical Composition of Clastic Sediments* (1917); and *The Texas Meteor of Oct. 1, 1917*.

Underhill, Frank Pell, died June 28, 1932.

Uriburu, Gen. José Francisco, died Apr. 29, 1932.

Van Dyke, John Charles, died Dec 5, 1932.

Van Rensselaer, Martha. American home economist, died in New York City, May 27, 1932. She was born in Randolph, N. Y., in 1864, and graduated from the Chamberlain Institute of that city in 1884. She taught in public schools until 1894 when she was appointed school commissioner of Catteraugus County, N. Y., and served until 1910. Also, she was an instructor at teachers' institutes from 1896 to 1903. In 1900 she founded the extension course of home economics at the N. Y. State College of Agriculture at Cornell University, and became co-director and professor of that department in 1911 serving in that capacity at the time of her death. During the World War she was the director of the home conservation division of the Food Administration, and from 1920 to 1926 was editor of the home making department of the *Delinatore*. In 1923 a commission appointed by the National League of Women Voters named her one of the 12 great American women. From 1915 to 1916 she served as president of the American Home Economics Association.

Van Rooy, Anton, died Nov. 28, 1932.

Van Rossum, Cardinal William, died Aug. 30, 1932.

Vestal, Albert Henry. American congressman, died in Washington, D. C., Apr. 1, 1932. He was born in Frankton, Ind., Jan. 18, 1875. He attended the Indiana State Normal School, Terre Haute, Ind., was graduated from the Valparaiso University in Valparaiso, Ind., with an A.B. degree, and was admitted to the Indiana bar in the same year. He practiced law in Anderson, Ind., and was elected prosecuting attorney for the 50th judicial district of Indiana and served three terms, from 1901 to 1907. In 1917 he was elected to the 65th Congress of the House of Representatives for the 8th Indiana District, and was elected successively up to the 72d Congress, which seat he held at the time of his death. From 1925 to 1931 he served as chairman of the House Patents Committee. He was noted for his copyright bills, having fostered one which granted automatic copyright to the creator of an artistic or literary work immediately upon creation, and also provided for the distribution of rights to any group; such as stage, screen, or magazines. This bill passed the House but was defeated in the Senate.

Vuillemin, Jean Paul. French pathologist, died in Malzeville, June 30, 1932. He was born in Docelles (Vosges), Feb. 13, 1864, and attended the Collège d'Epinal and the University of Nancy. Later, he became a professor of medicine and pathology in the University. His treatise on general pathology is internationally known, and he was considered one of the leading medical authorities in France. He wrote several books on anatomy and pathology.

Walcott, Henry Pickering, died Nov. 11, 1932.

Wallace, Charles William, died Aug. 7, 1932.

Wallace, Edgar, died Feb. 10, 1932.

Wallas, Graham, died Aug. 10, 1932.

Warburg, Paul Moritz, died Jan. 24, 1932.

Ward, Herbert Dickinson, died June 18, 1932.

Waring, Herbert. British actor, died Jan. 31, 1932, in London where he was born Nov. 17, 1857. He received his education at Dulwich College and Merchant Taylor's School. He taught school for a short time before making his appearance on the stage in 1877 at the Adelphi Theatre in *Formosa*. From 1888 to 1889 he played with the Mary Anderson Company in the United States. On his return to London he played at the Novelty Theatre as *Thorvald Helmer* in Ibsen's play *A Doll's House*. After playing romantic parts in different plays he toured England and the United States with Mrs. Patrick Campbell in *The Second Mrs. Tanqueray* and *The Notorious Mrs. Ebbemith*, and in other pieces. Also, he played in *The School for Scandal*, *The Green Goddess*, and Shakespearean plays. His last appearance was in *Plunder* in England in 1928.

Warne, Francis Wesley. American bishop, died in Brooklyn, N. Y., Feb. 29, 1932. He was born in Erin, Ont., Canada, Dec. 30, 1854. He attended George Town Academy and Albert College in Belleville, Ont., and entered the Methodist Episcopal Ministry in Canada in

1874. In 1881 he came to the United States and resumed his studies at the Garrett Biblical Institute in Evanston, Ill., and graduated in 1884. He then became a missionary and spent many years in the Far East until 1900 when he was elected missionary bishop to India at the General Conference of the Methodist Episcopal Church in Chicago, Ill. During 1915 he visited the Philippine Islands in an official capacity five times, and also visited Mesopotamia, Bagdad, Babylon, Mosul, and Nineveh. He wrote *The Bible Sabbath*, *The Lord's Supper*, *A Covenant Keeping God*, *The Life of Mrs. Parker*, *The Story of Lizzie Johnson*, *Twenty Years a Shu-in*, *The Sinless Incarnation*, and *Ideals That Have Helped Me*.

Washburn, John Hosea. American educator, died in Doylestown, Pa., Aug. 3, 1932. He was born in Bridgewater, Mass., June 5, 1859, and graduated from the Massachusetts Agricultural College in 1878, then took a post-graduate course in chemistry at Brown University and returned to the Massachusetts Agricultural College until 1885. Later he went to Germany to study at the University of Göttingen, graduating with the A.M. and Ph.D. degrees in 1889. He taught in public schools, and in 1883 was appointed professor of chemistry at the Storrs (Conn.) Agricultural School. From 1889 to 1902 he was president and professor of agriculture and chemistry at the Rhode Island State College of Agriculture and Mechanical Arts. Also, he was director of the National Farm School in Bucks County, Pa., until 1917 when he retired.

Waterman, Charles Winsfield. American senator, died in Washington, D. C., Aug. 27, 1932. He was born in Waitsfield, Vt., Nov. 2, 1861. He graduated from the University of Vermont with an A.B. degree in 1885, and from the University of Michigan with an LL.B. degree in 1889. He removed to Denver, Colo., where he practiced law and became a member of the firm of Wolcott, Vaile & Waterman from 1902 to 1908. From 1908 to 1923 he was counsel for the Western Sugar Company, and also represented several railroad companies and other corporations. He retired from the practice of law and sought election to the U. S. Senate in 1926. He was elected to serve from 1927 to 1933, and was holding that office at the time of his death.

Watkins, H. G. British explorer, died Aug. 20, 1932, at Lake Fjord, Greenland, aged 26. While still a student at Trinity College in Cambridge he led an expedition to the Arctic, and in 1929 spent a year exploring Labrador. His success at that time led to an appointment from the British Arctic Air Route Expedition of 1930. He was associated in the enterprise with the Royal Geographical Society and received cooperation from several departments of the British Government. He was head of another expedition under the same auspices at the time of his death. He received the Founder's gold medal from the Royal Geographical Society in June, 1932, and was believed to be the youngest man ever so honored. Also he received the Bruce medal and the Danish gold medal in the same year.

Waugh, William Templeton. Canadian educator, died in Montreal, Oct. 17, 1932. He was born in Fairfield, Manchester, England, Mar. 18, 1884, and graduated from the Manchester University in 1903. In 1907 he became assistant master at Fulleck School and in 1910 was assistant lecturer of history at Manchester University. He then went to Belfast, Ireland, in 1915, and was appointed acting professor of history at Queen's University there. During the World War he served on the staff of the War Trade Intelligence Department. In 1922 he went to Canada and was appointed associate professor of history at McGill University where he served until 1925 when he became chairman of the department and Kingsford Professor of history at the same university and remained until the time of his death. He wrote *The Monarchy and the People* (1912); *Germany* (1916); and a number of other works.

Webster, Henry Kitchell, died Dec. 8, 1932.

Welles, Roger. American naval officer, died in New York City, Apr. 26, 1932. He was born in Newington, Conn., Dec. 7, 1862, and graduated from the U. S. Naval Academy in 1884. He was sent as a special commissioner for the Columbian Exposition to Venezuela and made the ethnological collection from the interior of Venezuela, that is now in the Field Museum in Chicago, and for which he received a bronze medal. He was on duty at the exposition from 1890 to 1893. He served as an ensign and was promoted through the grades to admiral in 1918, and rear admiral in 1919. During the Spanish-American War in 1898 he served on the *McArthur*, *Vermont*, and *Wasp*. From 1908 to 1909 he was an executive officer on the warship *New Hampshire*, and from 1919 to 1920 on the *New Orleans*. During 1911 he was a member of the board of inspection and survey of the Navy Department in Washington, D. C., and was later placed in command of the *Louisiana*, until 1913, when he became commander of the Naval Training Station at Newport, R. I., and served until 1915. The following year he commanded the *Oklahoma*, and was then appointed director of naval intelligence at Wash-

ington, D. C., until 1919 when he was placed in command of Division 1 of the U. S. Fleet. In the same year he was appointed commander of Division four of the Atlantic Fleet on the flagship *Minnesota*. In 1921 he was made first commander of the 11th Naval district, and in 1923, was transferred to the fifth naval district and naval operating base at Hampton Roads, Va., where he remained until 1925. He was then appointed commander of the U. S. Naval Forces in European waters with rank of vice-admiral and was retired from active service in December, 1926. He was awarded the Atlantic Battle medal for services at Niipe Bay during the Spanish-American War; the Cuban and Philippine campaign medals, the Naval Cross of the United States, and many other honors.

Wenlock, Arthur Lawley, 6th Baron, British administrator, died in Freiburg, Germany, June 14, 1932. He was born Nov. 12, 1860, and attended Trinity and Eton colleges. He then joined the 10th Hussars and served with his regiment at Suakin in 1884 and received a medal with clasp for bravery. In 1892 he retired from the army and became private secretary to the first Duke of Westminster and with whom he remained until 1896. From 1897 to 1901 he was the administrator of Matabeleland, from 1901 to 1902 was Governor of Western Australia, and for the next four years was lieutenant governor of the Transvaal. From 1906 to 1911 he was the Governor of Madras. During the World War he served as commissioner of the Red Cross in France and Mesopotamia. He was created Knight Commander of St. Michael and St. George in 1901, Knight Grand Commander of the Indian Empire in 1906; and Knight Grand Commander of the Star of India in 1911. He succeeded to the barony in 1931.

Whilar, Agustín T., Peruvian educator, died in Lima, Oct. 1, 1932, aged 75. He was born in Nicaragua and went to Peru at an early age where he studied at the University of San Marcos and immediately after his graduation devoted all of his time to education. He founded the Colegio Peruano de Lima and Escuela Normal de Preceptores, both in Peru. He was the author of many books on methods of conducting schools.

Whipple, Brig. Gen. Charles Henry, American army officer, died in Los Angeles, Calif., Nov. 7, 1932. He was born in Adams, N. Y., June 12, 1849 and was sent to St. Paul's School in Concord, N. H. He then removed with his parents to Faribault, Minn., in 1871, where he became cashier of the Citizen's National Bank. He joined the U. S. Army in 1881 and was promoted through the grades to lieutenant colonel in 1901 and was appointed deputy pay-master. In 1908, having risen to the rank of brigadier general, he was also promoted to pay-master general and served until 1912 when he was retired. During his service as pay-master in Montana he and his men foiled a holdup by highwaymen and saved the government \$30,000. This episode is on the records in Washington, D. C.

Whitehill, Clarence (Eugene), died Dec. 18, 1932.

Wichmann, Hugo, German editor, died in Gotha, Germany, Aug. 7, 1932. He was born in Hamburg, Apr. 9, 1851. He started his career as a statistician, and also became an authority on the royal houses, nobility, and statesman of Europe. For 45 years he was the editor of the *Almanac de Gotha*, a genealogical survey of the world's royalty, nobility, and statesmen, that has been published for 169 years. Also, he edited many statistical journals and court calendars.

Wiggins, (J) Carleton, died June 11, 1932.

Wiczynski, Ernest Julius, died Sept. 14, 1932.

Wildman, Edwin, died Nov. 3, 1932.

Wigans, Anton, Austrian poet and dramatist, died May 3, 1932 in Vienna, where he was born Apr. 17, 1881. He was educated at the Gymnasium and the University of Vienna where he studied law. He held a clerical position for a while in the Vienna Courts but in 1905 he published his first book of poems and turned to the writing of poetry and plays for a livelihood. He published his first play in 1913 and in 1916 brought out his first real success, a tragedy called *Liebe*. Then he wrote *Dies Iae* in 1916 and another book of poems that were published in 1918. From 1922 to 1930 he was director of the Burg Theatre in Vienna and then devoted his time to writing.

Willcocks, Sir William, died July 28, 1932.

Williams, Dwight, American painter, died in Cazenovia, N. Y., Mar. 12, 1932. He was born in Camillus, N. Y., Apr. 25, 1856. He graduated from Cazenovia Seminary in 1875 and studied art under Perry. From 1876 to 1879 he taught art in the Houghton School and was director of the Art School of Norfolk College from 1889 to 1892. He then served as director of the National Park School near Washington, D. C., from 1894 to 1898. His works have been hung in many expositions and he is represented in the National Academy of Design. He was an expert on rare old pictures and had a collection of many, and devoted much time to the study of restoring them. He traveled extensively and was noted

for his picturizations of Colonial and Revolutionary days.

Williams, George Fred, American congressman and lawyer, died in Brookline, Mass., July 11, 1932. He was born in Dedham, Mass., July 10, 1852. He graduated from Dartmouth College, in Hanover, N. H., in 1872, with an A.B. degree, and then went to Germany and studied in Berlin and Heidelberg. He returned to the United States and was admitted to the bar in 1875 and practiced law in Boston. In 1889 he was elected a member of the Massachusetts House of Representatives. He was elected a member of the 52d Congress representing the ninth Massachusetts district in 1891 and served until 1893. He then returned to the practice of law. In 1913 he was appointed envoy extraordinary and minister plenipotentiary to Greece. He resigned in 1914, because, according to press reports, of his utterances with regard to a plot to kill the Albanian leaders. The reports further stated that he was offered the leadership of the Albanians, and could have become their king, but refused. He returned to the United States and started a drive to raise funds for Albania but the World War intervened and the cause was lost. He then took up the practice of law in Boston where he remained. He edited *Williams' Citations of Massachusetts Cases, Annual Digest of the United States*, vols. 10 to 17.

Williams, John Sharp, died Sept. 28, 1932.

Williamson, Ralph Bertram, American lawyer, and Federal Power Commissioner died in Washington, D. C., Dec. 10, 1932. He was born in Tama, Iowa, July 31, 1879, and graduated from Cornell University with a Ph. B. degree in 1899. He then attended Harvard Law School and received an LL.B. degree in 1905. For the next four years he served as legal adviser for the U. S. Reclamation Service and also as a special assistant to the U. S. Attorney for the Eastern division of the State of Washington. He served as president of the Washington State Bar Association in 1925. In 1930 he was appointed vice-chairman of the Federal Power Commission which office he held at the time of his death.

Wilson, Henry Lane, died Dec. 22, 1932.

Wilson, Mortimer, American composer and conductor, died in New York City, Jan. 27, 1932. He was born in Charitan, Ia., Aug. 6, 1876, and studied music in the United States and abroad under the best masters. From 1901 to 1908 he was an instructor of theory at the University of Nebraska, from 1913 to 1914 director of the Atlantic Conservatory and conductor of the Atlanta Philharmonic Orchestra. In the following year he served as head of the department of theory in Gainesville, Ga. From 1917 to 1918 he instructed at the Malkin Music School in New York City, and also in 1918 was the guest conductor of the New York Philharmonic Orchestra. He composed many pieces for the piano and orchestra and his works were played by the leading orchestras of America. Wilson composed several of the musical scores for motion pictures such as *The Thief of Bagdad*, *Don Q The Covered Wagon*, etc. He won the Rosenfeld prize for the best original American overture with his composition *Mardi Gras*. Among his technical works are *The Rhetoric of Music*, *Harmonic and Melodic Technical Studies for Orchestral Training*, and others.

Winslow, Cameron McKee, died Jan. 2, 1932.

Winton, Alexander, American inventor and manufacturer, died in Cleveland, Ohio, June 22, 1932. He was born in Grangemouth, Scotland, June 20, 1860, and was educated in public schools there. He came to the United States in 1880 and began working for a marine engineering firm in New York City. He then went to Cleveland and in 1890 established the Winton Bicycle Company, manufacturing a bicycle that he invented, and four years later became a manufacturer of motor cars. He was one of the first to start in the automotive industry and in 1897 the company was incorporated and he later became president of that corporation. After the popularity of the large motor car waned he started to manufacture oil burning engines and established the Winton Marine Oil Engine Company in 1912. He invented many motor parts.

Winton, George Tayloe, American educator, died in Chapel Hill, N. C., Aug. 26, 1932. He was born in Winslow, N. C., Oct. 12, 1852, and attended the U. S. Naval Academy from 1869 to 1870 and resigned in the latter year to enter Cornell University where he graduated in 1874 with a B. Litt. degree. He then became an instructor of mathematics at Cornell University from 1874 to 1875 when he was appointed assistant professor of Latin. In 1876 he was made a full professor and served until 1891 when he was appointed president of the University of North Carolina. From 1896 to 1899 he served as president of the University of Texas and then returned to North Carolina to become president of the North Carolina College of Agriculture and Mechanical Arts and served until 1908. He was then retired through the Carnegie Foundation.

Wolf, Max Franz Joseph Cornelius, died Oct. 3, 1932.

Wolverton, Frederick Glyn, 4th Baron, British banker, died in London, Oct. 8, 1932. He was born Sept. 4, 1861.

From 1892 to 1896 he was Lord-in-waiting to Queen Victoria and from 1902 to 1905 vice-chamberlain to King Edward VII's household. He fought in the Boer War with the Imperial Yeomanry in 1900. He succeeded to the baronage, that was created in 1869, on the death of an older unmarried brother in 1888.

Woods, The Rt. Rev. Frank Theodore. British churchman, died in Winchester, Feb. 27, 1932. He was born June 15, 1874, and graduated from Marlborough College, and also from Trinity College, Cambridge. He was ordained Episcopal minister in 1897 and served as curate of Eastbourne and Huddersfield until 1901 when he became vicar of St. Jude's at East Brixton. In 1903 he was appointed rector of St. Paul's at Kersel and served until 1908. From 1908 to 1916 he served as vicar of Auckland and of Bradford. In 1916 he was nominated and became Bishop of Peterborough and served there until 1924 when he was made Bishop of Winchester, the fourth most important see of the Church of England, and remained there until his death. He wrote *Interpreters of God* (1921); *The Great Fellowship* (1923); *Great Tasks and Great Inspirations* (1926); *The Prayer Book Revised* (1927); and *What Is God Like?* (1928).

Wrigley, William, Jr. American manufacturer and philanthropist, died in Phoenix, Ariz., Jan. 28, 1932. He was born in Philadelphia, Pa., Sept. 30, 1861, and was educated in public schools there. In 1882 he started his career by going in business with his father. He removed to Chicago, Ill., where he started in business for himself in 1891 under the name of William Wrigley, Jr., & Co. They manufactured chewing gum. In 1911 his company merged with the Zeno Manufacturing Co., being known as the William Wrigley, Jr. Company, of which he became president. He established chewing gum factories in Australia, Canada, Germany, and Great Britain. He was philanthropic, doing most of his charitable work through the Salvation Army. He owned the Chicago Cubs, National League baseball team, and the Los Angeles Club of the Pacific Coast League, and was widely known as a sportsman.

Wurts, Alexander Jay, died Jan. 21, 1932.

Yarrow, Sir Alfred, died Jan. 24, 1932.

Yi, Yehonala (Dowager Empress of China), died Feb. 5, 1932.

Young, John Wesley, died Feb. 17, 1932.

Zenker, Admiral Hans. German naval officer, died in Berlin, Aug. 19, 1932, aged 62. He entered the German Navy in 1889, and was promoted through the grades to admiral. His untiring efforts were mostly responsible for the strength of the German Navy before the World War. At the battle of Jutland he was in command of the *Van der Tann*, which sank the *Indefatigable*. In 1924 he was appointed chief of the general staff and served until 1928 when he resigned because of dissension caused by his supposedly having supplied 6,000,000 marks of the Reichswehr secret funds to the Phoebus Film Company.

Ziegfeld, Florenz, died July 22, 1932.

**NEGRI SEMBILAN**, nã'grê sêm'bê-lân'. See FEDERATED MALAY STATES.

**NEJD**. See ARABIA under *Kingdom of Saudi Arabia*.

**NEPAL**, nê-pôl'. An independent kingdom in the Himalayas between Tibet and British India, under British influence. The area is about 54,000 square miles, the population about 5,600,000. Capital, Kathmandu (80,000 inhabitants); reigning sovereign in 1932, Maharajadhiraja Tribhubana Bir Bikram. The government is a military oligarchy, under a partially hereditary Prime Minister. Prime Minister in 1932, Maj.-Gen. Sir Bhim Shamsheer Jang Rana. The commerce of Nepal on the northeast frontier of India amounted to about 70,000,000 rupees (\$25,550,000) annually. The revenue of the kingdom amounted to between 15,000,000 and 20,000,000 rupees annually.

**NETHERLAND EAST INDIES**. See NETHERLAND INDIA.

**NETHERLAND INDIA (NEDERLANDSCH INDIE)**. A possession of the Netherlands in the East Indies, comprising the group of islands lying between 6° North and 11° South latitude and between 95° and 141° East longitude. Capital, Batavia on the island of Java. According to an official announcement in 1932 from the throne at The Hague, Netherland India is the

preferred English name for the territories formerly known as Netherland East Indies.

**AREA AND POPULATION**. With an area of 733,494 square miles, Netherland India had a population of 60,731,025 at the preliminary census of 1930, compared with 49,350,834 at the 1920 census. The area, population, and population density of the various island groups in 1930 are shown in the accompanying table from the 1932 *Commerce Yearbook*.

NETHERLAND INDIA: AREA AND POPULATION BY ISLANDS

Group of islands	Area, sq. miles, 1930	Population, 1930	Density per sq. mile
Java and Madoera . . . . .	51,219	41,719,524	817
Sumatra . . . . .	163,138	7,661,399	47
Riouw-Lingga . . . . .	12,507	298,329	24
Bangka . . . . .	4,549	205,433	45
Biliton . . . . .	1,873	73,409	39
Borneo . . . . .			
West District . . . . .	56,838	827,898	15
South and East Districts . . . . .	149,277	1,366,633	9
Island of Celebes . . . . .			
Celebes . . . . .	38,200	3,087,335	81
Manado . . . . .	34,980	1,139,251	38
Molukka Islands and New Guinea . . . . .	192,453	893,030	5
Timor Archipelago . . . . .	24,537	1,656,636	68
Bali and Lombok . . . . .	4,072	1,802,146	443
Total . . . . .	733,494	60,731,025	83

The islands other than Java and Madoera (Madura), which are called the Outer Islands, had a 1930 population of 19,011,501. Of the population of Java and Madoera, 40,890,244 were natives, 635,662 were other Orientals (chiefly Chinese), and 193,618 Europeans. The population of the chief cities in 1930, with 1920 figures in parentheses, was: Batavia, 437,433 (253,818); Soerabaja (Surabaya), 336,814 (192,190); Semarang, 217,775 (158,036); Soerakarta, 163,013 (134,285); Bandoeng, 160,722 (94,800); Djokjakarta (Jogjakarta), 136,554 (103,711); Palembang, 109,069 (73,726). All these cities are in Java, except Palembang, in Sumatra.

**EDUCATION**. The number of children of school age (5 to 15 years) in 1920 was estimated at about 12,058,000. In 1929-30, the number of pupils enrolled in primary schools was 1,610,414 and in higher elementary and secondary schools 15,131. There were a number of teachers' training, professional, and private schools.

**PRODUCTION**. Agriculture, the chief industry, is supplemented by mining and manufacturing. In Java and Madoera in 1930 there were 18,856,000 acres, or 57.5 per cent of the total area, under cultivation by natives; 1,714,000 acres, or 5 per cent, under cultivation by European planters; and 7,408,000 acres of state forests. The area under cultivation in the Outer Islands was 3,348,000 acres, of which 1,300,000 acres were in European plantations. Production of the chief crops in 1931 and 1930, respectively, except as noted, was: sugar (Java only), 2,450,000 metric tons in 1931-32 (2,842,000 in 1930-31); rubber, 261,000 metric tons (244,000); coffee (European estates), 100,982,000 pounds (88,874,000); tea, 171,922,000 pounds (158,711,000); rice (Java and Madoera), 251,323,000 bushels (263,597,000); corn (Java and Madoera), 76,769,000 bushels (78,611,000); tobacco, 223,289,000 pounds in 1930; cassava roots (Java and Madoera), 5,500,000 metric tons (5,249,000); copra (exports), 792,951,000 pounds (827,885,000); cinchona (estate production), 20,525,000 pounds

(26,186,000); citronella oil (estate output), 1,041,000 pounds in 1930; palm oil, (estate output), 76,848,000 pounds (109,683,000); kapok, 45,665,000 pounds in 1930; sisal and agave (exports), 152,488,000 pounds (142,481,000). The islands produce about 95 per cent of the world's quinine output. In October, 1931, members of the largest agricultural association in Sumatra agreed upon a minimum daily wage of 14.0 cents (gold) for men and 12.8 cents for women.

Exports of crude rubber in 1932 amounted to 230,107 tons, as compared with 284,199 tons in 1931.

In accordance with the world tin agreement, tin production in the year ended June 30, 1932, was reduced to 27,814 metric tons (35,141 tons in 1930-31). The petroleum output was 35,500,000 barrels in 1931 and 41,729,000 in 1930. Gold, silver, diamonds, coal, natural gas, manganese ore, iodide of copper, and salt are other mineral products. Industrial establishments in 1930 included 188 sugar mills, 370 rubber factories, 250 tea factories, 694 rice mills, 230 factories for the preparation of vegetable and animal oils, and 256 factories operated on coffee and rubber estates. In 1931, however, many factories were closed, production was restricted, and wages were reduced from 10 to 15 per cent.

COMMERCE. Exports and imports in 1931 were one-third lower in value than in 1930, reaching the lowest level since 1918. Imports were valued at \$228,199,000 (\$343,881,000 in 1930) and exports at \$303,942,000 (\$466,159,000 in 1930), according to preliminary 1931 returns. The four leading imports in 1931 were: cotton piece goods, \$49,238,000 (\$69,199,000 in 1930); clean rice, \$35,481,000 (\$41,972,000); iron and steel, \$27,944,000 (\$38,815,000); and machinery and tools, \$27,890,000 (\$41,113,000). The principal 1931 exports were: sugar, \$50,762,000 (\$98,756,000 in 1930); rubber, \$32,973,000 (\$68,825,000); gasoline, \$32,682,000 (\$42,329,000); tea, \$24,110,000 (\$27,951,000); leaf and cut tobacco, \$23,364,000 (\$23,535,000); copra, \$19,507,000 (\$29,661,000). In 1930, the Netherlands supplied 16.2 per cent of the total imports; and Singapore, the United Kingdom, and the United States each about 10 per cent. Exports went chiefly to Singapore (21.2 per cent), the Netherlands (15.3 per cent), United States (12.2), and the United Kingdom (8.3 per cent). United States statistics show exports to Netherland India in 1932 of \$7,816,438 (\$15,323,083 in 1931) and imports from Netherland India of \$29,825,470 (\$34,239,657).

FINANCE. Government receipts and expenditures for the years 1930 to 1932 are shown in the accompanying table.

BUDGET RECEIPTS AND EXPENDITURES  
[In 1,000 florins, florin equals \$0.4020 at par]

Receipts	1930, <sup>a</sup> actual	1931, budget	1932, budget
Ordinary revenues, gross . . . . .	739,342	823,480	717,929
Extraordinary revenues . . . . .	14,631	10,504	8,588
Equivalent (\$1,000): ordinary revenues . . . . .	297,215	331,039	288,607
Expenditures			
Ordinary expenditures . . . . .	824,035	838,884	804,940
Extraordinary expenditures . . . . .	67,507	63,240	40,295
Equivalent (\$1,000): ordinary expenditures . . . . .	331,262	335,221	325,586

<sup>a</sup> Provisional.

Preliminary returns for 1931 indicated a deficit of 180,000,000 florins (\$72,360,000). A deficit of about 154,000,000 florins was forecast for 1932.

The public debt on Dec. 31, 1931, stood at 1,294,474,000 florins (\$520,379,000), of which 1,155,866,000 florins (\$464,658,000) was funded. The Netherland India florin, which is pegged to the Netherland florin, exchanged at \$0.4023 in both 1931 and 1930.

COMMUNICATIONS. Railway lines at the end of 1930 aggregated 4634 miles, of which 2719 miles were state owned and operated. Gross revenues of the state lines declined to 56,497,062 florins (\$22,728,800) in 1931 from 70,386,996 florins (\$28,316,700) in 1930. There were (1930) 35,900 miles of highways, including 24,850 miles of macadam. In 1931, a weekly air service to the Netherlands replaced the fortnightly schedule, and Medan, a town in northeastern Sumatra, was added to the Batavia-Singapore schedule. Vessels entering the ports in the foreign trade during 1931 numbered 17,547, of 10,622,000 net registered tons, as against 19,965, of 12,273,000 tons, in 1930.

GOVERNMENT. Executive authority is vested in a governor-general, who is assisted by an advisory council of five members. Both the Governor-General and members of the Council are nominated by the Queen of the Netherlands. Legislative authority is shared between the Governor-General and the Volksraad, or legislative assembly. The chairman of the Volksraad is appointed by the Crown. Part of the members are appointed by the Government and part are elected by the local councils; the Volksraad must consist of 30 native, 25 Dutch, and not more than 5 foreign-born subjects, such as Chinese. Administration is conducted through 3 provinces in Java and Madoera and through 4 governments and 18 residencies in the other possessions. There is a standing army of 35,000, composed mostly of natives. Governor-General in 1932, Dr. B. C. de Jonge, appointed May 8, 1931. See NETHERLANDS, THE.

NETHERLANDS, THE, OR HOLLAND. A constitutional monarchy of Europe, bounded by the North Sea on the west and north; on the east by Germany, and on the south by Belgium, Capital, The Hague; reigning sovereign in 1932, Queen Wilhelmina Helena Pauline Maria.

AREA AND POPULATION. With an area of 13,214 square miles, the Netherlands had a population of 7,920,388 at the census of 1930, a density of 599 per square mile. The estimated population in 1931 was 8,030,000. In 1920, the census population was 6,865,314. For the period 1927 to 1931, births averaged 178,192 annually and deaths 76,669, the excess of births being 101,524; the birth rate per 1000 inhabitants averaged 22.9 and the death rate 9.9. The population of the chief cities in 1930 was: Amsterdam, 752,003 (647,427 in 1920); Rotterdam, 581,899 (516,271 in 1920); The Hague (’s Gravenhage), 436,568 (354,987); Utrecht, 153,884; Haarlem, 119,159; Groningen, 105,005. Emigration declined to 365 in 1931 from 2756 in 1930.

EDUCATION. There is virtually no illiteracy. Enrollment in primary schools in 1930 was 1,243,960; secondary schools, 39,888; preparatory schools (1929), 10,645; universities, 12,061. The four public universities are at Leiden, Utrecht, Groningen, and Amsterdam.

PRODUCTION. Dutch national economy is based primarily on intensive agriculture and animal husbandry, but manufacturing and mining are important factors. In 1930, there were 2,254,000 acres of arable land, or about 27 per cent of the total area, 3,234,000 acres of permanent meadow.

and 596,000 acres of woods and forests. Production of the chief crops (in bushels) in 1931, with 1930 figures in parentheses, was: Wheat, 6,751,000 (6,056,000); rye, 14,167,000 (14,892,000); barley, 3,274,000 (4,017,000); oats, 19,784,000 (20,454,000); potatoes, 100,535,000 (111,691,000). The sugar beet crop in 1931 was 1,029,000 metric tons (2,138,000); beet sugar, in 1931-32, 167,000 tons (287,000). Livestock in 1930 included 2,366,000 cattle, 2,018,000 swine, 485,000 sheep, and 299,000 horses. Butter production in 1931 was 186,950,000 pounds (192,241,000 pounds in 1930); cheese, 292,881,000 pounds (301,810,000).

Coal is the chief mineral produced. The output in 1931 was 12,901,000 metric tons (12,211,000 in 1930); lignite, 122,000 metric tons (144,000); salt, 56,000 metric tons (49,807). Shipping launched during 1931 aggregated 120,000 gross tons (153,072 tons in 1930). The leading industries, in order of value of production in 1930, were shipbuilding, cotton textiles, machines, cars, etc.; flour milling, margarine, cocoa and chocolate, wool textiles. Diamond cutting is an important industry.

COMMERCE. While both imports and exports declined in value in 1931, there was an increase in the quantity of exports. Low prices affected food-stuff exports particularly. Imports were valued at 1,892,733,000 florins (\$760,879,000), as against 2,418,255,000 florins (\$972,139,000) in 1930; exports aggregated 1,311,814,000 florins (\$527,349,000), compared with 1,718,880,000 florins (\$690,990,000) in 1930. The 1931 imports, in order of importance, were iron and steel, textile manufactures; coal, coke and briquets; electric and other machinery, corn, chemicals, and medicines. Exports, in order of value, were coal, coke, and briquets; cheese, eggs, cotton piece goods, incandescent lamps, fresh vegetables, and condensed milk. Great Britain took 24.5 per cent of all the 1931 exports; Germany, 19.5 per cent; Belgium, 12.9; France, 8.9; and the United States, 2.7. Of the total imports, Germany supplied 32.7 per cent; Belgium, 10.3 per cent; Great Britain, 8.5; United States, 7.9; and France, 4.1 per cent. The United States in 1932 supplied imports to the value of \$45,406,706 (\$65,589,967 in 1931) and purchased exports valued at \$22,447,835 (\$34,951,987 in 1931).

Imports and exports in 1932 were 17 per cent lower by weight than in 1931, and by value were, respectively, 31 and 36 per cent lower.

FINANCE. The budget for 1933 was framed in anticipation of a considerable deficit. Ordinary expenditures were placed at 573,000,000 florins (florin equals \$0.4020 at par) and receipts at 518,000,000 florins, as against estimates of 593,659,000 and 544,268,000, respectively, in 1932. New taxation was expected to reduce the anticipated deficit to 22,000,000 florins. An additional deficit was expected in the capital account, capital expenditures being listed at 69,000,000 florins and receipts at 22,000,000 florins. There was a budget surplus of 23,000,000 florins in 1930 and an estimated deficit of about 26,000,000 florins in 1931. In 1932 actual ordinary government revenues, amounting to 401,000,000 florins, were 52,000,000 florins less than in 1931.

The public debt (all held internally) on Jan. 1, 1931, stood at 2,713,730,000 florins (about \$1,090,919,000), of which 2,386,010,000 florins (\$959,176,000) was funded. Gold in the Bank of the Netherlands on Oct. 17, 1932, was 1,034,897,-

000 florins and the note issue was 976,866,000 florins, compared to respective figures of 810,726,000 and 1,046,762,000 florins on the same date of 1931.

COMMUNICATIONS. Dutch railways are owned by two private companies, in each of which the government owns a controlling interest. The lines are operated under joint management. In 1930, with 2285 miles of line, the railways carried 59,038,000 passengers and 22,666,000 metric tons of freight. Gross receipts were 175,508,000 florins (\$71,055,000). There are 4660 miles of navigable rivers and canals. Highways extended 15,534 miles, of which 10,563 miles were macadam. In October, 1931, a regular weekly mail and freight service was inaugurated between Amsterdam and Batavia, Netherland India. Most of the telegraph and telephone lines are state owned and operated. The merchant marine on June 30, 1931, comprised 1429 vessels of 100 tons or more, aggregating 3,118,170 gross tons capacity. On Mar. 31, 1932, 123 vessels of 573,000 gross tons were laid up in Dutch ports for lack of business.

GOVERNMENT. Executive power is vested in the sovereign and legislative power conjointly in the sovereign and the Parliament, which is called the States-General and consists of two houses. The upper House is composed of 50 members, elected by the Provinces, and the lower House of 100 deputies, elected by direct suffrage. There is a consultative State Council of 14 members, appointed by the sovereign. The Ministry in 1932 was composed as follows: President of the Council of Ministers, Minister of the Interior and of Agriculture, Dr. Ch. J. M. Ruys de Beerenbrouck (Catholic), appointed Aug. 10, 1929; Foreign Affairs, Dr. F. Beelaerts van Blokland; Finance, Dr. D. J. de Geer; Justice, Dr. J. Donner; Colonies, S. de Graaf; Defense, Dr. L. N. Deckers; Public Works, Dr. P. J. Reymer; Labor Commerce, and Industry, Dr. J. Th. Verschuur; Instruction, Science, and Arts, Dr. J. Terpstra. The Cabinet is independent of Parliament, being appointed directly by the sovereign.

HISTORY. The trend toward closer economic cooperation between the Netherlands and Belgium during 1931 led observers to conclude that the formation of a Customs Union was not outside the realm of possibility. This tendency was again evidenced in 1932, particularly by the signing on June 20 by Holland, Belgium, and Luxemburg of a treaty for mutual tariff reductions. The countries agreed to impose no new duties and to lower existing tariff rates 10 per cent annually until a certain level was reached. While unconditional most-favored-nation treatment was abandoned, the treaty remained open to adhesion by any other state. All the signatories of the Oslo tariff convention—Holland, Belgium, Luxemburg, Denmark, Norway, and Sweden—were represented in negotiations at the Dutch Foreign Office in The Hague early in December, 1932. The attitude to be adopted by these countries at the projected world economic conference was discussed and they agreed to keep each other informed concerning their tariff negotiations with Great Britain.

The year 1932 was marked by the elimination of the Zuider Zee, through the completion on May 28 of the 18-mile dike connecting Wieringen with Friesland and converting the Zuider Zee into an inland lake. A total of 500,000 acres was to be reclaimed from the lake bed, leaving a small fresh-water lake only a quarter of the Zuider Zee's expanse, which was officially named



the IJsselmeer (Ysselmeer). The Zuider Zee was formed by an invasion of the North Sea 600 years earlier.

The government continued its efforts to cushion the effects of the economic depression upon industry and agriculture, although standing firmly for maintenance of the gold standard. In response to government support of wheat farmers, the wheat area in 1932 increased by 52 per cent. The acreage of sugar beets and potatoes was similarly influenced, while several other crops, lacking government aid, were sharply curtailed. Despite government relief projects, industrial unemployment increased sharply, from 56,000 on Dec. 31, 1931, to 152,000 on June 30, 1932. In September the government was induced by the rapidly growing budget deficit (then estimated at about \$40,000,000 for 1932) to consider a reversal of the policy of intervening in behalf of depression-stricken enterprises. Declaring that the nation was becoming less capable of competing in international markets because of its high standard of living, the government announced plans for curtailing public works, reducing unemployment benefits by 15 per cent, and cutting down the civil service.

These measures led to a series of anti-government demonstrations by the Social Democrats and trade unionists. There was a noticeable swing toward Communism among the laboring classes, marked by unprecedented demonstrations against the Crown at the opening of Parliament September 20. The rise of Communism led to the formation of a militant Fascist party, supporting the Queen, and toward the end of the year there were minor clashes between Communist and Fascist groups.

Although the gold reserve of the Bank of the Netherlands increased to 1,034,897,000 florins on Oct. 17, 1932, from 810,726,000 florins a year earlier, and the note issue declined during the same period to 976,866,000 florins from 1,046,762,000 florins, the dollar exchange rate of the florin declined somewhat during 1932. With a par value of \$0.4020, the florin exchanged at an average of \$0.4023 in 1931 and at \$0.4015 in December, 1932.

**NEUTRON.** See CHEMISTRY; PHYSICS.

**NEVADA.** POPULATION. According to the Fifteenth Census the population of the State in Apr. 1, 1930, was 91,058, as against 77,407 in 1920. The capital, Carson City, had (1930) 1596 inhabitants.

**AGRICULTURE.** The accompanying table shows the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod. Bu.	Value
Hay .....	1932	346,000	576,000*	\$2,625,000
	1931	213,000	252,000*	2,463,000
Potatoes ....	1932	2,000	300,000	147,000
	1931	3,000	261,000	204,000

\* Tons

**MINERAL PRODUCTION.** Mineral industry in the State suffered in 1931 especially from the curtailment of copper mining, which normally provided the chief part of its yearly mineral total. The mine production of copper fell to 72,634,497 pounds for 1931, from 109,203,512 for 1930, itself a year of greatly reduced production; the mine production of copper for 1932 fell further to 31,333,000 lbs., approximately. A decrease of some 30 per cent in the average price of copper for 1931, from that for 1930, caused the State's copper product to decline, by total value, to ap-

proximately \$6,600,000 for 1931, from \$14,196,457 for 1930. The mine production of copper for 1932, owing partly to a still lower average price, was valued at only \$1,911,310. Silver production declined to 2,562,071 fine ounces (1931) and further to about 1,553,000 (1932), from 4,178,903 (1930); in value to \$743,001 (1931) and \$437,950 (1932), from \$1,608,893 (1930). Gold production remained fairly stable, being 139,194 fine ounces for 1931 and 140,220 for 1930; in value, \$2,877,400 (1931), and \$2,898,600 (1930); for 1932, about \$2,728,680. Zinc, of which the production for 1930 was 14,584 short tons, in value \$1,400,070, likewise fell off for 1931. Zinc production for 1932 almost ceased, falling to some 500 tons. In the case of lead, of which 11,529 short tons, in value \$1,162,919 were produced in 1930, the same was true. Production was but 15,860,634 lbs., for 1931; and it sank to 1,260,000 lbs., approximately, for 1932.

The production of gypsum, for 1930, attained the quantity of 165,279 short tons, as against 225,514 for 1929, and the value of \$976,650 (1930), as against \$1,290,854 (1929). The total value of the State's mineral product, duplications eliminated, was \$24,075,375 for 1930; for 1929, \$36,775,743.

**FINANCE.** State expenditures in the year ended June 30, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments \$2,465,508 (of which \$473,395 was for local education); for interest on debt, \$51,306; for permanent improvements, \$2,071,475; total, \$4,588,289 (of which \$2,476,740 was for highways, \$431,606 being for maintenance and \$2,045,134 for construction). Revenues were \$4,929,093. Of these, property and special taxes furnished 30.2 per cent; departmental earnings and compensation to the State for officers' services, 3.3; sale of licenses, 23.0 (in which was included a gasoline sale tax that produced \$724,298). Funded debt outstanding on June 30, 1931, totaled \$1,021,000, of which \$400,000 was for highways. Net of sinking-fund assets, the debt was \$798,430. On an assessed valuation of \$207,851,131 the State levied in the year ad-valorem taxes of \$1,376,160.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 2131.20. During the year previous, over 22 miles of new line had been added.

**EDUCATION.** The organization of a new State board of education was reported in the *Journal* of the National Education Association; also the elimination of examinations for credentials of certification to teach in the elementary schools. For the academic year 1931-32 the number of those enrolled in the public schools was 22,764. Of these, 18,005 were in common schools or elementary grades, and 4759 were in high schools. The year's expenditures for support and maintenance of the public schools were: elementary schools, \$1,465,583; high schools, \$660,621. With regard to elementary education the figures were affected, as in other years, by the sparsity of population in many of the school districts. Salaries of teachers, by the year, averaged \$1394 for the elementary and \$1875 for the high-school positions.

**POLITICAL AND OTHER EVENTS.** Lieutenant Governor Griswold (Governor Balzar being at the moment absent from the State) proclaimed on November 1 a bank holiday to last until November 12. The interruption was thereafter



prolonged. This action, which had the effect of releasing banks in the State from the necessity to pay upon order, was in effect a moratorium upon the payment of all private debts. Its purpose was to prevent insolvencies during the reorganization of a chain of 11 banks headed by George Wingfield, which was announced simultaneously, and which affected some \$15,000,000 of deposits. Inability of livestock raisers to meet obligations was stated to have caused the trouble in the State. Not all the banks in Nevada availed themselves of the holiday.

**ELECTIONS.** The popular vote of November 8 was cast for the Democratic National ticket in the proportion of nearly 2½ to 1. The reported totals were: Roosevelt (Dem.), for President, 28,756; Hoover (Rep.), 12,674. P. A. McCarran (Dem.) was elected United States Senator, defeating Sen. Tasker L. Oddie (Rep.), who ran for reelection.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, Fred B. Balzar; Lieutenant-Governor, Morley Griswold; Secretary of State, W. G. Greathouse; Comptroller, Edward C. Peterson; Treasurer, George B. Russell; Attorney-General, Gray Washburn; Superintendent of Public Instruction, Walter Anderson.

**Supreme Court:** Chief Justice, Edward A. Ducker; Associate Justices, Ben W. Coleman, J. A. Saunders.

**NEVADA, UNIVERSITY OF.** A coeducational State institution of higher education in Reno, Nev., founded in 1874. There was an enrollment of 975 students for the autumn term of 1932, distributed as follows: College of arts and science, 662; normal school, 42; college of agriculture, 28; school of home economics, 44; school of mines, 48; school of civil engineering, 43; school of electrical engineering, 74; school of mechanical engineering, 34. There were 79 members on the faculty. The productive funds of the university amounted to \$335,437, and the income for the year to \$695,899. The library contained 54,210 volumes. President, Walter E. Clark, Ph.D., LL.D.

**NEW BRITAIN.** See BISMARCK ARCHIPELAGO and NEW GUINEA.

**NEW BRUNSWICK** (brūnz'wīk). One of the Maritime Provinces of Canada, bounded on the east by the Gulf of St. Lawrence and Nova Scotia, on the north by Quebec, and on the west by the State of Maine. The area is 27,985 square miles and the population at the census of 1931 was 408,219, compared with 387,876 in 1921. Chief cities, with (1931 census) populations: St. John, 47,514; Moncton, 20,689; and Fredericton, the capital, 8830. In 1930, there were 10,534 births, 4991 deaths, and 2761 marriages. Enrollment in the public schools in the same year totaled 85,635 and the average daily attendance was 67,156.

Agriculture, mining, manufacturing, fishing, and lumbering are leading industries. The acreage under field crops in 1931 was 804,167 acres and the value of production was \$10,651,000. About half of the 21,476 square miles of forest is owned by the Province. The production of lumber and other saw-mill products (1930) was valued at \$8,564,415. The fish catch for the same year, was valued at \$4,853,575. The provisional value of mineral production for 1931 was \$2,082,246. Coal, copper, antimony, and gypsum are mined. In 1930 the 924 manufacturing establishments, 18,422 employees, and a capital invest-

ment of \$63,468,262, produced manufactured produce valued at \$63,468,262 gross and \$29,570,998 net. Ordinary revenues and expenditures of the Province for the fiscal year ended Oct. 31, 1930, totaled \$6,513,285 and \$7,357,020, respectively.

Government is vested in a lieutenant-governor and a legislative assembly of 48 members elected for five years. The province sends 6 members to the Senate and 11 members (New Brunswick was to be entitled to 10 members as a result of redistribution based upon the 1931 census) to the House of Commons at Ottawa. Lieutenant-Governor in 1932, Charles D. Richards (Conservative). See CANADA.

**NEW CALEDONIA**, kâl'ê-dô'nî'â. A French colony, comprising the island of New Caledonia, the southernmost of the Melanesian Islands, lying about 875 miles east of Australia, and the following dependencies: Isle of Pines, Wallis Archipelago, Loyalty Islands, Huon Islands, and Fotuna, and Alofi. The island of New Caledonia has a length greater than 248 miles and an average width of 31 miles. Area, 8548 square miles. Population (1931 census), 57,165 including 17,215 whites. Capital, Nouméa with 10,226 inhabitants in 1926. In 1930 imports were valued at 144,721,403 francs (franc = \$0.0392) and exports at 80,898,413 francs. Ships totaling 112 of 237,111 tons entered and 109 of 233,791 tons cleared the ports during 1930. Governor in 1932, Joseph Guyon.

**NEWCOMB COLLEGE.** See TULANE UNIVERSITY.

**NEWELL, FREDERICK HAYNES.** An American civil engineer, the "father" of Federal reclamation, died in Washington, D. C., July 5, 1932. He was born in Bradford, Pa., Mar. 5, 1862, and was graduated from the Massachusetts Institute of Technology in 1885. After being engaged in mining in Colorado, and as assistant to the Ohio Geological Survey, he was appointed in 1888 assistant hydraulic engineer and in 1890 hydrographer of the U. S. Geological Survey. On the passage of the Reclamation Act of 1902, he became chief engineer in charge of the development of the Reclamation Service. In 1907, when this service was organized as a separate bureau of the Department of the Interior, he was made director. During his administration 26 projects were completed in whole or in part, the most notable of which were the Roosevelt and Shoshone Dams and the Gunnison Tunnel. In this capacity he was also a member of the U. S. Land and Inland Waterways commissions and of the National Advisory Board for Fuels and Structural Materials. On the reorganization of the Reclamation Service in 1914 he was made its consulting engineer. The following year he was called to the University of Illinois as head of its department of civil engineering. In 1919 he resumed the position of consulting engineer, being made president of the Research Service, Inc., in Washington. He became also in the same year president of the American Association of Engineers, which he had helped to found for the purpose of securing wider acquaintance and greater cooperation among engineers. He was a past secretary of the National Geographic Society, and of the American Forestry Association, one of whose aims at the time of its organization had been to arouse public interest in the proper conservation and utilization of natural resources, and was a recipient of the Cullum gold medal award by the American Geographical

Society. Among his works are: *Hydrography of the Arid Regions* (1891); *Agriculture by Irrigation* (1894); *The Public Lands of the United States* (1895); *Irrigation in the United States* (1902); *Hawaii: Its Natural Resources* (1909); *Principles of Irrigation Engineering* (1913); *Irrigation Management* (1916); *Engineering as a Career* (1916); and *Water Resources, Present and Future Uses* (1919).

**NEWFOUNDLAND**, nū'fūnd-lānd'. A large island at the entrance to the Gulf of St. Lawrence forming, with the Atlantic watershed of Labrador (q.v.), a dominion of the British Commonwealth of Nations. Capital, St. John's.

**AREA AND POPULATION.** The area of Newfoundland proper is 42,734 square miles and that of Labrador about 110,000 square miles. The estimated population of Newfoundland and Labrador in 1931 was 281,549, as compared with the 1921 census population of 263,033 (Newfoundland, 259,259; Labrador, 3774). St. John's had an estimated population in 1930 of 58,800. The population of the other towns at the 1921 census was: Bonavista, 4052; Harbour Grace, 3825; Grand Falls, 3769. For the years 1927 to 1931, births averaged 6766 annually and deaths 3871, the excess of births being 2895. For the same period birth and death rates per 1000 inhabitants were 24.8 and 14.2, respectively. Education is in the hands of religious denominations. There were 1156 schools, with 60,580 pupils, in 1929.

**PRODUCTION.** Fishing, the main industry, is supplemented as a source of national income by farming, mining, manufacturing, and lumbering. The codfish catch in 1931 totaled 124,544,000 pounds (115,360,000 pounds in 1930). The 1930 seal catch was 241,236; whales, 319; the production of whale oil, 659,000 gallons. The whaling fleet did not operate in 1931 and seal fishing was poor. There are about 188 acres of farm land, including 89,000 acres of improved land; also 9,600,000 acres of forests. Hay, potatoes, turnips, and cabbage are the chief crops. Blueberries and lingon berries are exported, chiefly to the United States. Iron ore is the chief mineral product; the output of the Wabana (Bell Island) mines in 1931 was 846,300 short tons (1,319,300 in 1930). Lead and zinc concentrates (1931) totaled 123,000 short tons; pulp and paper, 295,000 short tons (287,000 in 1930). Three new hydro-electric installations were completed during 1931.

**COMMERCE.** For the fiscal year ended June 30, 1931, imports declined 21 per cent in value and exports 20 per cent from the previous year. The 1930-31 imports were valued at \$25,262,000 (\$31,871,000 in 1929-30) and exports at \$32,909,000 (\$39,193,000 in 1929-30). Machinery, flour, and coal were the leading imports, in order of value, and paper (\$17,135,000), dried codfish (\$7,725,000), and iron ore were the principal exports during 1930-31. Canada in 1930-31 furnished 42.3 per cent of the total imports; the United States, 36.7 per cent; and the United Kingdom, 16.6 per cent. Exports went chiefly to the United States (32.8 per cent), United Kingdom (28.3 per cent), and Canada (6.9 per cent).

**FINANCE.** Gross governmental revenues for the 1930-31 fiscal year totaled \$9,056,000, as against \$11,579,000 in 1929-30, while expenditures were \$12,899,000 and \$11,434,000, respectively (figures in Canadian dollars). The gross funded debt on June 30, 1931, totaled \$87,592,000, as against \$82,592,000 on June 30, 1930. The floating debt, consisting of temporary bank loans and

credits, amounted to \$6,453,000 (Canadian) on Dec. 31, 1931. A temporary war loan of £400,000 from Great Britain was outstanding also. Service of the debt absorbed \$4,328,000 in 1930-31. For financial developments during 1932, see *History*. The unit of currency is the gold Newfoundland dollar, equivalent to the United States dollar at par.

**COMMUNICATIONS.** Railways in 1931 extended 974 miles, of which 905 miles belonged to the government. In the same year, the railways carried 250,000 passengers and 392,000 tons of freight, gross receipts amounting to \$3,180,000. Highways extended over 1000 miles, of which about 880 miles were passable for motor cars. During 1930-31, 1454 vessels of 1,269,687 net registered tons entered Newfoundland ports in the foreign trade.

**GOVERNMENT.** Executive power is vested in a governor, assisted by an executive council of not more than 10 members, and legislative power, in an appointive council of not more than 24 members and an elected house of representatives of 40 members. Women have the franchise. Sir John Middleton was succeeded as Governor and Commander-in-Chief in 1932 by Admiral Sir David Murray Anderson. At the beginning of 1931 the composition of the House of Assembly was: Liberals, 30; Conservatives, 10. The Prime Minister and Minister of Justice was Sir Richard A. Squires (Liberal). For changes in 1932, see *History*.

**HISTORY.** Newfoundland during 1932 experienced a series of violent political disorders as a result of the acute economic and financial crisis which in 1931 led to the establishment of a semi-receivership by a syndicate of Canadian banks (see 1931 YEAR BOOK). A mob of 900 unemployed, aroused by a reduction of the monthly food ration, smashed its way into a meeting of the Executive Council on February 11, wrecked the council chamber, and was restrained from violent assault upon the Prime Minister only by his promise to increase the food ration. Shortly afterward, Peter J. Cashin, Minister of Finance and Customs, resigned. On February 14 and 16 he charged in the Assembly that the Prime Minister had falsified minutes of the Council and manipulated public funds. He also accused two other members of the Squires Government of financial irregularities.

The government sidetracked the Opposition's demand for an investigation by referring some of the charges to the Governor. Public unrest increased, however, and numerous public meetings reiterated the demand for investigation of the ministry's alleged financial misconduct. There followed on April 5 a demonstration of some 10,000 men and women of all classes before Parliament building. Angered by police clubbing and by delay in securing a hearing, the crowd stormed the building, wrecked its offices and furniture, and roughly handled the Prime Minister. While war veterans, enrolled as civil guards, prevented further trouble, the Governor sent to Bermuda for a British warship and on April 7 announced that a royal commission would be appointed to investigate the entire affair.

The Squires Government later dissolved the Legislature and called a new election for June 11, at which it was decisively defeated. Former Prime Minister F. C. Alderdice of the United Newfoundland party and his supporters won 21 out of the 27 seats contested. Both Sir Richard

Squires and his wife were defeated; only two of his Liberal followers were returned to office. Mr. Alderdice had pledged himself to appoint a committee to inquire into the desirability of placing Newfoundland under a form of commission government for a term of years. On June 29, he formed a new ministry, in which he held the Finance and Customs portfolio as well as the Premiership. Other members were: Secretary of State, J. C. Puddester; Justice, L. E. Emerson; Public Works, H. W. Quinton; Posts and Telegraphs, William C. Winsor; Lands and Fisheries, William J. Walsh.

Despite the change of government, there was a new outburst of rioting and looting on July 25 and 26. This was ended when the syndicate of Canadian banks announced that they would advance a loan of \$100,000 for a programme of unemployment relief works. The rioting occurred while Prime Minister Alderdice and J. H. Pen-son, Controller of the Treasury, were attending the Ottawa sessions of the Imperial Economic Conference. There they secured a British promise to purchase increased quantities of iron ore from the Belle Island mines in return for preferential tariff rates on British imports.

The financial control of Newfoundland by Canadian interests was further increased in connection with a \$2,500,000 loan raised by the Alderdice Government on July 2. The Imperial Oil Company of Canada subscribed for \$1,750,000 of the bonds in return for a monopoly of the oil business in Newfoundland. Despite these loans and drastic economies, the government found it impossible to raise funds to meet interest payments on the public debt falling due Jan. 1, 1933. Accordingly the British and Canadian governments intervened to prevent default. On December 29, Prime Minister Alderdice announced that each had agreed to advance half of a \$1,250,000 loan. In return, Newfoundland agreed to the appointment of another commission, consisting of two members nominated by Great Britain and one by Newfoundland, to overhaul the Dominion's fiscal system. The resignation of Sir John Middleton as Governor and Commander-in-Chief as accepted by the King in August, took effect in November.

**NEW GUINEA**, g'n'ē. The name applied to both an island in the East Indies and to those territories in the western Pacific, including a portion of the island, which were transferred from Germany to Australia, under mandate of the League of Nations, by the Treaty of Versailles. The area of the island of New Guinea, which ranks after Australia and Greenland as the third island in size in the world, is estimated at from 310,000 to 335,000 square miles, and the population at slightly below 1,000,000. The northeastern portion, formerly Kaiser Wilhelmsland, is included in the Australian mandated area; the section west of 141° E. longitude belongs to Netherland India; and the southeastern part constitutes the colony of Papua, or British Guinea, also administered by Australia. See **NETHERLAND INDIA**; **PAPUA**.

**TERRITORY OF NEW GUINEA**. The Territory of New Guinea, under Australian mandate, consists of that section of the island known as North Eastern New Guinea, the Bismarck Archipelago (New Britain, New Ireland, Lavongai, Admiralty Islands, and North-Western Islands), and part of the Solomon Island group. Area, 91,000 square miles. The estimated native population

was 520,000 and the non-indigenous population on June 30, 1930, numbered about 4155. In 1930-31 imports totaled £782,765 (less specie); exports, £919,420; total revenue, £290,234; expenditure, £293,378; public debt, £101,740. The territory is administered by an Australian official from the seat of government at Rabaul, New Britain. Administrator in 1932, Brig.-Gen. E. A. Wisdom.

**NEW HAMPSHIRE**. **POPULATION**. According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 465,293, as against 443,083 in 1920. Manchester, the most populous city, had (1930) 78,384 inhabitants; Concord, the capital, 25,228.

**AGRICULTURE**. The following table shows the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod Bu.	Value
Hay	1932	340,000	306,000*	\$3,968,000
	1931	348,000	381,000*	4,477,000
Potatoes	1932	8,000	1,320,000	686,000
	1931	9,000	1,485,000	906,000
Corn	1932	14,000	560,000	246,000
	1931	13,000	598,000	347,000

\* Tons

**MINERAL PRODUCTION**. Stone, largely of superior grade, furnished nearly one-half of the State's mineral production of 1930, as reckoned by value. The production of stone rose to 150,800 short tons (1930), from 135,640 (1929); by value, to \$1,540,591 (1930), from \$1,153,465 (1929). The value of the State's clay products (brick and tile) was \$928,138 for 1930; for 1929, \$900,388. There was a diminished production of crude feldspar, attaining 16,517 long tons for 1930, as against 30,964 for 1929; and a value of \$132,342 for 1930, as against \$231,810 for 1929. The total value of the State's mineral product was \$3,337,169 for 1930; for 1929, \$3,725,951.

**TRANSPORTATION**. The total number of miles of railroad line under operation on Jan. 1, 1932, was 1165.46.

**EDUCATION**. While salaries of teachers were reduced in 1932 among some of the school districts, and while increases of salary were quite generally suspended, it was reported that economies were limited to such measures as would not directly reduce the educational activity of the public schools.

**FINANCE**. State expenditures in the year ended June 30, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments, \$10,440,179 (of which \$599,557 was for local education); for interest on debt, \$273,701; for permanent improvements, \$2,340,426; total, \$13,054,306 (of which \$7,444,522 was for highways, \$5,393,964 being for maintenance and \$2,050,558 for construction). Revenues were \$11,397,977. Of these, property and special taxes furnished 28.8 per cent; departmental earnings and compensation to the State for officers' services, 10.5; sale of licenses, 48.9 (in which was included a gasoline sale tax that produced \$2,819,760). Funded debt outstanding on June 30, 1931, totaled \$6,515,636, of which \$3,500,000 was for highways. Net of sinking-fund assets, the debt was \$6,005,130. On an assessed valuation of \$679,523,243 the State levied in the year ad valorem taxes of \$2,998,073.

**CHARITIES AND CORRECTIONS**. A State Board of Public Welfare, under the system operating in 1932, was the chief administrative organization

of the State in matters affecting the care or custody of persons. This board consisted of two ex-officio members, who were the Governor and the secretary of the State Board of Health, and of five other members, of whom one each year was appointed by the Governor and Council. The board, serving without compensation, had for its executive aid a paid secretary, with a staff. Its duties included the supervision of neglected, delinquent, and defective children; assistance in the enforcement of laws to protect children; inspection of charitable and of correctional institutions of the State and of the counties; and functions relative to mothers' aid, probation, parole, prevention of the marriage of mental defectives, and special statutory aid to the deaf, the blind, and the aged. An effort to reorganize the State's system of probation was in progress, but was impeded by the need for economy in the State's accounts. A statute providing for the public assistance of the needy aged, which went into operation on September 1, 1931, operated in 1932 in a limited way, without the aid of special county appropriations, these having been previously made. The State-conducted institutions of care or custody were: New Hampshire State Hospital (mental patients), at Concord; Laconia State School (feeble-minded children), at Laconia; New Hampshire State Industrial School (committed minors), Manchester; New Hampshire State Prison, Concord; New Hampshire Soldiers' Home, Tilton; New Hampshire State Sanatorium (tuberculosis), Glenciff. The State maintained sufferers from tuberculosis in other institutions, besides its own. The employment of State prisoners by a company manufacturing chairs was reported in 1932 to have ceased, by reason of the Federal restrictions against convict-made goods in interstate commerce.

**POLITICAL AND OTHER EVENTS.** To succeed the late Fletcher Hale, Republican Representative from the first Congress district, who had died in 1931, that district elected on January 5 William N. Rogers, Democrat. Rogers, who had been elected in 1922 and had served one term, ran as an opponent of prohibition, and of Republican National policies, and defeated former Governor John H. Bartlett. The State maintained its credit at a high rating, being able to issue \$1,200,000 of its highway and general improvement notes in June to yield less than 4¼ per cent. The nominating primaries on September 13 resulted in the Republican renomination of Senator Moses and Governor Winant, and in the Democratic choice of former Governor Frank H. Brown and of Henri T. Ledoux as candidates, respectively, for Senator and Governor.

**ELECTIONS.** The State remained Republican by a narrow margin on November 8 in its vote for the National candidates. The totals were: for Hoover (Rep.), 103,629; for Roosevelt, (Dem.), 100,608. United States Senator George H. Moses, Republican and prominent Senate figure, was defeated for reelection, former Governor Fred H. Brown, Democrat, winning the seat. John G. Winant (Rep.), was reelected Governor, defeating Henri T. Ledoux (Dem.). One Republican and one Democrat were elected Representatives to the Seventy-third Congress.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, John G. Winant; Secretary of State, Enoch D. Fuller; Treasurer, Charles T. Patten; Attorney-General, Francis

W. Johnston; Commissioner of Education, James N. Pringle.

**Supreme Court:** Chief Justice, Robert J. Peaslee; Associate Justices, Leslie P. Snow, John E. Allen, Thomas L. Marble, Oliver W. Branch.

**NEW HAMPSHIRE, UNIVERSITY OF.** A co-educational State institution of higher learning in Durham, N. H., founded in 1866 in Hanover, N. H., and operated as coequal with Dartmouth College, transferred to Durham as State College in 1893, and made State university in 1923. It consists of a college of liberal arts, a college of agriculture, a college of technology, a graduate school, an agricultural experiment station, and an extension service in agriculture and home economics. The 1932-33 enrollment was 1655 of whom 1207 were men and 448 women. The summer session had a registration of 428. The faculty and research and extension staff totaled 237. The endowment amounted to \$1,209,079 and the income for the year was \$1,682,125. There were completed and occupied Scott Hall, a dormitory accommodating 119 women, and Hood House, a well-equipped and home-like infirmary given by Charles H. Hood, '80. The administration of and instruction in the college of agriculture were re-organized, and upperclassmen requirements were amended with a view to securing improvement in the quality of scholastic effort in the junior and senior years. The library contained 73,195 volumes. President, Edward Morgan Lewis, A.M., LL.D., Litt.D.

**NEW HEBRIDES,** hēb'ri-dez. A group of islands about 1400 miles east of Australia and 700 miles west of the Fiji Islands, including Espiritu Santo, Malekula, Efate or Sandwich Island, Epi, Erromanga, Tanna, and Aneityūm. The group is under the joint administration of France and Great Britain, according to the convention of 1906. The area is approximately 5700 square miles and the population in 1930 was 45,808 including 1205 whites (951 French and 254 British), and 4603 Asiatics. Port Vila, the capital had 1200 inhabitants.

**NEWHOUSE GALLERIES.** See ART EXHIBITIONS.

**NEW IRELAND.** See BISMARCK ARCHIPELAGO.

**NEW JERSEY. POPULATION.** According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 4,041,334, as against 3,155,900 in 1920. Newark had (1930) 442,337 inhabitants; Jersey City, 316,715; Paterson, 138,513; Trenton, the capital, 123,356.

**AGRICULTURE.** The accompanying table shows the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod. Bu.	Value
Potatoes . . . .	1932	45,000	7,155,000	\$3,508,000
	1931	41,000	7,831,000	4,699,000
Hay . . . . .	1932	214,000	332,000*	4,232,000
	1931	220,000	366,000*	5,181,000
Corn . . . . .	1932	165,000	6,930,000	2,633,000
	1931	170,000	6,970,000	3,485,000
Peaches . . . . .	1932	1,776,000	1,243,000	1,450,000
	1931	2,230,000	1,450,000	1,030,000
Sweet potatoes	1932	12,000	1,560,000	1,404,000
	1931	13,000	1,950,000	3,021,000
Apples . . . . .	1932	3,640,000	8,264,000	
	1931	3,400,000		

\* Tons.

**MINERAL PRODUCTION.** The State's chief mineral industry, the output of clay products, re-

mained in 1930 almost evenly divided between the production of brick and tile and that of pottery; the latter classification, however, yielded the lead to brick and tile, in point of total value of the year's product. Both suffered much diminution, pottery more particularly. The value of the clay products as a whole fell to \$29,098,326 for 1930, from \$39,417,968 for 1929. The coking industry, operating by the by-product process with coal from outside the State, but not wholly dependent upon the iron-and-steel industries, was well maintained in 1931, the quantity of coke produced in that year being 930,912 short tons, as against 918,814 for 1930; the totals by value, not tabulated by the Federal Bureau of Mines, approximated or exceeded \$5,000,000 for either year. The zinc mines produced 97,626 short tons of zinc in 1930, as against 103,740 in 1929; while the value of the State's yearly product of zinc was not separately tabulated by the Bureau of Mines, the New Jersey product approximated for 1930 one-fifth of the total by quantity for the Union, for which total the value was stated to be \$46,979,000. Activity in the extensive iron-ore deposits of New Jersey declined, for 1931, though not more severely than for the Union as a whole. The quantity of iron ore produced fell to 239,722 long tons (1931) from 391,528 (1930); the value, to \$984,021 (1931), from \$1,632,827 (1930). The production of stone, chiefly of the less expensive grades, attained 2,702,420 short tons for 1930, and the value of \$3,907,281. The total value of the State's mineral product, duplications eliminated, was \$57,206,357 for 1930; for 1929, \$71,891,861.

**FINANCE.** State expenditures in the year ended June 30, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments \$60,921,047 (of which \$21,280,628 was for local education); for conducting public-service enterprises, \$768,579; for interest on debt, \$3,830,310; for permanent improvements, \$43,300,527; total, \$108,820,463 (of which \$44,216,301 was for highways, \$8,527,304 being for maintenance and \$35,688,997 for construction). Revenues were \$97,544,770. Of these, property and special taxes furnished 54.4 per cent; departmental earnings and compensation to the State for officers' services, 5.9; sale of licenses, 26.4 (in which was included a gasoline sale tax that produced \$7,191,710). Funded debt outstanding on June 30, 1931, totaled \$118,216,000, of which \$70,000,000 was for highways. Net of sinking-fund assets, the debt was \$56,872,086. On an assessed valuation of \$6,818,586,547 the State levied in the year ad valorem taxes of \$37,413,015.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 2284.96. During the year previous, 13.86 miles had been abandoned.

**EDUCATION.** There were enrolled in the public day schools of the State, in the academic year 1931-1932, 812,891 pupils. Of these, 45,267 were in kindergartens, 585,301 in elementary schools, 41,752 in junior high schools, 22,797 in senior high schools, 108,989 in four-year high schools, and 8785 in special classes. The year's expenditures for public-school education totaled \$114,975,575, of which \$18,036,410 was for debt service. The total did not include capital outlays to the aggregate of \$11,516,355, defrayed chiefly from issues of bonds, nor \$4,269,587 paid out by districts to other districts for tuition. The sal-

aries of 28,496 teachers averaged \$2,155.21 a year. The requirement, for those applying in 1932 for certificates to teach in elementary schools was that they should have had three years training in normal school.

**CHARITIES AND CORRECTIONS.** Central functions of the State with regard to dependents, defectives, and delinquents, were performed in 1932 by the Department of Institutions and Agencies, organized in 1918. Its duties included coordination of the work of welfare institutions and agencies, establishment of general policies for them, supervision of their management and expenditure, preparation of their budget requests, the furnishing of expert staffs' services to local institutions, and inspection, when deemed desirable, of private, municipal, and county institutions. The Department included a non-political Board of Control composed of nine non-salaried members, chosen by Governor's appointment to serve terms of nine years expiring in rotation. This board held the power to appoint boards of managers for the several State institutions, subject to the Governor's approval, and to name the commissioner of the department. Examination and classification of persons in State institutions, charge of paroles, medical matters, inspection of non-State institutions, relief for the aged, and other functions were distributed respectively among divisions of the department.

The institutions directed by the department, with their populations of Sept. 30, 1932, were: for the insane, Greystone Park State Hospital (4164), Trenton State Hospital (2676), Holmdel (1058); for the feeble-minded, State School at Vineland (females, 1216), State Colony at New Lisbon (males, 743), State Colony at Woodbine (males, 527), North Jersey Training School at Totowa (females, 515); State Village for Epileptics, at Skillman (1252); Sanatorium for Tuberculous Diseases, Glen Gardner (462), State Prison, Trenton (1439), and State Prison farms at Leesburg (234), and Bordentown (225); reformatories, at Rahway (males, 791), Annandale (males, 386), and Clinton (females, 221); for juvenile delinquents, State Home for Boys at Jamesburg (548), and at Trenton (285); Home for Disabled Soldiers, Menlo Park (72); Home for Disabled Soldiers, Sailors, Marines, and Their Wives and Widows, Vineland (224). The State Board of Children's Guardians had charge of 30,317 cases.

**LEGISLATION.** The State Legislature convened in regular annual session on January 12 and adjourned on June 12, having broken its session by a recess for the greater part of May. It was occupied chiefly with measures to meet exceptional conditions and needs in public finance. The budget, as passed, carried only a little over \$25,000,000 for the ensuing year. Power was given the Governor to limit actual expenditures from departmental appropriations according to his judgment and to reduce or stagger public employment. The sum of \$10,000,000, to be reimbursed to the State as its share in the outlay for the Camden-Philadelphia Bridge, was converted into funds for the relief of the needy. The power was given to all municipalities to grant discounts on payments of taxes received in advance of the dates when due, at the rate of  $\frac{1}{2}$  per cent a month. Municipalities were likewise empowered, for one year, to sell their bonds at retail "over the counter" in cases where they

could not find purchasers for entire offerings. Instead of providing the full \$18,000,000 to be allowed yearly to the State Highway Commission for authorized construction, the Legislature authorized the issue of \$7,500,000, in State bonds, to raise money to be used by the commission specifically for work on the viaduct between Jersey City and Newark. A reciprocity measure, allowing unlimited duration of the use of the roads to cars from States allowing a like privilege, was enacted. The ratification of the proposed Federal Constitutional amendment to change the dates of inaugurations and sessions of Congress was voted.

**POLITICAL AND OTHER EVENTS.** A. Harry Moore was inaugurated as Governor on January 19. He immediately initiated a set of plans, legislative and administrative, for meeting the difficulties in the finances of the State and its political subdivisions. Among these were: Surrender to the local governments of large funds acquired by the State for special purposes; the abolition or merging of some 129 State governmental agencies; and the postponement of State projects of construction, with the purpose of temporarily avoiding many millions in State outlay. These proposals were adopted by the Legislature only in part. The receipt of over \$1,000,000 in payment of the inheritance tax on the estate of Dwight W. Morrow wiped out a slight prospective deficit in the State's own budget and left it with a credit balance at the end of the fiscal year on June 30. Extensive State aid was provided in the latter part of 1932 to municipalities, to enable them to meet expenditure for the provision made for their destitute, under regulations announced by a State Director of Emergency Relief.

Because it was alleged that a receiver appointed by him for the affairs of the Earl Radio Corporation had embezzled funds of that concern, the resignation of Vice Chancellor Alonzo Church from the State bench was demanded by Chancellor Walker in April; Church later resigned, on September 16. The system of assigning employment according to a card index of members of the Newark local of the Ironworkers' Union, by authority of union officials, was enjoined by Vice Chancellor Berry on March 28 as having been used to the oppression of members. The city of Newark met with financial difficulty because of deficient tax receipts early in the year. It obtained loans in excess of \$5,000,000 from bankers, but only on condition of reducing its budget. This required the cutting of city salaries. The city commission accordingly passed on July 3 an ordinance reducing salaries from 1 to 15 per cent, according to a schedule to operate until the end of 1933.

A crime that drew nation-wide attention was committed in the State. The infant son of Col. Charles A. Lindbergh, the aviator, was kidnapped from the Lindbergh residence near Hopewell on the evening of March 1. No trace of the criminal was found, despite a search in many States. The body of the child was found on May 12 in woods some 5 miles from the spot from which it had been taken.

**ELECTIONS.** The vote of the State on November 8 was cast for the Democratic National ticket by a moderate margin. For President, the totals were: Roosevelt (Dem.), 806,394; Hoover (Rep.), 775,406. W. Warren Barbour (Rep.), interim appointee member of the United States Senate,

was elected Senator for the balance of the term expiring March 4, 1937, defeating Percy H. Stewart (Dem.). Eleven Republicans and three Democrats were elected as Representatives to the Seventy-third Congress. Approval was given by popular referendum to proposals that the State act for the enforcement of prohibition be repealed, that an authorized total of bonds that might be issued for the construction of roads be reduced by \$20,000,000, and that a like sum of \$20,000,000 in bonds be issued to provide means for State relief to the destitute. No State officers were elected.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, A. Harry Moore; Secretary of State, Thomas A. Mathis; Treasurer, Albert C. Middleton; Comptroller, John McCutcheon; Attorney-General, William A. Stevens; Commissioner of Education, Charles H. Elliott.

**Judiciary:** Chancellor, Edwin R. Walker (died), Luther A. Campbell (succeeded by appointment); Supreme Court, William S. Gummere (Chief Justice), Thomas W. Trenchard, Charles W. Parker, Luther A. Campbell (until appointed Chancellor), Frank T. Lloyd, (Clarence E. Case, Joseph L. Bodine, Ralph W. E. Donges, Thomas J. Brogan, Harry Heher.

**NEW JERUSALEM, CHURCH OF THE.** An organization which is also known as the New Church, and popularly called Swedenborgian because based upon the statement of Christianity set forth in the writings of Emanuel Swedenborg, Swedish scientist, philosopher, theologian, and seer (1688-1772). The two bodies that now compose it in the United States are the General Church of the New Jerusalem and the General Convention of the New Jerusalem, while in Great Britain the General Conference of the New Church corresponds to the General Convention in the United States.

**THE GENERAL CHURCH OF THE NEW JERUSALEM.** This body was organized in 1897 under episcopal government with headquarters in Bryn Athyn, Pa., where the church maintains a cathedral church of unusual architectural interest; the Academy of the New Church, with departments from kindergarten to junior college; and theological and normal schools, with an enrollment of 318 in 1932. The General Church, at the beginning of 1932, had a world-wide membership of 2047, with 3 bishops 36 pastors, 2 ministers, and 24 societies, 15 of which were in the United States and Canada, 2 in England, and others in France, Belgium, Holland, Sweden, Natal, New South Wales, and Brazil. A native mission was maintained in South Africa. Among the periodicals published by the General Church are *New Church Life*, its official monthly magazine; *New Church Sermons*, *The Journal of Education*, and the *Bulletin*.

**THE GENERAL CONVENTION OF THE NEW JERUSALEM IN THE UNITED STATES OF AMERICA.** In 1932, the General Convention consisted of about 6000 communicant members. Educational institutions included a theological school in Cambridge, Mass., a junior college in Urbana, Ohio, and the Waltham School for Girls in Waltham, Mass. Periodicals included the *New-Church Messenger*, weekly, Brooklyn, N. Y.; the *New-Church Review*, quarterly, Boston, Mass.; the *Swedenborg Student*, monthly, New York City; the *New-Church League Journal*, monthly, Boston, Mass.; *The Helper*, weekly, Philadelphia, Pa.; and *Sun-*

*day Afternoons*, weekly, Boston, Mass. The convention held its 111th annual meeting at its church in Chautauqua, N. Y., June 20-23, 1932. Officers elected were: President, the Rev. Fred Sidney Mayer, Baltimore, Md.; vice-president, Ezra Hyde Alden, Philadelphia, Pa.; treasurer, Albert P. Carter, Boston, Mass.; and secretaries, B. A. Whittemore, Boston, and J. Woodruff Saul, Chicago, Ill.

**NEW MEXICO. POPULATION.** According to the Fifteenth Census, the population of the State on April 1, 1930, was 423,317, as against 360,350 in 1920. Santa Fe, the capital, had (1930) 11,176 inhabitants.

**AGRICULTURE.** The accompanying table shows the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod Bu.	Value
Cotton	1932	112,000	76,000 <sup>a</sup>	\$2,470,000
	1931	117,000	101,000 <sup>a</sup>	2,909,000
Hay	1932	190,000	339,000 <sup>b</sup>	2,525,000
	1931	185,000	884,000 <sup>b</sup>	4,161,000
Corn	1932	297,000	3,267,000	1,045,000
	1931	283,000	4,528,000	1,766,000
Wheat	1932	251,000	1,754,000	614,000
	1931	387,000	6,966,000	2,488,000
Grainsorghums	1932	392,000	3,763,000	677,000
	1931	356,000	7,832,000	1,723,000
Dry beans	1932	168,000	408,000 <sup>c</sup>	691,000
	1931	161,000	644,000 <sup>c</sup>	947,000

<sup>a</sup> Bales. <sup>b</sup> Tons. <sup>c</sup> 100-lb. bags.

**MINERAL PRODUCTION.** Diminished production of the normal chief minerals, copper and coal, was offset to some extent in 1931 by increased production of petroleum. The output of petroleum rose to 15,227,000 barrels, for 1931, from 10,189,000 for 1930, which in turn represented a heavy increase over 1929; because of a fall in petroleum prices the total for 1931 attained a value of but \$6,490,000, as against \$9,180,000 for 1930. Petroleum nevertheless increased its lead in 1931 as the greatest single component of the yearly total of the State's mineral product by value. The production of natural gas, while not yet available as to 1931 in the tables of the Federal Bureau of Mines, had increased greatly to 9,497,000 M cubic feet for 1930, from 3,054,000 M for 1929, and by value to \$1,273,000 for 1930, from \$536,000 for 1929. A heavy increase in the quantity of gasoline derived from natural gas, to 17,775,000 gallons for 1931, from 3,663,000 for 1930, afforded favorable indication as to the activity of the natural-gas industry in 1931. The production of coal, on the contrary, declined to 1,520,000 short tons (estimated) for 1931, from 1,969,433 for 1930, in which year the value of coal produced attained \$6,017,000.

The copper output of the smelters declined to 66,776,267 pounds for 1931, from 74,187,966 for 1930. It exceeded the estimated mine production of copper, which for 1930 attained 65,150,000 pounds, in value \$8,469,500; totals of which in 1931 fell short as to quantity (approximately 61,503,100 pounds) and, because of lower prices for the metal, still farther short as to value. For 1932, the mine production of copper (estimated in part) was about 30,704,000 lbs.; by value, \$1,872,944.

Gold production was well maintained at 31,161 fine ounces for 1931 as against 31,589 for 1930, but dropped to 25,407 ounces (estimated) for 1932; in value it was \$661,100 for 1931 and \$653,000 for 1930. Silver production fell to 1,070,452 ounces (1931), from 1,160,374 (1930); by value, to \$310,431 (1931), from \$446,744

(1930). The mine production of lead was estimated, for 1932, as 21,550,000 pounds, in value, \$603,400; that of zinc, 50,958,000 pounds, \$1,579,698. The total value of the State's mineral product was \$31,850,263 for 1930; for 1929, \$37,127,621.

**FINANCE.** State expenditures in the year ended June 30, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments \$7,077,009 (of which \$1,441,217 was for local education); for interest on debt, \$562,954; for permanent improvements, \$6,524,498; total, \$14,164,561 (of which \$7,889,364 was for highways, \$1,911,494 being for maintenance and \$5,977,870 for construction). Revenues were \$13,526,921. Of these, property and special taxes furnished 15.5 per cent; departmental earnings and compensation to the State for officers' services, 8.0; sale of licenses, 28.4 (in which was included a gasoline sale tax that produced \$2,722,105). Funded debt outstanding on June 30, 1931, totaled \$10,331,000, of which \$9,162,000 was for highways. Net of sinking-fund assets, the debt was \$9,490,966. On an assessed valuation of \$344,671,212 the State levied in the year ad valorem taxes of \$2,087,663.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 3008.89. During the year previous, 48.48 miles had been put in operation; 12.40 miles abandoned.

**EDUCATION.** Moves were reported to be under way for the reorganization of the State and county bodies of authority over the public schools with a view to improving the system of State apportionment for support of the schools and their financial support in general. The number of persons of school age in the State was reported as 144,990. For the academic year 1931-1932 there were enrolled in the public schools 109,525 pupils. Of these, 94,479 were in common schools or elementary grades and 15,046 were in high schools. The year's expenditure for public-school education was \$7,334,709. Salaries of teachers averaged \$1057 a year.

**CHARITIES AND CORRECTIONS.** The central authority of the State, with regard to the care and custody of persons, as exercised in 1932, did not rest in a single body. Penal and eleemosynary institutions were directed by separate boards of officers. The State Penitentiary was conducted by a superintendent; its inmates, as reported in December, numbered 555. A Board of Penitentiary Commissioners, composed of five appointees and of the superintendent, *ex officio*, made recommendations for pardons or paroles to the Governor.

**ELECTIONS.** The State's vote of November 8 was cast for the Democratic National ticket by somewhat less than 2 to 1. Gov. Arthur Seligman (Dem.), was reelected, defeating R. C. Dillon (Rep.). L. D. Chavez, Democrat, was reelected Representative-at-Large. For President, the total vote of the State was: Roosevelt (Dem.), 95,089; Hoover (Rep.), 54,217.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, Arthur Seligman; Lieutenant-Governor, A. W. Hockenbuhl; Secretary of State, Mrs. Marguerite P. Baca; Treasurer, Warren R. Graham; Attorney-General, E. K. Neumann; Superintendent of Public Instruction, Mrs. Georgia L. Lusk.

*Supreme Court:* Chief Justice, Howard L.



Bickley; Associate Justices, John C. Watson, A. L. Zinn, A. H. Hudspeth, Daniel K. Sadler.

**NEW SOUTH WALES.** One of the six original states of the Commonwealth of Australia, located in the southeastern part of the continent. Area, exclusive of the Federal Territory (q.v.), 309,432 square miles; population, 2,526,345 on Mar. 31, 1932 (2,100,371 at 1921 census). Sydney, the capital, had a population in 1921, of 905,047; estimated Jan. 1, 1932, at 1,030,750. Other towns with their populations in 1930 were: Newcastle and suburbs, 104,640; Broken Hill, 23,260; Auburn, 18,530. Births in 1931 numbered 47,721; deaths, 21,270; marriages, 15,377. The natural increase of population for the year was 26,451, while the decrease through the excess of emigrants over immigrants was 9179, leaving a net increase for the year of 17,272.

**PRODUCTION, ETC.** Wheat is the principal crop. The estimated production for the 1931-32 season was 54,140,000 bushels from 3,625,000 acres, compared with 65,877,000 bushels from 5,134,960 acres in the previous year. Other cereals, oranges, and various citrus fruits, potatoes, tobacco, sugar cane, bananas, grapes, and apples are raised. Wool production for 1931-32 was estimated at 950,000,000 pounds, as in the grease, as against 428,752,210 pounds in the year ended June 30, 1931. Livestock in 1930 included 53,366,000 sheep, 2,840,473 cattle, 524,512 horses, and 334,311 swine. Production of all minerals in 1931 was valued at £6,786,869 (£8,504,034 in 1930), of which coal was valued at £4,607,343. Factories in operation in 1930-31 totaled 7544, with 127,591 employees and a total output valued at £118,483,536, of which £49,523,773 represented the value added in process of manufacture. As compared with 1929-30, the number of factories declined 8 per cent, the number of employed by 35,308, or 21.6 per cent, and wages paid by nearly 28 per cent.

The budget for the fiscal year ending June 30, 1933, estimated revenue at £45,185,000, and expenditure at £49,535,000, leaving a deficit of £4,350,000. The budget returns for the 1931-32 fiscal year were: Revenue, £45,607,700; expenditure, £59,834,538; deficit £14,226,808. The state railways, extending 6044 miles in 1930-31, incurred a deficit of £4,555,000 in 1931-32; the estimated deficit for 1932-33 was £1,976,000. The net state debt on June 30, 1932, was £305,147,665 (£270,485,109 on June 30, 1930). A £12,000,000 New South Wales conversion loan was floated in London Oct. 4, 1932, on which the nominal interest was 3½ per cent against 5¼ per cent on the former loan. For the year ended June 30, 1931, a total of 2547 vessels, of 7,938,000 net tons, entered New South Wales ports in the Australian interstate and overseas trade, and 2568 vessels, of 8,801,000 tons, cleared.

**GOVERNMENT.** Executive power is vested in a governor appointed by the British Government, who delegates his authority to a responsible ministry. Legislative authority is vested in a bicameral legislature, consisting of a legislative council of not less than 21 members (86 in 1931), appointed by the crown for life, and a legislative assembly of 115 members elected by universal suffrage. A bill for the reform of the Legislative Council was passed in 1932. It provided for a chamber of 60 members to be elected by the members of both houses of Parliament under proportional representation. Premier at the beginning of 1932, J. T. Lang, who was succeeded

on May 13, 1932, by B. S. B. Stevens. Governor, Sir Philip Game (appointed January, 1930). For the state election in 1932, see *AUSTRALIA* under *History*.

**NEW YORK. POPULATION.** According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 12,588,066, as against 10,385,227 in 1920. New York City had (1930) 6,930,446 inhabitants; Buffalo, 573,076; Rochester, 328,132; Syracuse, 209,326; Albany, the capital, 127,412.

**AGRICULTURE.** The accompanying table shows the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod. Bu.	Value
Hay	1932	4,068,000	4,954,000 <sup>a</sup>	\$35,589,000
	1931	4,028,000	5,328,000 <sup>a</sup>	46,769,000
Potatoes	1932	210,000	28,850,000	11,624,000
	1931	202,000	28,684,000	13,481,000
Corn	1932	594,000	20,790,000	8,524,000
	1931	566,000	22,074,000	11,478,000
Apples	1932	.....	22,197,000	11,986,000
	1931	.....	17,902,000	14,680,000
Oats	1932	872,000	27,032,000	7,299,000
	1931	863,000	24,596,000	7,871,000
Wheat	1932	201,000	4,086,000	2,084,000
	1931	211,000	5,311,000	3,027,000
Barley	1932	154,000	4,004,000	1,481,000
	1931	173,000	4,325,000	1,860,000
Buckwheat	1932	149,000	2,458,000	959,000
	1931	158,000	2,844,000	1,166,000
Dry beans	1932	114,000	855,000 <sup>b</sup>	1,409,000
	1931	120,000	1,296,000 <sup>b</sup>	2,861,000

<sup>a</sup> Tons. <sup>b</sup> 100-lb. bags.

**MINERAL PRODUCTION.** Production of coke and of pig iron, that depended wholly or almost wholly on minerals from outside the State, were the chief mineral industries as judged by value of yearly output. Coke obtained by the by-product process attained 3,578,311 short tons for 1931 and 3,849,563 for 1930; by value, \$22,115,932 (1931), and \$24,657,090 (1930). Production of pig iron fell to 1,014,320 long tons (1931), from 1,638,323 (1930); in value, to \$15,568,275 (1931), from \$29,160,894 (1930). Ferro-alloys were produced in important quantity: 143,269 long tons (1930), by value \$11,526,887. The relatively small production of native iron ore decreased to 259,184 long tons (1931), from 755,074 (1930), and in value to \$1,067,489 (1931) from \$3,663,155 (1930).

Among the indigenous mineral products, cement declined to total producers' shipments of 9,833,048 barrels (1931), from 10,256,086 (1930); in value, to \$10,638,066 (1931) from \$15,380,703 (1930). Clay products attained the value of \$14,837,430 for 1930, as against \$17,661,711 for 1929. The production of stone of all sorts except slate totaled 12,915,190 short tons for 1930, in value \$18,141,668. Petroleum production fell slightly to 3,363,000 barrels (1931), from 3,647,000 (1930); and in value to \$6,800,000 (1931), from \$9,850,000 (1930). The output of natural gas increased to 9,624,000 M cubic feet (1930), from 8,387,000 M for 1929, and to \$6,433,000 (1930), from \$5,538,000 (1929). Exploitation of new wells tended further to increase production in 1931. Production of salt diminished to 1,788,940 short tons (1931), from 2,009,280 (1930); in value to \$5,293,470 (1931), from \$5,837,103 (1930). Gypsum was produced to the quantity of 912,070 short tons (1930) and 1,284,338 (1929); in value, to \$7,059,108 (1930), and \$8,339,852 (1929). The total value of the State's mineral product, duplications eliminated and

coke, pig iron, and ferro-alloys excluded, was \$99,022,368 for 1930; for 1929, \$109,361,349.

**FINANCE.** State expenditures in the year ended June 30, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments \$224,430,664 (of which \$98,817,803 was for local education); for interest on debt, \$15,907,409; for permanent improvements, \$91,283,040; total, \$331,652,812 (of which \$77,509,030 was for highways, \$34,871,527 being for maintenance and \$42,637,503 for construction). Revenues were \$269,317,498. Of these, property and special taxes furnished 42.2 per cent; departmental earnings and compensation to the State for officers' services, 3.4; sale of licenses, 43.1 (in which was included a gasoline sale tax that produced \$22,864,060). Funded debt outstanding on June 30, 1931, totaled \$420,076,576, of which \$257,671,811 was for highways and canals. Net of sinking-fund assets, the debt was \$307,284,133. On an assessed valuation of \$29,513,043,980 the State levied in the year ad valorem taxes of \$2,205,371. The only general State tax levied on property was for revenue applied to judicial and military purposes.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 8282.08. During the year previous, about 30 miles of line had been abandoned.

**EDUCATION.** While economies were made in some directions in 1932, the level of teachers' salaries was generally maintained for the academic year. It was later affected by legislation of December, to reduce teachers' salaries thereafter, in New York City (see *Legislation*, below). For the academic year 1930-31, the latest for which statistics were obtainable, the number of persons of school age in the State was reported as 4,060,874. There were enrolled in the public schools 2,189,799 pupils. Of these, 1,718,242 were in elementary grades; in high-school grades, 471,557. The year's expenditures for public-school education totaled (exclusive of loans that were both borrowed and paid back during the year) \$369,035,300. Of this total, \$266,969,038 was for current expense and \$55,818,774 for capital outlay, while debt service required \$46,247,488. Salaries of teachers, by the year, averaged \$2407.66.

**CHARITIES AND CORRECTIONS.** Central authority over a great part of the State's institutional work was exercised in 1932 by the Department of Social Welfare, which was essentially the former Department of Charities, renamed by a statute ratified by popular vote in 1931. The authority of the department rested in a Board of Social Welfare, composed of 12 appointees, serving terms of eight years at per-diem compensation, and in an executive chief, the Commissioner of Social Welfare, an appointee of the board. This department administered a number of special schools for delinquents and others: the State Training School for Girls, Hudson; State Agricultural and Industrial School (delinquent boys), at Industry; the Thomas Indian School (Indian children), at Iroquois; the State Training School for Boys (delinquent), Warwick; also, the State Women's Relief Corps Home (soldiers' and sailors' mothers, wives, widows, and daughters), Oxford. It supervised 1054 charitable, correctional, and reformatory institutions and agencies that received public financial support; supervised children placed or boarded out, local boards of child welfare, and the distribution of

State relief to the aged; and directed Indian affairs.

Under the Department of Correction's management were State prisons, reformatories, institutions for defective delinquents, hospitals for the criminal insane, and a house of refuge. It included a Commission of Correction, composed of seven appointees and of the Commissioner of Correction, which was charged with the inspection of all institutions in the State, in which sane adults were confined or detained for crime or other cause. A separate Board of Parole, of three salaried full-time appointees, created in 1930, dealt with paroles. The State was developing, in 1932, a prison of special type, the Medium Security Prison, at Walkkill, to harbor convicts of the tractable sort; also, at Woodbourne, an institution for male defective delinquents. Apart from these, the institutions under the department, with their populations as reported in December, were: Dannemora State Hospital, Dannemora, 796; Matteawan State Hospital, Beacon, 1229; Albion State Training School, Albion, 153; Westfield State Farm (branch prison for Women), Bedford Hills, 248; Reformatory, Elmira, 1281; Institution for Male Defective Delinquents, Napanoch, 961; Attica Prison, Attica, 842; Auburn Prison, Auburn, 1852 men and 127 women; Clinton Prison, Dannemora, 1576; Great Meadow Prison, Comstock, 1113; Sing Sing Prison, Ossining, 2453; House of Refuge, Randall's Island, 457.

Under control of a Department of Mental Hygiene were State mental hospitals at Brooklyn, Binghamton, Buffalo, Central Islip, Helmsuth, Wingdale, Poughkeepsie, Kings Park, New York, Marcy, Middletown, Brentwood, Rochester, Orangeburg, Ogdensburg, Utica, and Willard; also, six schools and other institutions for mental defectives and for epileptics. The number of the insane in State hospitals or out on parole on June 30, 1931, was 53,914.

A number of other institutions were connected with the Department of Health. In the course of the year a special body known as the State Temporary Emergency Relief Administration, made grants to subdivisions, out of State funds, to help them to meet the widespread destitution of the time, and supervised the disposal of the funds.

**LEGISLATION.** The State Legislature assembled in regular annual session on January 6 and adjourned on March 11. Its principal task was to make the financial provisions necessitated by a great increase in State expenditure, occasioned by appropriations for the relief of the needy and by shrinkage in the State's revenues. It provided new or increased taxes designed to produce revenue at the rate of \$112,000,000 a year. The State tax on sales of gasoline was raised to 3 cents a gallon, from 2 cents, to yield an intended additional \$21,000,000 a year. The State tax on transfers of shares of stock was increased to 4 cents a share, from 2 cents. The rates of the State income tax were made, for incomes of 1932, double what they had been under the old law, and upon incomes of 1931 a second special increase of 50 per cent, additional to the like increase imposed in the autumn of 1931, was retroactively imposed. By these two income-tax provisions alone it was designed to raise \$55,000,000. The license tax on motorbuses and heavy trucks was raised by 65 per cent, with certain exceptions, to produce an anticipated additional

\$6,700,000. The budget, as passed after cuts of some \$20,000,000 made by the Legislature against Governor Roosevelt's protest, totaled \$270,361,619, exclusive of \$5,000,000 for immediate relief of the unemployed, of minor appropriations outside the budget, of \$30,000,000 of regular permanent improvements to be defrayed from bond issues, and of \$30,000,000 of funds for relief of the needy, to be raised by bond issue. The \$30,000,000 measure for the latter purpose was submitted to the people, to be voted at the general election.

**Banking Laws.** Troubles in the State's banking system, particularly the failure of the Bank of United States, having roused a widespread demand for revision of the laws, the Legislature enacted a measure to create a banking commission with advisory powers, which was to influence the course of the Superintendent of Banks. The measure contained a provision sought by banking interests but opposed in other quarters, that a minority of the board must be men of banking experience, and a further provision that the board must express itself by a two-thirds vote. The Legislature failed to pass a proposed measure to compel State banks to segregate their so-called thrift accounts. The savings banks of the State were allowed, by special enactment, to maintain their investments in previously legal railroad bonds that had sunk below the required qualifications for these banks' investments but that the banks, as matters stood, were unable to sell in quantity.

**Governmental Organization and Powers.** A measure for the reclassification of some 13,000 of the 35,000 persons, more or less, in the State's classified service, was enacted, with a view to removing inequalities and extravagance in State employment and pay. The power to name a Supreme Court Justice to preside at a special term of that court was transferred from the Governor to the presiding Judge of the Appellate Division. The practice, brought to view in the investigation of officers in New York City, of a public official's personally retaining the interest money earned by funds left in his custody and placed by him on deposit, was forbidden by statute. Authority was given municipalities incurring deficits at the time to spread such deficits over a period of five years. The Federal Constitutional Amendment proposed by Congress, to change the dates of inauguration and of initial sessions of Congress, was ratified.

**Criminal Laws.** The provision of the Baumes laws requiring a sentence of life imprisonment for fourth offenders was modified, so as to place it within the discretion of sentencing judges to make the terms of imprisonment for such offenders a minimum of 15 years. The law against the possession of pistols was modified, so as not to require the photographing and fingerprinting of applicants for pistol permits, save in New York City. The law against stock-selling frauds was strengthened, particularly by a provision to permit placing offenders under permanent injunction not to resume the selling of securities in the State. The investigation of the Hofstadter Committee into the practices of officials in New York City was continued, and an appropriation was made for its expenses.

After a conference with Mayor McKee of New York City, which faced inability to meet obligations on December 15, Lieutenant Governor Lehman (Governor Roosevelt being at the mo-

ment absent from the State), issued on December 2 an order convening the Legislature in extraordinary session, to meet on December 9. The prime purpose of this session was to repeal laws of the State fixing the salaries of a great part of the employees of New York City, and thus to make it possible for the city to reduce these salaries, thus effecting economies requisite to the city's obtaining further loans for its immediate needs. Measures were enacted authorizing New York City to reopen and reduce its budget; reducing the State-controlled salaries of the city's teachers, above \$2000, by from 5 per cent upward on a sliding scale; and empowering the city to reduce the pay of its police, firemen, and most other employees, for a "temporary" period not stated, where pay exceeded \$2000 a year. A legislative committee was charged with outlining a revision of the charter of New York City, a step sought by Governor Roosevelt, ex-Governor Smith, and Mayor McKee.

**POLITICAL AND OTHER EVENTS.** The statutory board known as the State Power Authority, empowered to use its own credit and to develop the hydroelectric sites of the northern part of the State, was organized early in the year. Its members and its chairman, Frank P. Walsh, were confirmed by the State Senate on January 26, as nominated by Governor Roosevelt. The Power Authority came into conflict with the Federal Administration (see UNITED STATES under *Administration*) over the execution of the St. Lawrence Waterway Treaty with Canada, as to which the Federal authorities had not arranged with the State regarding its own hydroelectric plans, which were affected.

A measure passed by the Legislature in 1931, as a concurrent resolution without the Governor's signature, to redistrict the State for the election of 45 Federal Representatives in place of the actual 43, was declared invalid by the State Court of Appeals on February 9, on the ground that the Governor's signature was essential to a measure of this character. The Legislature, though in session, failed to pass any substitute bill. The case was appealed to the Federal Supreme Court, which on April 11 (opinion by Chief Justice Hughes) likewise held that the State Legislature had no constitutional power to redistrict without the concurrence of the Governor. The State Legislature had then adjourned, and no special session for redistricting was called. Consequently election of Representatives in the State in 1932 was by the old 43 districts save for two Representatives, who were elected at large. Chief Judge Cardozo resigned from the State Court of Appeals by reason of his appointment on February 15 to the United States Supreme Court; in his place Associate Judge Cuthbert W. Pound was elevated to the Chief Judgeship on March 9. The State's "public enemy" law, providing imprisonment for criminals associating with other criminals and intended to break up gangs, was virtually invalidated by a decision of the Appellate Term of Special Sessions, reversing on June 8 a conviction under the act.

**State Investigation of New York City.** The investigation of officials in New York City by the Hofstadter legislative committee brought about during the year disclosures and State disciplinary measures adverse to Tammany and allied interests controlling the city's affairs. Samuel Seabury, counsel to the Hofstadter committee, hav-

ing sent to Governor Roosevelt late in 1931 charges against Sheriff Thomas M. Farley, sheriff of New York County, the Governor summoned Farley and examined him on Feb. 17, 1932, issuing at the same time a public statement that a public official must be able to give "credible explanation" of bank deposits and a scale of living exceeding his salary. Farley failed to explain the source of bank deposits, substantially in excess of his known income, to the satisfaction of the Governor, who removed him from office on February 24.

The committee's investigation dealt in April with the connection of State Senator John A. Hastings of Brooklyn with promoters who sought in and after 1925 to obtain for the Equitable Coach Company a city-wide franchise to operate motorbuses. Testimony was brought out to the purport that Hastings had received \$1000 a month as a political contact man for the promoters, that he had acquired without payment a large block of the incipient company's shares, and that one of his associates in the company had made payments to help finance a trip of Mayor Walker to Europe in 1927. It was testified on May 12 by J. A. Sisto, a broker, that his concern had delivered to Mayor Walker bonds to the value of \$26,535.51, ostensibly in payment of the proceeds of a transaction conducted for the Mayor in the security market, but without evidence that the Mayor's own money had been employed, and shortly before the municipal assembly had created a municipal board of taxicab control for which certain interests had been active. It was further brought out that Walker had accepted benefits of a monetary nature from Paul Block, represented as having been granted because of personal friendship.

The committee also sought in vain to procure the presence of R. T. Sherwood, described as Walker's financial agent, who had disappeared when the investigation was started, and to get possession of the Mayor's old check stubs. Charges based on these and other matters were transmitted to Governor Roosevelt on June 8. He summoned Walker before him to answer them on June 21. Hearings before the Governor were drawn out until the end of August. An attempt of the Mayor's counsel to obtain a court decree to prevent removal by the Governor having failed, Mayor Walker resigned on September 1. He was succeeded by Joseph V. McKee, President of the Board of Aldermen.

A separate investigation conducted by Seabury, at the order of the Appellate Division, into the lower courts of New York City resulted in his recommending on March 27 the consolidation of the Magistrates', Special Sessions, and Children's Courts into a unified court; a State constitutional amendment to permit appointment of the members of this court by the Appellate Division, for terms of two years; and reforms in the court's administrative system and arrangements for bail. A State Legislative committee undertook on April 13 an inquiry into means for economies in the State government.

*Prosecutions in Banking Failure.* State Superintendent of Banks Broderick was tried in April and May on a charge of neglect of duty in failure to close the Bank of United States, which had failed disastrously, late in 1930. Governor Roosevelt testified on his behalf. Broderick was acquitted on May 27. Isidor I. Kresel, tried for perjury in connection with proceedings relating to

the bank's failure, was acquitted on June 22. Bernard K. Marcus and Saul and Herbert Singer, convicted officials of the bank, carried appeals of their cases to the higher courts.

*Public Finances.* The State had no trouble in borrowing the great sums necessitated by its contributions to the local relief of the needy. It issued a loan of \$50,000,000 of its 3½ per cent notes in April, and was one of the States not obliged to apply for a loan to the Reconstruction Finance Corporation to cover its relief needs.

The City of New York was twice in financial difficulty during the year. Saved from a cash deficiency by the advance payment in January of the State's contribution to the city school system's receipts, it was nevertheless obliged to seek bank loans later in the month. It was able to place \$100,000,000 of its corporate stock only at the high interest rate of 6 per cent and on condition that it defer the execution of a list of costly public works. An act to permit the city to issue such corporate stock, maturing in not over five years, and exempt from the ordinary debt limitations, was rushed through the Legislature on January 20.

The city was again troubled by deficient receipts in the autumn. Mayor Walker made a fruitless appeal on August 4 to the civil-service employees to consent to a reduction of one-twelfth in their salaries for 1933. This refusal and the drawing of a tentative budget for the following year only slightly below that of 1932 caused bankers to refuse new credit to the city when its cash again became low in October. The bankers at that time insisted that more substantial economies be effected.

Acting Mayor McKee made an effort to effect municipal economies, but budgetary reductions that he proposed were overruled by the majority in the Board of Estimate. The State Court of Appeals ruled that his tenure of office must be only until the election of a successor at the next regular date of election, which was November 8. Surrogate John P. O'Brien was nominated by a city Democratic convention for Mayor on October 6, and McKee refused to consider an independent nomination. Lewis H. Pounds was nominated Republican candidate for Mayor on October 8. In the Democratic convention an intention of the particular partisans of ex-Mayor Walker to renominate him and run him in a "vindication" campaign was abandoned.

*Economic Conditions.* Unemployment in the State was more prevalent than it appeared to be for the country as a whole. This was due in great part to the high percentage of factory workers among the people of the State and to the great recession of factory employment. The proportion of factory employment was reported, for June, to be only 55.7 per cent of the average for the period 1925-1927; the June payroll total was but 42.7 of the average for that period. The June level of factory employment indicated unemployment to the approximate number of 500,000 factory workers. The total of all the unemployed in the State during the summer was commonly estimated in the neighborhood of 1,000,000, exclusive of their dependents. The greater part of them were estimated to be in New York City, where inactivity in the construction trades tended to raise the total. In addition to the totally unemployed, there were great numbers working on part time or for reduced compensation or under both handicaps. These conditions

necessitated the dispensation of State aid on a huge scale, to alleviate destitution. This aid was dispensed through the State Temporary Relief Administration, and was financed by an appropriation of \$5,000,000 early in the year, supplemented by a bond issue of \$30,000,000 approved by popular referendum in November.

Local aid to the poor, apart from State contributions, was on a great scale. In New York City the Board of Estimate voted \$5,000,000 for the workless and \$1,000,000 for the relief of veterans in special, on April 29. The city's chief voluntary organization for the purpose, the Citizens' Unemployment Relief Committee, had raised approximately \$18,000,000 for relief by a drive started late in 1931, under the direction of Harvey D. Gibson. About half of this sum was spent in providing work on tasks of public benefit, until late in 1932, to an average of some 33,000 unemployed heads of families and unattached women. The same organization started an appeal in the autumn for \$20,000,000 in contributions to carry on its activities during the ensuing winter and spring. The total cost of relief in the State, from all sources, for the year beginning November 1, was estimated at \$150,000,000.

*Transportation in New York City.* The independent municipally owned third subway system built by the Board of Transportation having been completed in its central portion, the city sought in April to let the completed portion to a private operating agency. Neither of the existing rapid-transit companies undertook to make an operating contract. The Board of Transportation consequently undertook to operate the line itself and began operation on September 9. A general though moderate decline in transit traffic and the apprehended competition of the new subway worked adversely for the Interborough Rapid Transit system, which entered receivership on August 27, with a capitalization of some \$248,000,000, ceasing payment of rentals to the Manhattan Elevated. The Whitestone branch of the Long Island Railroad was abandoned in the spring, by a permissive decree of the Interstate Commerce Commission, sustained by the courts despite the railroad's being entirely within New York State. A project of the Port of New York Authority to construct at Thirty-fourth Street, Manhattan, a second vehicular tube under the Hudson River, was postponed in March, owing to credit difficulties, but was revived in September, with hope for financing from the Reconstruction Finance Corporation.

*ELECTIONS.* The popular vote of November 8 was cast for the Democratic National ticket in the proportion of more than 5 to 4. The totals, for President, as officially reported, were: Roosevelt (Dem.), 2,534,959; Hoover (Rep.), 1,937,963. New York City gave Roosevelt a plurality of some 862,200, while the remainder of the State, with the exception of five counties, was prevailingly Republican. United States Senator Robert F. Wagner (Dem.), was reelected, defeating George Z. Medalie (Rep.). There were elected as Representatives to the Seventy-third Congress 29 Democrats, of whom 2 were Representatives-at-Large, and 16 Republicans. Lieutenant-Governor Herbert H. Lehman (Dem.) was elected Governor, defeating William J. Donovan (Rep.) of Buffalo, and the three other contested State offices went to Democrats. Elections to the State Senate gave the Democratic group control by a majority of one; in the Assembly

the Republicans obtained a majority of four. A referendum proposing an issue of State bonds to the total of \$30,000,000 for the relief of the destitute was approved. A proposal to amend the State constitution so as to permit of legislation to create recreational facilities in the State's forest preserve was defeated; it had been opposed as intended to open the way to undesirable amusement concessions.

*OFFICERS.* The chief officers of the State, serving in 1932, were: Governor, Franklin D. Roosevelt; Lieutenant-Governor, Herbert H. Lehman; Secretary of State, Edward J. Flynn; Comptroller, Morris S. Tremaine; Attorney-General, John J. Bennett, Jr.; Commissioner of Education, Frank P. Graves.

*Court of Appeals.* Chief Judge, Benjamin N. Cardozo (resigned), Cuthbert W. Pound (succeeded by appointment); Associate Judges, Cuthbert W. Pound (advanced to Chief Judge), Frederick E. Crane, Irving Lehman, Henry T. Kellogg, John F. O'Brien, Irving G. Hubbs, and Leonard C. Crouch (appointed).

**NEW YORK CITY.** See CRIME; NEW YORK under *Political and Other Events*; UNEMPLOYMENT; MUNICIPAL GOVERNMENT; MUNICIPAL OWNERSHIP; WATER SUPPLY.

**NEW YORK CITY REGIONAL PLAN.** See CITY AND REGIONAL PLANNING.

**NEW YORK CITY WATER SUPPLY.** See WATER SUPPLY; TUNNELS.

**NEW YORK STATE BARGE CANAL.** See CANALS.

**NEW YORK UNIVERSITY.** A nonsectarian institution for the higher education of men and women in New York City, chartered in 1831. It comprises the following divisions: At University Heights, a college of arts and pure science, college of engineering, Guggenheim School of Aeronautics; at Washington Square, the graduate school, school of law, school of commerce, accounts, and finance, Washington Square college, school of education, school of retailing, university extension division, and the institute of education; at the Wall Street division, the graduate school of business administration and courses in the school of commerce, accounts, and finance. The medical college is on East Twenty-sixth Street, the dental college on East Twenty-third Street, and the college of fine arts on East Forty-third Street.

The enrollment for the year 1931-32 in all divisions of the university, after deducting all duplications, was 38,823. The enrollment in the different degree-conferring units was as follows: University college of arts and pure science, 1253; school of law, 1268; University and Bellevue Hospital Medical College, 504; college of engineering, 967; graduate school, 876; school of education, including both graduate and undergraduate divisions, 8269; school of commerce, accounts, and finance, including the Wall Street division, 8068; Washington Square college, 6079; graduate school of business administration, 957; school of retailing, 830; college of fine arts, 1259; and college of dentistry, 495. In other divisions the enrollment was as follows: Summer school, 4293; extension, 1881; institute of education, 2209; life insurance training courses, 119; public health (correspondence) courses, 332; and evening engineering courses, 1128. The faculty of the university numbered 1788.

The productive funds for the year 1931-32 amounted to \$7,861,997, and the income was

\$307,049. The total income of \$7,754,309 was derived as follows: Student fees, \$6,788,997; dormitory rents, \$19,843; gifts, \$250,754; other income, \$387,664; and income from endowments, \$307,049. The libraries contained 416,858 volumes. Chancellor, Elmer Ellsworth Brown, Ph.D., LL.D.

**NEW ZEALAND.** A self-governing British dominion in the South Pacific, situated about 1200 miles southeast of Australia. Capital, Wellington.

**AREA AND POPULATION.** New Zealand consists of two main islands, North and South Islands, and various outlying and annexed islands. The total area is 104,015 square miles, including about 600 square miles of outlying islands, and the population on Apr. 1, 1932, was estimated at 1,511,360, including Maoris, as compared with 1,508,760 on Sept. 1, 1931. The Maoris, or aborigines, totaled 68,196 on Sept. 1, 1931. The 1926 census population of the chief cities, with 1931 estimates in parentheses, was: Wellington, 98,661 (111,260); Auckland, 87,829 (104,750); Christchurch, 83,114 (89,400); Dunedin, 67,544 (68,120). For the five years 1927 to 1931, births averaged 27,049 annually and deaths 11,997, the excess of births being 15,052. The average birth rate per 1000 inhabitants was 19.2 and the death rate 8.5.

**EDUCATION.** Education is compulsory for children from 7 to 14 years of age. In 1930 there were 254,162 pupils in primary schools, 31,869 in secondary schools, 11,829 in technical schools, and 5077 in universities. The four universities are at Dunedin, Christchurch, and Wellington (two).

**PRODUCTION.** Animal husbandry is the principal industry. In 1929-30 there were 16,872,000 acres of permanent meadow and pastures, 1,961,000 acres of arable land (about 3 per cent of the total area), 389,000 acres of trees, shrubs, and bushes; and about 13,000,000 acres of forests. Livestock in 1931 included 29,793,000 sheep, 4,081,000 cattle, 476,000 swine, and 296,000 horses. The output of the chief animal products in 1930-31 was (in thousands of pounds): factory butter, 258,366; cheese, 208,079; pork, bacon, and ham, 60,200; mutton and lamb, 550,924; beef and veal, 290,260; wool, 217,131. Exports of frozen meats increased from 452,618,000 pounds in 1930 to 463,547,000 pounds in 1931, but the value received declined about 30 per cent. For the season ended Sept. 30, 1932, shipments of frozen animal carcasses to Great Britain reached a record high level; shipments of mutton and lamb carcasses numbered 11,805,490, or 1,500,000 more than in 1930-31. Wheat production in 1931-32 was 6,660,000 bushels; barley, 662,000 bushels; oats, 3,473,000 bushels. For the year ended Mar. 31, 1931, the value of factory output was £80,745,000 (\$376,288,000) and the value added in process of manufacture was £31,561,000 (\$147,080,000). There were 5203 industrial establishments, employing 80,829 workers and distributing £16,398,000 (\$76,418,000) in wages and salaries. Coal, gold, and silver are the chief minerals mined. The number of registered unemployed on Apr. 30, 1932, numbered 50,093; the total number of unemployed was estimated at from 90,000 to 100,000, or one out of every three employable persons.

**COMMERCE.** New Zealand's foreign trade suffered a drastic decline in 1931, the reduction in imports reaching almost 50 per cent. Imports were valued at £24,813,000 (\$113,904,000), as against £43,026,000 (\$209,386,000) in 1930. Ex-

ports amounted to £34,319,000 (\$145,066,000), as compared with £44,209,000 (\$215,145,000) in 1930. (The pound values represent New Zealand pounds.) In spite of larger shipments, exports of wool and butter declined 38 per cent and 22 per cent, respectively, from the 1930 values. The leading exports in 1931 were: butter, \$45,016,000; frozen meats, \$37,589,000; wool, \$23,313,000; cheese, \$18,858,000. The United Kingdom supplied 51 per cent of the total imports in 1931 (47.3 per cent in 1930); the United States, 14.9 (17.6); and Australia, 10.8 (7.7). The mother country also took 88 per cent of the total exports (80.2 per cent in 1930); as against 3.3 per cent purchased by Australia and 2.6 per cent by the United States. New Zealand's imports from the United States in 1931 were valued at \$16,979,000 (\$36,847,000 in 1930); exports to the United States were \$3,894,000 (\$10,301,000 in 1930). United States statistics for 1932 showed imports from New Zealand of \$2,157,953 and exports to New Zealand of \$9,232,606.

**FINANCE.** The revised budget estimates for the fiscal year ended Mar. 31, 1932, placed ordinary revenues at £24,666,000 and ordinary expenditures at £24,628,000. Actual returns for 1931-32 showed revenues of £22,719,733, of which £5,904,348 were received from customs and £4,447,814 from the income tax. Expenditures were £24,860,552, of which £10,456,776 represented interest and amortization on the national debt. The deficit was £2,140,819. This compared with actual receipts of £23,069,000 and expenditures of £24,708,000 in 1930-31. The sums are in New Zealand pounds.

The gross public debt on Mar. 31, 1931, amounted to £276,033,000 (\$1,343,342,000) and the sinking fund to £2,313,000 (\$11,256,000). With the exception of £4,175,000 redeemable in Australia, the entire foreign debt was redeemable in London. On Mar. 31, 1932, the public debt totaled £281,942,800, or £184 per head of population, including Maoris.

**COMMUNICATIONS.** Railways in 1931 had 3322 miles of line, of which all except 116 miles were state owned. For the fiscal year ended Mar. 31, 1932, the state lines reported revenues of £6,509,000 and expenditures of £5,671,000; the surplus of £838,000 compared with a surplus of £689,000 in 1930-31. Highways extended about 48,433 miles, including 30,629 miles of macadam. Vessels entering the ports in foreign trade in 1931 numbered 564, of 2,156,000 net registered tons. Tonnage entered at Auckland was 1,214,453 and at Wellington 545,386. The merchant marine on Dec. 31, 1930, comprised 531 vessels (all sizes), of 201,650 gross tons capacity.

**GOVERNMENT.** Executive power rests with a Governor-General appointed by the Crown on recommendation of the Dominion government, and legislative power in the Governor-General and a general assembly of two houses, namely, the Legislative Council of 41 members, appointed by the Governor-General for seven years, and the House of Representatives of 80 members, elected for three years by direct suffrage. Governor-General in 1932, Lord Bledisloe (Charles Bathurst), appointed in 1929. The coalition ministry formed Sept. 19, 1931, and confirmed in office by the election of Dec. 2, 1931, was composed as follows: Prime Minister, External Affairs, and Railways, G. W. Forbes (leader of the United party); Public Works, Transport and Unemployment, J. G. Coates (leader of the Reform

party); Finance, Customs, and Attorney-General, W. D. Stewart (Reform party); Education, Industries, Commerce, and leader of the Legislative Council, R. Masters (United party); Lands, E. A. Ransom (United party); Native Affairs, Sir Apirana Ngata (United party); Justice and Defense, J. G. Cobbe (United); Postmaster General, Labor, and Internal Affairs, A. Hamilton (Reform); Health, J. A. Young (Reform).

**HISTORY.** The policy of rigid economy followed by Premier Forbes's coalition government led to serious disorders in Auckland on Apr. 14-16, 1932. Earlier in the month, Parliament voted to reduce expenditures in the 1932-33 budget by £4,000,000, thus increasing to £10,000,000 the savings effected during the three years of the depression. The new economies included a further 10 per cent cut in civil service salaries and the restriction of unemployment relief. On May 7, the Labor party introduced a no-confidence motion in Parliament upon this issue, but it was defeated. Four days later a protest demonstration of the unemployed and others at Auckland developed into a serious riot. It was two days before the sporadic outbursts of window-smashing and looting was checked. More than 100 civilians and many policemen and bluejackets were injured in the fighting, in which more than 300 arrests were made.

A primary cause of discontent was the government's policy of concentrating unemployed single men in camps and refusing any relief to those who refused to enter the camps. Conditions in the camps were reported to be so undesirable that many of the men deserted. The government also persisted in its refusal to grant relief to women, although women wage earners were taxed for the unemployment insurance fund on the same basis as men, or to provide any other form of relief than payment for manual labor. In an effort to prevent a repetition of the Auckland riots, the government passed a public safety act, which prohibited public meetings or demonstrations. The Auckland riots coincided with the adjournment of an emergency session of Parliament. A measure passed during the session extended to four years the term of office of members of the House of Representatives.

At the Ottawa Conference (see CANADA and GREAT BRITAIN under *History*) New Zealand agreed to increase the tariff preference accorded British goods in return for the free entry into the British market of the Dominion's agricultural and dairy products. The British tariff act of 1932 gave New Zealand a privileged position by increasing the duties on imports of butter, cheese, eggs, etc., from non-Empire countries and by placing a quota upon non-Empire imports of beef, mutton, lamb, and pork products. The Ottawa agreement concluded with the mother country was ratified by the New Zealand Parliament on October 21 and by the British Parliament November 15, going into effect November 17. On January 9, the 1931 rupture of commercial relations with Canada was healed by the signing of a new trade convention by representatives of the two countries, who met at Honolulu, Hawaii. This agreement became effective May 24.

In September, Foreign Minister Stewart and Secretary of the Treasury Parks visited London in an effort to negotiate a loan for the conversion of New Zealand's overseas indebtedness into bonds bearing a lower rate of interest. They were apparently unsuccessful, as no further move to-

ward conversion was made during the year. The government's financial condition improved, however, as a result of economies, and the National Expenditure Commission toward the end of the year reported that a balanced budget was in sight for 1933-34. Government finances were greatly aided by the continuance of the moratorium on Dominion war debt payments to the British government, despite the fact that Great Britain resumed payment on its war debt to the United States. New Zealand voluntarily offered to make the war debt payment to Great Britain, but the offer was declined.

In the regular session of Parliament, which adjourned early in December to Jan. 26, 1933, the farming interests exerted pressure upon the government to allow the New Zealand pound to depreciate with relation to the pound sterling in order to stimulate exports of farm products. The government and the banks had arbitrarily held the New Zealand pound at a 9 or 10 per cent discount from sterling, while the Australian pound was at a discount of about 25 per cent. At the end of the year the ministry was considering a revision of its exchange policy.

When Parliament adjourned, it left the government with virtually dictatorial powers. According to the Wellington correspondent of the *New York Times*, the entire national life was ruled by cabinet decrees. Decrees controlled the rate of interest paid on mortgages, wage levels and conditions, land tenure, motor traffic, electrical installations, the content of movie posters, the construction of additional movie theatres, the raising of chickens, and many other conditions of life.

**NICARAGUA**, nĭk'ā-rā'gwā. The largest of the Central American republics, Nicaragua is bounded on the north by Honduras, on the east by the Caribbean Sea, on the south by Costa Rica, and on the west by the Pacific Ocean. Capital, Managua.

**AREA AND POPULATION.** With an area of about 49,500 square miles, Nicaragua had an estimated population in 1929 of 750,000, as compared with 638,119 at the census of 1920. Three-fourths of the inhabitants live in Western Nicaragua and are chiefly of Spanish and Indian blood; the remainder, including many West Indian negroes, inhabit the east coast, where banana cultivation is the leading industry. The population of Managua, which was almost completely destroyed by an earthquake in 1931, declined from 50,000 in 1929 to approximately 45,000 in September, 1932. The estimated population of the other leading cities was: León, 50,000; Granada, 25,000; Masaya, 18,000; and Matagalpa, 7000.

**EDUCATION.** It is estimated that 62 per cent of the population are illiterate. There were 50,000 children of school age (6 to 14 years) in 1929, of whom 23,495 were enrolled in elementary schools.

**PRODUCTION.** Agriculture, the leading industry, is supplemented by lumbering, cattle raising, and mining. Bananas, coffee, sugar, and coconuts are the chief crops, others being cotton, corn, rice, and beans. Coffee normally accounts for about one-half the value of all exports; in 1931 exports from Corinto were 34,474,000 pounds (34,032,000 in 1930). Banana exports in 1931 totaled 2,212,000 bunches (3,861,000 in 1930); coconuts exported to the United States, 2,244,000 (2,197,000 in 1930). Lumbering (dyewoods, gums, ma-



hogany, and cedar) and mining (gold and silver) are of decreasing importance.

**COMMERCE.** The Managua earthquake of 1931 destroyed all of the foreign trade records and Nicaraguan statistics are not available for the years since 1930. In 1930 imports were valued at \$8,172,000 (\$11,797,000 in 1929) and exports at \$8,343,000 (\$10,873,000 in 1929). The United States ordinarily furnishes about 60 per cent of the total imports; the United Kingdom, 10 per cent; and Germany, 9 per cent. About half the total exports go to the United States; 12 per cent to Germany, and 3 per cent to the United Kingdom. For the fiscal year ended June 30, 1932, United States statistics show exports to Nicaragua of \$4,652,000 (\$6,712,000 in 1930-31) and imports from Nicaragua of \$1,871,000 (\$2,627,000). Bananas and coffee are the chief exports and cotton manufactures the leading import commodity.

**FINANCE.** The government's financial position was adversely affected by low coffee prices and the virtual destruction of Managua, which formerly contributed 40 per cent of the total revenues. Results of 1931 budgetary operations were not available at the end of 1932, but customs receipts for 1931 decreased to 1,562,138 cordobas from 2,014,295 cordobas in 1930 (cordoba equals \$1 at par). The government was obliged to suspend the amortization service on the external debt Jan. 1, 1932. The government's financial position was then reported to be unsatisfactory, with salary payments in arrears.

The bonded debt of the state on Feb. 28, 1932, stood at 3,943,746 cordobas (2,580,996 cordobas in external bonds of 1909 and 1,362,750 cordobas in internal guaranteed customs bonds). Government control of foreign exchange transactions was established by a decree of Nov. 13, 1931.

**COMMUNICATIONS.** The principal railway line is the government-owned Pacific Railroad connecting the port of Corinto with Managua, León, Granada, and Diriamba. The total main line mileage in 1931 was about 166 (147 miles of state line). There were 350 miles of motor roads, 2824 miles of telegraph wire, and 3485 miles of private and state telephone wire. Steam vessels entering the ports in foreign trade in 1929 numbered 593, of 894,622 net registered tons. There are virtually no transport facilities between the east and west coasts. A 50-mile stretch of railway from León to El Sauce was placed in operation on Dec. 30, 1932.

**GOVERNMENT.** The Constitution of 1913 vests executive power in a president, acting through a responsible ministry, and legislative power in a congress of two chambers, the Senate of 24 members, elected for six years, and the Chamber of Deputies of 43 members, elected for four years by universal male suffrage. The President is elected for four years. President at the beginning of 1932, Gen. José María Moncada (Liberal), elected Nov. 4, 1928. For changes in 1932, see *History*.

### HISTORY

**ELECTION OF SACASA.** The third Nicaraguan election held under the supervision of the United States took place on Nov. 6, 1932. It resulted in the election of Dr. Juan B. Sacasa and Dr. Rodolfo Espinosa, the Liberal candidates for President and Vice President, respectively. They defeated the Conservative nominees, ex-Presidents Adolfo Díaz and Emiliano Chamorro, by a majority of

22,552 votes, the Liberals polling 76,030 votes to 53,478 for their opponents. The Liberals also elected 6 Senators and 14 Deputies, giving them majorities in both houses of Congress. After the elections, the Senate included 16 Liberals and 8 Conservatives; the Chamber of Deputies, 29 Liberals and 14 Conservatives. The inauguration of Drs. Sacasa and Espinosa was set for Jan. 1, 1933.

The election was supervised by a board headed by Rear Admiral Clark H. Woodward, U.S.N., which established 429 local electoral boards—247 presided over by Nicaraguans and 182 by U. S. Marines—to insure a free and fair election. Four hundred marines assisted in the election. The fairness of the election was believed to have been demonstrated by the election of Dr. Sacasa, head of the 1916 Nicaraguan government which the American State Department refused to recognize, and the defeat of Díaz, an "Americanista" candidate, who attained the Presidency in 1911 and again in 1926 largely as a result of the State Department's support. *La Nueva Prensa*, leading Conservative organ, declared that the voting had been "free, just, and honest" and praised the "honor and impartiality" of Rear Admiral Woodward.

Early in the year various developments threatened to prevent the holding of the election as scheduled. In March the Liberal and Conservative parties each sent a representative to Washington to discuss with Secretary of State Stimson the question of constitutional reform. They proposed that the autumn elections be altered to provide for the election of a president and a constituent assembly, the latter to revise the Nicaraguan Constitution. Mr. Stimson, in a statement issued March 23, declared that the United States government would refuse to supervise the election if the proposed change were made. In some quarters the proposal for constitutional reform was attributed to the desire of President Moncada to continue in office for a six-year instead of a four-year term. In the summer, the Liberal party split into two factions supporting Dr. Sacasa and Dr. Leonardo Argüello, respectively, for the Presidency. On Admiral Woodward's insistence that only one Liberal candidate be selected, both factions on September 27 united in support of Dr. Sacasa.

**EVACUATION OF THE MARINES.** In accordance with its previously announced policy, the United States government soon after the election commenced the evacuation of its forces in Nicaragua. Of the 1408 officers and enlisted men in the country, the first detachment left on November 29 and virtually all had been withdrawn by the end of the year. Thus the United States brought to a close a six-year period of intervention, during which time it had organized and trained a non-partisan constabulary, supervised three elections, and carried on an intermittent guerrilla warfare with Augusto Sandino. The insurgent general refused to lay down his arms when the United States intervened in December, 1926, and Colonel Stimson negotiated a truce between the bulk of the Liberal and Conservative forces then engaged in civil warfare. At the peak of the intervention, in 1928, there were 5365 marines and 465 naval officers and men in Nicaragua. During the entire period of the intervention, the American forces lost five officers and 29 men killed in action against insurgents and bandits and 14 officers and 85 men fatally wounded. The cost of the in-

tervention was officially estimated at about \$1,000,000 more than the cost of maintaining the same forces in the United States. With the withdrawal of the marines, the task of maintaining order in Nicaragua was left to the Guardia Nacional, the constabulary of between 2500 and 3000 men, partly officered by marines. Only the collection of customs still remained under American supervision.

**HOSTILITIES DURING 1932.** Over a period of several years, the Guardia had gradually taken over the major share in the campaign against Sandino and his guerrillas. During 1932 it faced a major test of its efficiency in the form of increased insurgent activities. Beginning in April, the Guardia patrols encountered rebel bands of from 150 to 200 men well equipped with rifles, machine guns, and bombs. In a clash near Ocotal on April 21 three marine officers of the Guardia were killed. On April 4 a Guardia patrol mutinied and killed its marine lieutenant. On April 25, 45 guardsmen, commanded by three United States Marine officers, attacked Sandino's main camp. They reported the killing of Florencio Silva, Sandino's chief aide, and nine other rebels. Two days later insurgent activities caused the imposition of martial law in a number of departments. In the month from August 29 to September 24, the Guardia reported 17 engagements with insurgents. The village of San Francisco del Carnicero, 20 miles from Managua, was sacked on October 1. On October 20, 100 insurgents ambushed a Guardia patrol of 38 men, which escaped with the loss of 12 men after inflicting heavy casualties upon the enemy. Twenty-two rebels and three guardsmen were killed on December 26, when a Guardia detachment drove off an insurgent band which attacked a troop train near Santa Lucia. In all of their encounters, the Guardia patrols gave a good account of themselves. At the end of the year peace negotiations were reported in progress between Sandino and General Sacasa, who was Sandino's commanding officer previous to the United States' intervention.

**OTHER DEVELOPMENTS.** Following the presidential elections, the Liberal and Conservative parties made public three agreements, which had been ratified November 5, to insure the "patriotic cooperation" of both groups in maintaining a stable peace. One agreement, relating to the pacification of the country, was kept secret. A second committed both parties to constitutional reform establishing proportional representation in the national Congress, in the judiciary, and in municipal government. Two bi-partisan commissions, each composed of a cabinet minister and a Liberal and Conservative representative, were to approve all important decisions in the fields of finance and foreign affairs. In case of disagreement, the minority member was authorized to submit to Congress the reasons for his opposition. The third agreement provided for provisional inauguration of these reforms pending revision of the Constitution.

On August 10, Congress authorized the government to borrow \$1,500,000 from the National Bank of Nicaragua to provide funds for railway and highway construction, the expenses of the American election mission, and to meet the budget deficit. The net revenues of the National Railway, the Corinto and San Juan del Sur wharves, the road taxes, and the customs duties on luxuries were pledged as security for the loan. Congress

on September 3 approved a 25 to 100 per cent general increase in tariff rates, effective immediately, to prevent the importation of luxuries and to protect home industries. The destruction of Managua by an earthquake in 1931 and the continued low price of coffee caused an acute depression in Nicaraguan business and finance and payment of the principal on the foreign debt was partially suspended during 1932. In December, Irving A. Lindberg, American Collector General of Customs, applied to the Council of Foreign Bondholders in London for authority to suspend amortization payments on the foreign debt, part of the 1909 bonds being held by Europeans. It was indicated that interest payments would be continued. Nicaragua was several years ahead of schedule in her payments on both external and internal debts.

**NICHOLS MEDAL.** See **CHEMISTRY, INDUSTRIAL.**

**NICKEL.** Nickel production from Canada, including refined nickel, nickel in matte exported and in nickel oxide, at 30,327,968 pounds valued at \$7,179,862, was considerably less than in 1931, according to the preliminary report of the Mining, Metallurgical and Chemical Branch of the Dominion Bureau of Statistics. The largest nickel company curtailed output below sales, thus reducing stocks, and it is reported that towards the end of the year a strengthening demand for material led to an increase in production by this company. The Falconbridge Nickel Mines, Ltd., commenced construction of a 250-ton concentrator, sintering plant, and other additions to their plant in September, and at the end of the year construction was being carried on at their Norwegian refinery which will increase its output by 1000 metric tons annually. Credit is due the International Nickel Company for the research work which led to a number of new peacetime uses for this metal. The year 1932 witnessed increased use of four nickel alloys, two in the nickel cast iron alloy group, one in nickel-clad steel plate, and the other in the stainless corrosion resistant high nickel content.

**NICOTINE, NEO.** See **CHEMISTRY, INDUSTRIAL.**

**NIEMEYER, JOHN HENRY.** An American painter and educator, died in New Haven, Conn., Dec. 7, 1932. He was born in Bremen, Germany, June 25, 1839, and was brought to the United States at the age of four. He received his art education at the Ecole des Beaux Arts under Gérôme and Yvon and studied also in Paris under Jacquesson de la Chevreuse and Cornu. On his return to the United States in 1871 he was appointed professor of drawing at the Yale School of Fine Arts, where he remained until his retirement as professor emeritus in 1908. Among his distinguished students were the sculptors, Augustus Saint-Gaudens and Bela Lyon Pratt, and the painter, Frederic Remington. He was elected a member of the Society of American Artists in 1882 and an associate member of the National Academy of Design in 1906. His paintings included a great variety of subject-matter, with genre scenes and landscapes predominating. Among his portraits were those of John Burroughs and Theodore Dwight Woolsey, a former president of Yale. He was represented in the Smith College Art Gallery and the gallery of the Yale School of Fine Arts.

**NIGER, COLONY OF THE.** A colony in the interior of French West Africa (q.v.), lying east of

the upper Niger and north of British Nigeria. Lieutenant-Governor in 1932, M. Tellier.

**NIGERIA, COLONY AND PROTECTORATE OF.** A West African territory, belonging to Great Britain; divided into the Northern and Southern Provinces and including for administrative purposes the British mandated territory in the Cameroon. Total area and population, including the British Cameroons (1931 census), 372,674 square miles; 20,762,083 inhabitants. The seat of the government is Lagos, population (1931), 140,000. In 1929, there were about 2985 primary and elementary schools, with 194,700 pupils, and 30,203 Mohammedan schools with 300,500 pupils. The chief products and exports are: palm oil and kernels, cotton lint, cacao, and mahogany. Nigeria ranks sixth among tin-producing countries. Imports in 1930 were valued at £12,700,037 and exports at £15,174,315. Trade was chiefly with the British Empire, which supplied £8,978,419 of imports in 1930. Revenue of the entire colony and protectorate in 1930-31 totaled £7,190,054 including £1,567,854 repaid from loan works; and the total expenditure £6,329,668. The public debt was £28,350,582 on Mar. 31, 1931. The two main railways lines, with their branches, aggregated 1743 miles of line in 1930. There is an extensive network of motor highways, but the numerous rivers and creeks form the principal routes of transportation.

The Northern Provinces and Southern Provinces are each administered by a lieutenant-governor appointed by the King but subject to the authority of the Governor. The Governor is assisted by an executive council and by a partly elective legislative council, which legislates for the Southern Provinces only. Laws affecting the Northern Provinces are promulgated directly by the Governor. Governor in 1932, Sir Donald C. Cameron, appointed December, 1930.

**NINEVEH.** See ARCHÆOLOGY.

**NITRATE.** See GEOLOGY; CHILE under *Production and History*.

**NITROGEN.** See FERTILIZERS.

**NOBEL PRIZES.** The Nobel prizes for 1932 were presented in Stockholm on December 10 by King Gustaf to, or in behalf of, the following persons who, in accordance with the will of the Swedish inventor and philanthropist, Alfred B. Nobel, were deemed to have made the greatest contributions toward the progress of the world and the welfare of mankind: Sir Charles Scott Sherrington and Edgar Douglas Adrian (medicine and physiology), John Galsworthy (literature), and Dr. Irving Langmuir (chemistry). There were no awards announced for the year in physics or in world peace. The awards in medicine and physiology are determined by the Royal Caroline Medico-Surgical Institute of Stockholm; the award in literature by the Royal Swedish Academy; the awards in chemistry and physics by the Royal (Swedish) Academy of Science; and the peace award by a committee of five which is elected by the Norwegian Storting. In addition to medals and diplomas, a financial award from funds of the \$9,000,000 left for the purpose by the founder is distributed to the prize winners. In 1932 the value of the prizes totaled about 172,000 kroner each which, through the depreciation of Swedish currency amounted to about \$30,900.

The award of the prize in medicine and physiology to Sir Charles Sherrington and Professor Adrian was due to their joint discoveries in con-

nection with the function of the neurons, or nerve cells. Sherrington is known to physiologists as the propounder of the law, bearing his name, that "every posterior spinal nerve root supplies a special region of the skin, although fibres from adjacent spinal segments may invade such a region." Educated at Caius College, Cambridge, he served as professor of physiology in the University of Liverpool from 1895 to 1913, when he resigned to become Waynflete professor of physiology at Oxford University. He has been honored by degrees from leading universities in England, France, Germany, Belgium, Ireland, Scotland, Wales, the United States, and Canada, and subsequent to the announcement of the Nobel prize, it was announced that the University of Uppsala would also confer upon him the degree of Honorary Doctor of Medicine.

Professor Adrian, co-recipient of the prize in medicine and physiology, is known most widely for his outstanding work in connection with the functions of the brain and nervous system. He was educated at Westminster and at Trinity College, Cambridge, and has been a Fellow of Trinity College since 1913, and is also Foulerton Professor of the Royal Society. In addition to papers appearing in technical journals, he is the author of *The Basis of Sensation*, published in 1928.

John Galsworthy, the recipient of the year's award in literature, was unable to appear at the ceremony in Stockholm because of illness. The literary works of Mr. Galsworthy are too well known to require any special comment here. In the fields of drama and of fiction there will be few to deny the justice of the award. The long line of meritorious works in either field is a tribute to his genius and ability.

The award in chemistry to Dr. Irving Langmuir for his discoveries in surface chemistry was not unexpected, as he is one of the most distinguished research scientists of the period. Dr. Langmuir was educated at Columbia University and at the University of Göttingen, Germany, and has been given honorary degrees by a number of the leading colleges in the United States, and also by Edinburgh University and the Deutsche Ingenieur Technische Hochschule, Berlin. For a short time he served as instructor in chemistry at Stevens Institute, but since 1909 has been connected with the research laboratory of the General Electric Company at Schenectady. In 1915, he was awarded the Nichols Medal by the American Chemical Society for his researches on chemical reactions at low pressures; in 1918 the Royal Society of London awarded him the Hughes Medal for researches in molecular physics; in 1920 he received the Nichols Medal for researches on atomic structure, and also the Rumley Medal from the American Academy of Arts and Sciences for his researches on thermionic phenomena; in 1925 the Royal Academy of Lincei (Rome) gave him the Cannizzaro prize, and in 1928 he received the Perkin medal. His inventions include the nitrogen-filled incandescent electric light, the atomic hydrogen welding arc, and many types and improvements of vacuum tubes and radio tubes. See the NEW INTERNATIONAL ENCYCLOPÆDIA, vol. xvii, pp. 184-185.

**NON-FEDERATED MALAY STATES.** See UNFEDERATED MALAY STATES.

**NORDENSKIÖLD, NILS ERLAND HERBERT, BARON.** A Swedish ethnologist, died in Göteborg July 4, 1932. He was born in Stockholm July 19,

1877, and attended the University of Uppsala. He was connected with the Stockholm Museum of Natural History from 1906 to 1908, and in 1913 became director of the ethnographic division of the Göteborg Museum. After 1914 he was professor of ethnology at the University of Göteborg. He made journeys of discovery in Patagonia (1899), Argentina and Bolivia (1901-02), Peru and Bolivia (1904-05), Bolivia (1908-09), Bolivia and Brazil (1913-14), and Panama and Colombia (1927), from each of which he brought back large collections for the Swedish museums. In 1912 he was awarded the Loubat prize for American research by the Royal Swedish Academy, and in 1924 was secretary-general of the International Congress of Americanists at its meeting in Stockholm. His works, which were concerned largely with the collation of data from the whole South American continent, especially its material culture, include: *Från hogfjäll och urskogar* (1902); *Indianlif i El Gran Chaco* (1910); *Indianer och hvita i nordöstra Bolivia* (1911); *De sydamerikanska indianernas kulturhistoria* (1912); *Forskningar och äventyr i Sydamerika, 1913-14* (1915); *Dromsagor från Anderna* (1916); *De geografiska upptäckternas historia: Sydamerika* (1919); and *Comparative Ethnographical Studies*, dealing with the South American Indians (6 vols., 1919-25).

**NORTH AUSTRALIA.** See NORTHERN TERRITORY.

**NORTH CAROLINA.** POPULATION. According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 3,170,276, as against 2,559,123 in 1920. Charlotte, the most populous city, had (1930) 82,675 inhabitants; Raleigh, the capital, 37,379.

**AGRICULTURE.** The accompanying table shows the acreage, production, and value of the principal crops for 1932 and 1931.

Crop	Year	Acreage	Prod Bu	Value
Tobacco	1932	476,000	280,840,000 <sup>a</sup>	\$33,701,000
	1931	698,000	479,526,000 <sup>a</sup>	42,198,000
Cotton	1932	1,373,000	640,000 <sup>b</sup>	21,120,000
	1931	1,333,000	756,000 <sup>b</sup>	22,567,000
Corn	1932	2,322,000	34,830,000	15,674,000
	1931	2,345,000	48,072,000	19,710,000
Hay	1932	764,000	580,000 <sup>c</sup>	6,516,000
	1931	745,000	705,000 <sup>c</sup>	9,074,000
Peanuts	1932	294,000	276,360,000 <sup>a</sup>	3,593,000
	1931	281,000	323,150,000 <sup>a</sup>	5,494,000
Potatoes	1932	68,000	6,596,000	4,485,000
	1931	79,000	8,532,000	4,778,000
Sweet potatoes	1932	94,000	7,990,000	4,794,000
	1931	80,000	6,560,000	4,592,000
Wheat	1932	376,000	3,572,000	2,322,000
	1931	339,000	4,407,000	3,129,000
Oats	1932	205,000	3,690,000	1,292,000
	1931	197,000	4,531,000	1,722,000

<sup>a</sup> Pounds. <sup>b</sup> Bales. <sup>c</sup> Tons

**MINERAL PRODUCTION.** Stone, the chief mineral product, fell to a total production of 1,099,960 short tons (1930), from 1,607,670 (1929); by value, to \$2,456,887 (1930), from \$3,880,113 (1929). The yearly total of the value of clay products likewise declined, to \$1,714,304 (1930), from \$3,196,830 (1929). The chief source of crude feldspar within the Union, North Carolina produced 103,163 long tons of feldspar in 1930 and 103,273 in 1929; by value, \$593,552 in 1930, and \$598,938 in 1929. There was also a considerable yearly total by value of minor products, which included sand and gravel, mica, coal, copper, and iron ore. The total value of the

State's mineral product, duplications eliminated, was \$7,462,450 for 1930; for 1929, \$10,963,896.

**FINANCE.** State expenditures in the year ended June 30, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments, \$23,229,304 (of which \$6,502,618 was for local education); for interest on debt, \$7,940,843; for permanent improvements, \$13,274,854; total, \$44,469,174 (of which \$14,558,800 was for highways, \$3,523,577 being for maintenance and \$11,035,223 for construction). Revenues were \$40,427,133. Of these, property and special taxes furnished 20.2 per cent; departmental earnings and compensation to the State for officers' services, 11.7; sale of licenses, 52.5 (in which was included a gasoline sale tax that produced \$9,767,374). Funded debt outstanding on June 30, 1931, totaled \$179,091,400, of which \$110,249,000 was for highways. Net of sinking-fund assets, the debt was \$169,400,309. The State levied in the year no general ad valorem taxes on property.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 5057.70. In the year previous, 104.96 miles of line had been abandoned; 1.31 miles put in operation.

**EDUCATION.** Difficulty in obtaining the revenue requisite to the support of the public schools was acute in 1932. However, the *Journal* of the National Education Association stated at the end of the year that a six-month school term was operated, as a minimum, in every district of the State. Teachers were somewhat commonly subjected to reduction of the yearly pay and to heavier teacher-loads. For the academic year 1931-1932, the number of persons of school age in the State was reported as 1,058,365. There were enrolled in the public schools 865,681 pupils. Of these, 746,450 were in common schools or elementary grades, and 110,231 were in high schools. The year's expenditures for public-school education were: current, \$28,515,583; total (including capital outlay), \$32,420,485. The salaries of teachers averaged, by the year, \$744.10. The action taken by the Legislature in 1931, to assure the six months' minimum term through State aid to districts requiring it for this purpose, had much influence in 1932 toward preventing curtailment of the school year.

**CHARITIES AND CORRECTIONS.** In order to administer the use of money borrowed for purposes of relief, from the Reconstruction Finance Corporation, the Governor's Office of Relief was organized, with a director of its own. The Commissioner of Public Welfare was made an advisory assistant to this director. Ten district supervisors were appointed, to direct the expenditure of State aid for the relief of the destitute, among the counties; but the actual disbursement of the money rested largely with county superintendents of public welfare. State aid for the county welfare offices began in 1931, when the State, undertaking to maintain school terms at the minimum of six months a year, also assumed the share of expense previously borne by county boards of education for welfare officers as school truant officers. This course brought the number of counties employing paid welfare officers, by the end of 1932, up to 62 out of the total 100.

The regular permanent organization exercising the central authority over the State's institutions for the care and custody of persons con-

tinued in 1932 to be the State Board of Charities and Public Welfare. It was composed of seven unpaid members and employed an executive staff headed by a commissioner of public welfare. It supervised the State's eleemosynary and penal institutions, supervised the welfare work of counties, and carried on work in mental health and hygiene, child welfare and Negro welfare, respectively, through five executive divisions. The institutionalized population under State control was reported at the end of the year as approximately 18,000.

**POLITICAL AND OTHER EVENTS.** Appeals of Luke Lea, his son, and his former associate Wallace B. Davis, from convictions carrying long prison sentences for misapplication of funds in connection with the calamitous failure of the Central Bank and Trust Company in 1930, were carried to the Federal Supreme Court, which denied review on October 24. Some \$40,000,000 of debts of Asheville and of Buncombe County, which had gone into default after the failure, remained for the most part in default in 1932. A local-government commission created by the Legislature in 1931, exerted control over the bond issues of local governing bodies and restricted these to less than \$1,000,000 for the first year of its existence, as against \$6,147,412 for the last year previous. The Democratic primary election on June 3 gave the lead to Robert R. Reynolds, an advocate of the repeal of prohibition, over Cameron Morrison as candidate for Senator. In a run-off primary on July 2 Reynolds decisively defeated Morrison, a supporter of prohibition.

**ELECTIONS.** The State's popular vote of November 8 was cast for the Democratic National ticket in a proportion somewhat less than  $2\frac{1}{2}$  to 1. For President the totals were reported: Roosevelt (Dem.), 497,566; Hoover (Rep.), 208,344. Robert R. Reynolds, Democrat and opponent of prohibition, was elected to the United States Senate both for the full ensuing term and for the remainder, terminating March 4, 1933, of the unexpired term for the seat previously held by the interim appointee, Cameron Morrison. Eleven Democrats, all but one being the actual incumbents, were elected as Representatives to the Seventy-third Congress. John C. B. Ehringhaus, Democrat, was elected Governor, defeating Clifford B. Frazier, Republican, and the entire Democratic State ticket was likewise elected.

**OFFICIALS.** The chief officials of the State, serving in 1932, were: Governor, O. Max Gardner; Lieutenant-Governor, R. T. Fountain; Secretary of State, J. A. Hartness; Treasurer, John Stedman; Auditor, Baxter Durham; Attorney-General, Dennis G. Brummitt; Superintendent of Public Instruction, A. T. Allen.

**Supreme Court:** Chief Justice, Walter P. Stacy; Associate Justices, W. J. Adams, Heriot Clarkson, George W. Connor, W. J. Brogden.

**NORTH CAROLINA, THE UNIVERSITY OF.** A State institution for the higher education of men and, with restrictions as to admission, of women in Chapel Hill, N. C., founded in 1795. The enrollment in the autumn of 1932 was 2617 regular students, with 2499 in extension courses. There were 1446 registered for the 1932 summer session. The faculty had 215 members. The endowment amounted to \$2,000,000, and the total budget for the year was \$1,316,458. The library contained 250,000 volumes. President, Frank Porter Graham, M.A., LL.D., D.C.L., Litt.D.

**NORTH CENTRAL, formerly NORTHWESTERN, COLLEGE.** A coeducational institution of higher learning in Naperville, Ill., founded in 1861. In the autumn of 1932 there was an enrollment of 469 students, of whom 303 were men and 166 women. There were 36 members on the faculty. The productive funds of the college amounted to \$1,090,480.58, and the current income for the year was \$265,561.30. The library contained 20,000 volumes. The Merner Gymnasium and Field House, costing \$350,000, was dedicated in January, 1931. President, Edward Everett Rall, Ph.D.

**NORTH DAKOTA. POPULATION.** According to the Fifteenth Census, the population of the State on Apr. 1, 1930, was 680,845, as against 646,872 in 1920. Bismarck, the capital, had (1930) 11,090 inhabitants.

**AGRICULTURE.** The accompanying table shows the acreage, production and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod. Bu.	Value
Wheat ...	1932	10,325,000	107,156,000	\$34,290,000
	1931	6,295,000	40,216,000	18,499,000
Hay ....	1932	3,228,000	8,198,000 <sup>a</sup>	11,763,000
	1931	3,390,000	2,238,000 <sup>a</sup>	12,466,000
Flaxseed ..	1932	930,000	3,720,000	3,162,000
	1931	1,057,000	4,017,000	4,499,000
Barley ..	1932	2,265,000	39,638,000	4,757,000
	1931	1,812,000	18,482,000	4,251,000
Corn ....	1932	1,404,000	26,676,000	4,001,000
	1931	1,190,000	22,015,000	6,604,000
Oats ....	1932	2,112,000	44,352,000	3,282,000
	1931	1,498,000	18,276,000	2,741,000
Potatoes ..	1932	161,000	9,338,000	1,961,000
	1931	121,000	8,954,000	2,955,000
Rye ..	1932	1,040,000	11,440,000	1,716,000
	1931	770,000	4,620,000	1,016,000

<sup>a</sup> Tons.

**MINERAL PRODUCTION.** The production of coal continued to constitute about nine-tenths of the mineral industry of the State, in point of annual values attained. There were mined in 1931 about 1,610,000 short tons of coal, only slightly less than the 1,700,157 mined in 1930. The value of coal mined in 1930 was \$2,768,000. There was a minor industry in clay products, which totaled \$160,838 for 1930. The remainder of the yearly mineral total was chiefly contributed by the value of the production of sand and gravel. The total value of the State's mineral product was \$3,056,493 for 1930; for 1929, \$3,465,563.

**FINANCE.** State expenditures in the year ended June 30, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments, \$8,813,420 (of which \$1,290,953 was for local education); for conducting public-service enterprises, \$3,101,475; for interest on debt, \$2,012,926; for permanent improvements, \$3,493,166; total, \$17,420,987 (of which \$4,385,782 was for highways, \$1,352,797 being for maintenance and \$3,032,985 for construction). Revenues were \$17,642,274. Of these, property and special taxes furnished 19.2 per cent; departmental earnings and compensation to the State for officers' services, 10.3; sale of licenses, 17.6 (in which was included a gasoline sale tax that produced \$1,315,000). Funded debt outstanding on June 30, 1931, totaled \$40,357,200. The entirety of this amount was consequent to divers loans made by the State; these were to the Grand Forks Mill and Elevator Association, to borrowers upon real estate, and to the Bank of North Dakota. Net of sinking-fund assets, the debt was \$2,693,394. On an assessed

valuation of \$998,981,981 the State levied in the year ad valorem taxes of \$3,206,732.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 5275.01.

**EDUCATION.** A health programme was put in operation during the year, through schools in all the counties. It included demonstration conferences and the introduction of a new course of study in physical education and health; also aid in the preparation of hot noon lunches. The scheme was guided by an aim to shift teaching from simple knowledge about principles of health to the inculcation of healthful habits. For the academic year 1931-32 the number of persons of school age in the State was reported as 224,118. There were enrolled in the public schools 165,008 pupils. Of these, 133,519 were in common schools or elementary grades; in high schools, 32,089. The expenditures of the year for education in public schools totaled \$14,211,084. Salaries of teachers, by the month, averaged \$106.57.

**CHARITIES AND CORRECTIONS.** The State Board of Administration, under the system in force in 1932, had jurisdiction over the State's seven institutions for the care or custody of persons. The board was composed of three appointed members and two members *ex officio*. Its duties were not restricted to the penal and eleemosynary field; it had charge also of the State educational institutions, the State Capitol, and other State property, over which it exercised general administrative powers. Through a superintendent, it conducted the Child Welfare Department of the State. The aggregate population of the State's seven welfare institutions, as stated in December, 1932, was about 3300.

**POLITICAL AND OTHER EVENTS.** In the State primaries of June 29 the nominees of the Non-Partisan League won the Republican nominations, the regular Republicans being defeated; Senator Nye was renominated. The credit of the State was depressed by the submission of a referendum proposal, backed by the Farmers' Union, to be voted at the November election, calling for a suspension for three years of all existing indebtedness except that of corporations. This proposal was initiated by petition. It included unpaid taxes. In consequence of apprehension that the moratorium might be ratified by popular vote the Reconstruction Finance Corporation refused to lend to the State, and the State banking institution, the Bank of North Dakota became unable to grant loans to farmers on the accustomed scale, or to find takers for farm loan bonds. These difficulties tended to diminish after election.

**ELECTIONS.** The popular vote of November 8 was cast for the Democratic National ticket in the proportion of about  $2\frac{1}{2}$  to 1. For President the officially reported totals were: Roosevelt (Dem.), 178,350; Hoover (Rep.), 71,722. Sen. Gerald P. Nye, Republican, was none the less reelected, and the Republicans elected their State ticket, including William Langer, candidate for Governor, who defeated H. C. De Puy, Democrat. The State elected two Republican Representatives-at-Large. A constitutional amendment to repeal the provision for State prohibition was adopted by popular vote. The initiated proposal to establish a moratorium of three years on non-corporate private debts was defeated by a popular majority of 50,000 or more.

Another initiated proposal, to cut by 20 per cent, and in some cases more, the pay of all State employees from the Governor down, obtained a majority of the popular vote and, under the terms of the State's initiative system, gained the force of a law.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, George F. Shafer; Lieutenant-Governor, John W. Carr; Secretary of State, Robert Byrne; State Treasurer, Berta E. Baker; Auditor, John Steen; Attorney-General, James Morris; Superintendent of Public Instruction, Bertha R. Palmer.

**Supreme Court:** Chief Justice, W. L. Nuessle; Associate Justices, Luther E. Birdzell, A. G. Burr, John Burke, A. M. Christianson.

**NORTH DAKOTA, UNIVERSITY OF.** A State institution of higher education at University Station, Grand Forks, N. D., founded in 1883. The enrollment for the autumn of 1932 was 1473, classified as follows: College of Liberal Arts, 426 men, 211 women; School of Commerce, 84 men, 14 women; School of Education, 97 men, 208 women; College of Engineering, 175 men; School of Law, 60 men, 4 women; School of Medicine, 57 men. Summer session 1932, enrollment, 518. The faculty numbered 120 (full-time teaching staff). The income for 1932 was derived as follows: State appropriation, maintenance, \$449,506; land grant funds, \$116,758; student fees, \$61,000; income from dormitories, athletics, etc., \$18,850; extension and correspondence fees, \$4400; miscellaneous local income, \$8000. Grounds, buildings, and equipment were valued at \$2,400,000. Value of gifts, 1931-32, \$5000. The library contained 89,333 catalogued volumes. President, Thomas Franklin Kane, Ph.D., LL.D.

**NORTH EASTERN NEW GUINEA.** See NEW GUINEA, TERRITORY OF.

**NORTHERN AUSTRALIA.** See NORTHERN TERRITORY.

**NORTHERN RHODESIA.** See RHODESIA.

**NORTHERN TERRITORIES.** See under GOLD COAST.

**NORTHERN TERRITORY OF AUSTRALIA.** A territory of the Commonwealth of Australia, bounded on the north by the Arafura Sea, south by South Australia, east by Queensland, and west by Western Australia. The two administrative divisions (North Australia and Central Australia) of the Northern Territory of Australia were abolished on June 12, 1931, when the Northern Australia Act 1926 was repealed by the Northern Territory (Administration) Act 1931, and the whole was placed under the control of an administrator. Area, 523,620 square miles; estimated mean population for 1932 was 4504 exclusive of full-blood aboriginals. Aboriginals including half castes numbered about 21,824. Principal town and port, Darwin, population about 1000. Administrator in 1932, R. H. Weddell.

**NORTHWESTERN UNIVERSITY.** A co-educational institution of higher learning in Evanston and Chicago, Ill., founded in 1851. It is composed of a college of liberal arts, a graduate school, and schools of engineering, commerce, journalism, music, education, and speech in Evanston; and schools of law, medicine, dentistry, commerce, and journalism in Chicago. For the autumn term of 1932 there was an enrollment of 5952 full-time and 4298 part-time students. In the 1932 summer session 2210 students were enrolled. The faculty included 684 persons of the rank of instructor or above. The endowment as

of June 30, 1932, was \$24,450,000, yielding \$1,118,000 in income; the total income for the fiscal year was \$4,600,000. In the various libraries of the university there were approximately 387,000 bound volumes and 200,000 pamphlets. President, Walter Dill Scott, Ph.D., LL.D.

**NORTHWEST TERRITORIES.** A vast area in northern Canada, largely uninhabited and only partially explored, lying north and west of Hudson Bay and Strait, north of the Prairie Provinces, and east of Yukon Territory. Total area, 1,309,682 square miles (1,258,217 square miles of land and 51,465 of water). Population (1931 census), 9763. Most of the inhabitants were Eskimos and Indians. Furs were valued at \$1,632,446 in 1929-30 and numbered 219,604. The division of the Territories into three provisional districts of Mackenzie, Keewatin, and Franklin became effective on Jan. 1, 1920. They are administered from Ottawa, the capital of the Dominion, by a commissioner, deputy commissioner, and five councilors appointed by the Governor-General. Commissioner in 1932, H. H. Rowatt.

**NORWAY.** A constitutional monarchy, occupying the western and northern half of the Scandinavian peninsula. Capital, Oslo; reigning king in 1932, Haakon VII.

**AREA AND POPULATION.** With an area of 124,587 square miles. Norway reported a census population of 2,814,194 on Dec. 31, 1930, as compared with 2,649,775 at the census of 1920. The urban population in 1930 was 800,514, or 28.4 per cent of the total. For the five years 1927 to 1931, births averaged 48,961 annually and deaths 30,589, the excess of births being 18,372. The birth rate in 1931 was 16.7 per 1000 inhabitants and the death rate 10.9. Overseas emigrants for the period 1927-31 averaged 6649 annually. The population of the chief cities in 1930 was: Oslo, 253,124; Bergen, 98,303; Trondheim (Nidaros), 54,456; Stavanger, 46,780.

**EDUCATION.** Elementary education is compulsory for children from 7 to 14 years of age. Enrollment in elementary schools was 399,421 in 1928-29; in secondary schools, 24,791. The University of Oslo enrolled 3476 students in 1930.

**PRODUCTION.** Norway is largely a barren and mountainous country, only 1,952,000 acres, or 2.6 per cent of the land area, being cultivable in 1931. There were 526,000 acres of permanent meadows and 18,531,000 acres of forests. Livestock in 1931 included 1,310,000 cattle, 1,692,000 sheep, 317,000 swine, and 177,000 horses. In October, 1931, there were 4900 silver-fox farms, with about 120,000 foxes, valued at 60,000,000 crowns (crown equals \$0.2680 at par). Cereals, potatoes, fodder roots, and hay are the chief crops. The fish catch in 1931 was estimated at 60,000,000 crowns (\$15,030,000 at average exchange rates), as against 76,500,000 crowns (\$20,502,000) in 1930. Whaling companies suspended operations during 1931, due to previous overproduction. The output of cod-liver oil was about 1,557,000 gallons (2,069,000 in 1930).

Mineral production in 1930 was valued at 30,470,000 crowns (\$8,166,000) and that of smelted metals at 99,958,000 crowns (\$26,789,000). Labor trouble and reduced demand lowered the mineral output in 1931; iron ore exports declined 42 per cent and pyrite exports 45 per cent. Lumber, pulp and paper, chemicals, and metallurgical products are the chief industrial products. Of a total potential hydro-electric horse power estimated at 12,-

500,000, about 1,195,000 horse power were developed. The number of registered unemployed reached a peak of 38,000 in the winter of 1931-32 and declined to 28,000 at the end of June, 1932.

**COMMERCE.** Both imports and exports showed sharp declines in value in 1931. Imports amounted to 856,599,000 crowns (\$214,664,000), against 1,065,012,000 crowns (\$285,423,000) in 1930. Exports totaled 459,935,000 crowns (\$114,018,000), as compared with 674,729,000 (\$180,827,000) in 1930. The decline was reflected in practically all categories of imports and exports, particularly in paper and pulp exports. Ships, iron and steel, textile fabrics, and coal were the leading imports and fish, wood pulp, Norway salt-petre, and paper were the chief exports, in order of value. In 1930, the United Kingdom furnished 25.8 per cent of the total imports, Germany 21.5 per cent, Denmark and Sweden 15.3 per cent, and the United States 9.7 per cent. The United Kingdom took 25.3 per cent of the general exports, Germany 12 per cent, Denmark and Sweden 11.8 per cent, and the United States 8.1 per cent.

**FINANCE.** Closed accounts for the fiscal year ended June 30, 1931, showed a final deficit of 6,200,000 crowns. The budget estimates for the year balanced at 373,747,000 crowns (about \$100,164,000). The budget estimates for 1931-32 balanced at 355,582,000 crowns (\$95,296,000), but revenues declined sharply during the year, leaving another deficit. As originally balanced in January, 1932, the budget for 1932-33 balanced at 352,634,000 crowns (\$94,505,912 at par). In July, the budget was revised by reducing estimated revenues and expenditures by 3,300,000 crowns each.

The public debt on June 30, 1931, stood at 1,518,054,000 crowns (\$406,838,000), of which 757,625,000 crowns (\$203,043,000) represented the external debt.

**COMMUNICATIONS.** Railway lines reported a total of 2406 miles of line on June 30, 1931, of which 2177 miles were state and 229 miles private lines. Highways, mostly graded earth or gravel, extended 23,343 miles. The Norwegian merchant fleet ranked fourth among the fleets of the world in 1932, and was the most modern. It consisted on July 1, 1932, of 1582 steamships of 2,410,000 gross tons, 419 motor ships of 1,748,000 tons, and 7 sailing ships of 3000 tons, or a total of 2008 vessels of 4,167,000 gross tons. This was an increase of about 100,000 tons since July 1, 1931. Gross earning of the merchant marine were estimated at 370,000,000 crowns (\$92,685,000) for 1931, as against 411,500,000 crowns (\$111,220,000) in 1930. Vessels entering the ports in 1930 numbered 10,025, of 7,601,000 net registered tons. The telegraph and most of the telephone lines are owned by the state.

**GOVERNMENT.** Executive power is vested in the King, who acts through a cabinet or council of state, and legislative power in the Parliament or Storting of 150 members, elected for three years by universal suffrage without distinction as to sex. When assembled, the Storting divides itself into the Lagting and Odelsting, comprising one-fourth and three-fourths of the membership of the Storting, respectively. The two sections function much as the upper and lower houses of bicameral Parliaments. As a result of the elections held Oct. 20, 1930, the composition of the Storting was as follows: Labor, 47; Conservative, 41; Radical, 33; Agrarian, 25; Independent Liberal, 3; Radical People's party, 1. The Cabinet at the beginning of 1932 was headed by P. L.



Kolstad (Agrarian), who assumed office May 12, 1931.

**HISTORY.** The year 1932 in Norway was rather uneventful, except for the growing intensity of the economic depression. The decline in world trade severely curtailed the activities of Norway's great merchant marine. Taxes on customs, railway incomes, personal incomes, and beer all fell below estimates and late in 1932 the Ministry of Finance estimated that the 1932-33 budget would show a deficit of about 35,000,000 kroner (about \$9,380,000). On December 11, the cabinet proposed a turnover tax on all retail trade except milk, cream, and certain kinds of bread, a project which aroused the vigorous opposition of commercial interests. The number of applicants registered at the employment exchanges in October, 1932, was 35,082.

Having an extensive trade with Great Britain and being one of the few countries to purchase more from than she sold to Britain, Norway was greatly concerned by the Ottawa commercial treaties (see CANADA and GREAT BRITAIN under *History*). Practically all of Norway's exports to the United Kingdom were adversely affected by the new British tariff. The growing economic and political coöperation among the Scandinavian countries was further stimulated by the mutual danger to their prosperity presented by the Ottawa treaties. On January 6-7 the Foreign Ministers of Norway, Sweden, and Denmark met in Copenhagen to discuss methods of safeguarding their common interests. They again consulted one another before commencing, late in November, separate conversations with the British government for the purpose of adjusting their commercial relations to the conditions created by the Ottawa pacts. These negotiations were under way at the end of the year. At a meeting of Scandinavian industrialists at Oslo on October 25, sentiment in favor of establishing a Scandinavian bloc in the negotiations with Great Britain was expressed.

For Norway's controversy with Denmark over territory in Greenland, see GREENLAND under *History*. Also see SVALBARD; NETHERLANDS, THE, under *History*.

**NORWEGIAN LITERATURE.** See SCANDINAVIAN LITERATURE.

**NORWOOD, ROBERT.** An American clergyman, died in New York City, Sept. 28, 1932. He was born in New Ross, N. S., Canada, Mar. 27, 1874, and was graduated from the University of King's College, Windsor, N. S., in 1897. Ordained a deacon in the Church of England in 1907 and a priest the following year, he served as missionary at St. Andrew's Church, Neil's Harbor, Cape Breton, during 1898-99, as curate of St. Luke's Church, Hubbards, N. S., during 1899-1901, and as rector of Trinity Church, Bridgewater, N. S., during 1901-07 and of All Saints Church, Spring Hill, N. S., during 1908-10. After acting as assistant rector of Trinity Church, Montreal, for two years he became rector of Memorial Church, London, Ont. In 1917 he came to the United States, serving as rector of St. Paul's Church, Overbrook, Philadelphia, until 1925 and thereafter as rector of St. Bartholomew's Church, New York City. He was the author of *His Lady of the Sonnets* (1915), *The Witch of Endor* (1916), *The Piper and the Reed* (1917), *The Modernists* (1918), *The Man of Kerioth* (1919), *Bill Boram* (1921), *Mother and Son* (1925), *The Heresy of Antioch* (1928), *The Steep Ascent* (1928), *The Man Who*

*Dared to be God* (1929), *His Glorious Body* (1930), and *Issa* (1931).

**NOTRE DAME, UNIVERSITY OF.** A Roman Catholic institution at Notre Dame, Ind., founded in 1842 for the higher education of men. The university consists of the colleges of arts and letters, science, engineering, law, and commerce. The enrollment in the summer session of 1932 was 763, of which number 477 were religious, sisters of religious communities also being permitted to attend the summer session. The enrollment for the first semester of 1932-33 was 2780. The faculty numbered 188. The endowment amounted to \$1,000,000, while the income for 1931-32, including student fees and departmental income, was \$1,387,319. The library contains 155,465 volumes. President, the Rev. Charles L. O'Donnell, C.S.C., Ph.D.

**NOVA SCOTIA, nō'vā skō'shā.** The easternmost of the Maritime Provinces of Canada; area, 21,428 square miles; population (1931 census), 512,846 (523,837 in 1921). Chief cities, with (1931 census) populations: Halifax, the capital, 59,275; Sydney, 23,089; Glace Bay, 20,706. In 1930 births totaled 11,346; deaths, 6206; marriages, 3451. There were 113,860 students in the 3191 public schools in 1930.

Agriculture is the chief occupation with fruit growing (chiefly apples) one of the important branches. The estimated total value of agricultural production for 1931 was \$27,335,000 including: field crops harvested from 508,296 acres valued at \$10,087,000; dairy products, \$9,541,000; fruits and vegetables, \$3,671,000; poultry and eggs, \$1,351,000; fur farming, \$275,000; wool, \$111,000. Mineral production, 1931, including the small production from Prince Edward Island, was valued at \$21,065,891, compared with \$27,019,367 for 1930. Coal production in 1931 totaled 4,952,182 (preliminary figure) short tons (6,252,552 in 1929); gold, gypsum, and salt are other products. The value of lumber and other sawmill products in 1930 was \$3,238,847.

In 1930, there were 1302 manufacturing establishments, with an invested capital of \$133,671,163, a total of 21,069 employees, and an output valued at \$85,802,921 of which \$41,296,743 represented the value added in process of production. The fish catch in 1930 was valued at \$10,411,200; about 16,000 men were engaged in the industry. There are approximately 1451 miles of railway and 18,000 miles of highway. The Sir A. R. Duncan Commission, appointed on Jan. 25, 1932, to investigate coal-mining conditions in Nova Scotia made its report on Feb. 18, 1932. A summary of this report will be found in the May, 1932, issue of the *Monthly Labor Review*, U. S. Dept. of Labor.

Executive power is vested in a lieutenant-governor appointed by the Dominion Government and a legislative assembly of 38 members elected for five years by popular vote. The province sends 10 members to the Senate and 14 (the representation in the lower house was to be reduced to 12 as a result of redistribution based on the 1931 census) members to the House of Commons at Ottawa. Lieutenant-Governor in 1932, W. H. Covert, appointed October, 1931.

**NOVELS.** See FRENCH LITERATURE; GERMAN LITERATURE; ITALIAN LITERATURE; LITERATURE, ENGLISH AND AMERICAN; PHILOLOGY, MODERN; SPANISH AMERICAN LITERATURE; SPANISH LITERATURE; SCANDINAVIAN LITERATURE.

**NUTRITION.** See FOOD AND NUTRITION.

**NYASALAND**, nyá'sá-lánd', **PROTECTORATE.** A British protectorate in south central Africa, occupying the southern and western shores of Lake Nyasa. Land area, 37,596 square miles; population on Jan. 1, 1931, 1,392,742 natives, 1905 Europeans, and 1599 Asiatics. Zomba is the seat of government and Blantyre and Limbe in the Shiré Highlands are the chief white settlements. In 1930 native schools numbered 2685 with an average attendance of 73,290. Coffee, tobacco, cotton, and tea are the chief crops. In 1931, imports were valued at £726,550 and exports at £537,887. Government revenue totaled £442,663 and expenditures £428,899 in 1930. Governor and Commander-in-Chief in 1932, H. W. Young.

**OATS.** The production of 1932 of 33 countries not including the Soviet Republics and countries of the southern hemisphere as reported to the International Institute of Agriculture was placed at 3,494,891,000 bushels, or nearly 12 per cent above the yield of the preceding year and 2.7 per cent above the annual average for the five years 1926-1930. The area devoted to the crop, 99,633,000 acres, was 1.1 per cent above the acreage of 1931 and about equal to the five-year average. The production of the leading countries other than the United States was reported as follows: Germany 458,160,000 bushels, Canada 419,556,000 bushels, France 353,383,000 bushels, Poland 183,963,000 bushels, Czechoslovakia 114,628,000 bushels, and England and Wales 87,570,000 bushels. The Soviet Republics reported an average annual production of 1,070,531,000 bushels for the five years 1926-1930. Argentina, where the crop is harvested in December, reported a yield of 69,280,000 bushels for the crop year 1931-1932, an average annual yield of 60,949,000 bushels and an acreage of 3,652,000 acres for the crop year 1932-1933. The Canadian crop of 1932 was 20.3 per cent above the crop of the preceding year and about equal to the annual average for the five year period.

The production of the United States in 1932 as reported by the Department of Agriculture was 1,242,437,000 bushels harvested on an area of 41,224,000 acres, or at an average yield of 30.1 bushels per acre. The total production was 11 per cent, the area 3.6 per cent, and the yield per acre 7 per cent greater than in 1931. As compared with the preceding year the acreage was increased in the Western and West North Central States, held at the same level in the South-eastern States and reduced about 10 per cent in the South Central States. Yields above the average were secured in the Pacific Northwest, in the area from South Dakota and Nebraska to Illinois, and in New York and the New England States.

Oats were produced in all the States and the yield of the leading ones was reported as follows: Iowa 223,632,000 bushels, Minnesota 164,700,000 bushels, Illinois 161,512,000 bushels, and Wisconsin 88,655,000 bushels. The areas devoted to the crop in these States were 6,212,000; 4,575,000; 4,307,000, and 2,533,000 acres respectively. The average yield per acre was 37.5 bushels in Illinois, 36 bushels in Iowa and Minnesota, and 35 bushels in Wisconsin. These States accounted for 42 per cent of the acreage and 52 per cent of the production of the country.

The exports of oats and oat products of the United States for the fiscal year ended June 30,

1932 were reported as 2,479,000 bushels of grain and 35,255,000 pounds of oatmeal of which 15,981,000 pounds were shipped in cases or cartons and the rest in sacks. In the preceding fiscal year 907,000 bushels of grain and 39,886,000 pounds of oatmeal were shipped abroad. The imports for the fiscal year 1932 amounted to 65,000 bushels of grain.

**OBERLIN COLLEGE.** A nonsectarian institution for the higher education of men and women in Oberlin, founded in 1833. The registration for the first semester of 1932-33 was 1542, while that for the summer session of 1932 was 143. The faculty had 203 members in 1931-32. The productive funds of the institution as of Aug. 31, 1932, amounted to \$18,208,622, and the income for the year was \$1,463,111. During the year a new dormitory for men was erected, named Andrew H. Noah Hall in honor of Mr. A. H. Noah of Akron, O., who gave \$100,000 towards its construction. The library contained 343,815 bound and 211,638 unbound volumes. President, Ernest Hatch Wilkins, Ph.D., Litt.D., LL.D.

**OBITUARY RECORD FOR THE YEAR.** See NECROLOGY.

**OCCUPATIONAL DISEASES.** See WORKMEN'S COMPENSATION.

**O'BRIEN, FREDERICK.** An American author, died in Sausalito, Calif., Jan. 9, 1932. Born in Baltimore, Md., in 1869, he attended the Jesuit College there and also for a short time the University of Maryland. At the age of 18 he went to sea, and for many years thereafter traveled extensively. After 1894 he was connected at various times with newspapers in New York, San Francisco, Honolulu, Manila, and Paris. From 1903 to 1909 he was correspondent in the Orient for the New York *Herald*, his principal assignment being the Russo-Japanese War. He also published during this period the Manila *Cablenews*. During the World War he served with the Food Administration in California and in Washington, D. C. As a result of a sojourn in the islands of the South Seas he published *White Shadows in the South Seas* (1919), which was largely responsible for the flurry of interest in that region. It was followed by *Mystic Isles of the South Seas* (1921) and *Atolls of the Sun* (1922). He was a fellow of the American Geographical Society.

**OCEANIA**, ó'shē-ān'ā, **FRENCH ESTABLISHMENTS IN.** A French colonial possession consisting of groups of small islands scattered throughout a wide area of the eastern Pacific. The total area of the Establishments is estimated at 1520 square miles; population in 1929, 35,782, of whom 29,600 were natives. The principal island is Tahiti, which contains the chief town, Papeete, with a population of 5569, of whom 2126 were French. Tahiti forms a part of the Society Islands. The other groups are the Marquesas Islands, Tuamotu Islands, Leeward Islands, the Gambier, Tubuai, and Rapa groups, and a number of outlying islands. The budget for 1931 was balanced at 18,867,000 francs (franc = \$0.0392 at par); imports were valued at 45,291,000 francs and exports at 37,702,000 francs. The preparation of copra, sugar, and rum are the chief industries. The principal exports were copra, mother-of-pearl, vanilla, coconuts, and phosphates; the chief imports were wheat, flour, metal work. Governor in 1932, Léonce Joré.

**OCEANS.** See METEOROLOGY.

**OGLETHORPE UNIVERSITY.** An institution for higher education, founded under the

auspices of the Presbyterian Church in the United States in 1913. A university of the same name was in existence in Atlanta, Ga., from 1835 to 1872, being recognized as one of the famous educational institutions of the South. The enrollment for the autumn term of 1932 was 500; 185 persons attended the 1932 summer session. The faculty numbered 31. The income for the year amounted to \$60,000; other donations totaled \$15,000. The library contained 50,000 volumes. President, Thornwell Jacobs, LL.D., Litt.D.

**OHIO. POPULATION.** According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 6,646,697, as against 5,759,394 in 1920. Cleveland, the most populous city, had (1930) 900,429 inhabitants; Cincinnati, 451,160; Toledo, 290,718; Akron, 255,040; Columbus, the capital, 290,564.

**AGRICULTURE.** The accompanying table shows the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod. Bu.	Value
Corn	1932	8,433,000	121,872,000	\$24,374,000
	1931	3,576,000	160,920,000	48,276,000
Hay	1932	2,887,000	2,499,000 <sup>a</sup>	11,743,000
	1931	2,524,000	3,200,000 <sup>a</sup>	21,116,000
Wheat	1932	1,585,000	32,456,000	13,956,000
	1931	1,723,000	50,744,000	22,835,000
Oats	1932	1,591,000	45,344,000	7,255,000
	1931	1,657,000	62,138,000	12,428,000
Potatoes	1932	117,000	11,583,000	5,560,000
	1931	110,000	11,220,000	6,956,000
Tobacco	1932	45,000	32,940,000 <sup>b</sup>	2,503,000
	1931	55,000	54,615,000 <sup>b</sup>	3,550,000

<sup>a</sup> Tons. <sup>b</sup> Pounds.

**MINERAL PRODUCTION.** The production of coal by mines in Ohio suffered further decline, to about 21,440,000 short tons for 1931, from the already curtailed total of 22,551,978 tons for 1930; it declined also as to value from the \$31,643,000 of 1930. The output of the by-product coke-producers fell more severely, by quantity to 3,932,939 short tons for 1931, from 6,163,324 for 1930; by value, to \$17,588,581 (1931), from \$26,706,788 (1930). In much the same proportion as coke, the production of pig iron declined to 4,290,669 long tons (1931), from 6,541,212 (1930); and in value, to \$89,001,692 (1931), from \$111,529,209 (1930). Allied with the iron and steel industry was a substantial production of ferro-alloys, which though somewhat curtailed for 1930 attained for that year the quantity of 78,746 long tons and the value of \$2,365,006. Ohio continued in 1930 to lead the Union in the total of clay products. Its total of these, by value, was \$61,449,555 for 1930; for 1929, \$81,797,495. Clay products formed, in either year, the greatest component of the State's yearly total of native mineral production. The clay products of 1930 were brick and tile to the extent of \$36,107,758; pottery to that of \$25,341,797; each of these totals was some \$10,000,000 behind that for 1929. Cement producers' shipments fell to 6,211,789 barrels (1931), from 8,185,077 (1930); by value, to \$6,066,068 (1931), from \$11,965,038 (1930). For 1930 the production of natural gas was 63,394,000 M cubic feet; in value, \$36,491,000. The yield of petroleum fell to 5,327,000 barrels (1931), from 6,486,000 (1930); by value to \$5,610,000 (1931), from \$11,960,000 (1930). That of lime, to 695,000 short tons (estimated, 1931), from 736,305 (1930); by value to \$4,222,000 (estimated, 1931), from \$5,711,855 (1930). That of salt rose

to 1,398,000 short tons (1931), from 1,311,440 (1930); but as to value fell to \$2,526,952 (1931), from \$3,015,206 (1930). That of gypsum was 255,337 short tons (1930), in value \$3,094,495. Sand and gravel and stone of inexpensive grades were each produced to a large aggregate yearly value. The total value of the mineral product of the State (coke, ferro-alloys, pig iron, and certain duplications eliminated) was \$186,971,555 for 1930; for 1929, \$220,061,343.

**FINANCE.** State expenditures in the year ended December 31, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments, \$50,003,693 (of which \$5,351,822 was for local education); for interest on debt, \$526,382; for permanent improvements, \$26,370,936; total, \$76,976,804 (of which \$31,657,522 was for highways, \$11,949,697 being for maintenance and \$19,707,825 for construction). Revenues were \$88,327,713. Of these, property and special taxes furnished 16.3 per cent; departmental earnings and compensation to the State for officers' services, 6.9; sale of licenses, 56.3 (in which was included a gasoline sale tax that produced \$23,973,005). Funded debt outstanding on December 31, 1931, totaled \$8,046,049. Net of sinking-fund assets, the debt was \$6,207,791.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 8732.61. In the previous year 85.6 miles had been abandoned; 13.71 miles put in operation.

**EDUCATION.** The financial situation of public schools in the State was submitted, for study, to a commission appointed by State Director of Education Skinner. The number of persons of school age in the State in 1931 was reported as 1,557,819. There were enrolled in the public schools, in the academic year 1931-1932, 1,299,212 persons. Of these, 831,319 were in common schools or elementary grades; in high schools, 308,267; kindergartens, 33,749; special classes, 26,941; junior high school, 95,373. The year's current expenditures for public-school education were computed, provisionally, as \$101,280,760. Salaries of teachers averaged about \$1500 a year.

**CHARITIES AND CORRECTIONS.** The Department of Public Welfare, which had become operative in 1921, continued in 1932 to exercise the State's strongly centralized direction of activities affecting the care and custody of persons. It had as its head a director (John McSweeney). Its functions included the administration of 22 State institutions, with an aggregate population (December 1) of 34,917; administration of a pay-patient law; examination and classification of prisoners and work of criminal identification and investigation; the conduct of prison industries supplying public departments and institutions; duties in the prevention of blindness and the occupation of the adult blind; through a Board of Parole, and a Division of Probation and Parole, the granting of paroles from penal and reformatory institutions, the supervision of the paroled, and the encouragement of adult probation among the counties; through a Division of Charities, extensive duties as to safeguarding unprotected children, inspecting county jails and workhouses, licensing agencies for the care of children, and hospitalizing crippled children.

State institutions controlled by the department were: for the mentally afflicted, State hospitals at Athens, Cleveland, Columbus, Dayton, Lima, Cincinnati, Toledo, and Massillon; Ohio

Hospital for Epileptics, Gallipolis; Institutions for the Feeble-minded, Columbus, Orient, and Apple Creek; Ohio State Sanatorium, Mount Vernon; Ohio Soldiers' and Sailors' Home, Sandusky; Madison Home, Madison; Boys' Industrial School, Lancaster; Girls' Industrial School, Delaware; Ohio Penitentiary, Columbus; Prison Farm, London; Ohio State Reformatory, Mansfield; Ohio Reformatory for Women, Marysville; Bureau of Juvenile Research, Columbus.

**LEGISLATION.** The eighty-ninth General Assembly was twice convened in brief special sessions. A session, adjourned on April 1, passed a series of measures recommended by Governor White, to provide State relief for the needy to the extent of some \$23,500,000. Money for the purpose was in part made available by an act authorizing the diversion, to the purpose of county and city relief work, of receipts from the taxes on gasoline and on motor vehicles. A State Relief Committee, of five members to be appointed by the Governor, was created, to dispense funds. The authority of school boards was extended to enable them to relieve the needs of school children. The excise taxes on public utilities, railroads and pipe lines excepted, was raised by 1 per cent, for the period of five years, to provide money for relief needs. Counties were authorized to issue bonds under specified conditions for the relief of their poor, against State moneys to be allocated to the counties. A one-day special session, held on May 16, rendered lawful the borrowing of funds when this was needful in order to bring about the liquidation, merging, or reopening of suspended State banks. The session also authorized the State Building Commission to pay not more than \$750,000, to be obtained if necessary by sale of bonds, in order to defray the cost of completing the State office building. The building had been damaged by an explosion when almost complete and the contractors had refused to make good the damage at their own expense, thus throwing the matter into litigation.

**POLITICAL AND OTHER EVENTS.** Owing to radical reductions in State expenditure effected in 1931 Ohio was able to enter 1932 in sound financial condition. The State and its subdivisions found themselves obliged in the course of the year to make heavy provisions for the destitute unemployed. The State's share was met largely from the temporary diversion of special State funds and by the imposition of new taxes (see *Legislation*). Some of the counties, backed by Governor White, applied to the Reconstruction Finance Corporation and obtained loans from it to defray their relief expenditures. The occupational tax imposed by Cincinnati in 1919 was repealed in September; it had been a subject of protracted litigation, and the State Supreme Court had decided that corporations, being taxed already by the State, were exempt from this local tax. The State's new tax-classification code was fought in the courts during the year, being sustained in the 7th District Court of Appeals on April 9. In a case involving Allen County the State Supreme Court held in June that all property in the country could be taxed for the service of county bonds originally issued against special assessment on part of the property in the county; this decision, which the Federal Supreme Court refused later to review, settled the validity of bond issues in numerous counties, as chargeable against counties' revenues.

At Columbus on April 14 the State Office Building, a \$5,000,000 structure nearing completion, was partly wrecked by an explosion, followed by a fire, with loss of five lives. The explosion was first laid to a dynamite plot, but after investigation, State Attorney General Bettman reported it to have been caused by leakage from a gas main. In the Hocking Valley coal field the mine operators reduced wages in February to \$3 a day for laborers. This caused about 12,000 men employed in the mines to strike, and the number was increased late in March by a strike order of the United Mine Workers. A fatal clash at the Somers mine on April 14 caused forces of the National Guard to be sent into the area. The troops were attacked while guarding the Somers mine on April 18 and fired on their adversaries, wounding three. Disorders rendered it necessary for operators to close the mines altogether for a time. Governor White, finally, negotiated in May a year's truce in the coal mining field, upon terms that included a labor rate of \$3.28 in wages a day, payment in currency instead of company scrip current at company stores, and settlement of minor points of difference.

At Cleveland Ray T. Miller, Democrat, was elected Mayor on February 16, at a special election, defeating Daniel E. Morgan, former City Manager, who was the Republican candidate. The election followed upon the abandonment of the city-manager plan of administration in November, 1931, and was the city's first mayoral election in eight years. At Akron the Daniel Guggenheim Airship Institute, providing 5000 square feet of laboratories for the study of matters connected with the development of the airship, was built with \$250,000 from the Daniel Guggenheim Foundation and a contribution from the city of Akron.

The State primaries on May 10 resulted in the nomination, for Governor, of David S. Ingalls, an advocate of the repeal of prohibition; on the Democratic side, in the renomination of Governor White. For Senator the Republicans nominated State Attorney General Gilbert Bettman and the Democrats renominated Senator Robert J. Bulkley; both men held views opposed to prohibition.

**ELECTIONS.** The popular vote of November 8 was cast for the Democratic National ticket by a plurality of some 74,000. For President, the officially reported totals were: Roosevelt (Dem.), 1,301,695; Hoover (Rep.), 1,227,679. Sen. Robert J. Bulkley, Democrat, was reelected, defeating Gilbert Bettman, Republican. Gov. George White (Dem.) was reelected, attaining over his opponent, David S. Ingalls (Rep.), a greater plurality than that of Roosevelt. Both houses of the State's General Assembly passed into the hands of Democratic majorities and the Democratic State ticket was elected. The number of Democrats from Ohio in the House of Representatives was increased to 17; 7 Republican Representatives were elected.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, George White; Lieutenant Governor, William G. Pickeral; Secretary of State, Clarence J. Brown; Treasurer, Harry S. Day; Auditor, Joseph T. Tracy; Attorney-General, Gilbert Bettman; Director of Education, J. L. Clifton.

**Supreme Court:** Chief Justice, Carrington T. Marshall; Associate Judges, Thomas A. Jones,

Edward S. Matthias, Robert H. Day, Florence E. Allen, Reynolds R. Kinkade, Will P. Stephenson.

**OHIO NORTHERN UNIVERSITY.** An institution for the higher education of men and women in Ada, O., founded in 1871, and under the direction of the Methodist Episcopal Church. There were 514 students in the fall quarter of 1932, and in the summer quarter of 1932, 311 students. The faculty consisted of 42 members. The productive endowment of the institution amounted to \$504,740, and the income for the year to \$196,682. The library consisted of 10,900 volumes. The law library totaled approximately 8000 volumes. Engineering shops have been added to the campus buildings. President, Robert Williams, A.M., D.D., LL.D.

**OHIO STATE UNIVERSITY.** A State institution for the higher education of men and women in Columbus, Ohio, founded in 1870. The enrollment for the autumn term of 1932 totaled 10,179, distributed as follows: Graduate School 1296; Agriculture 810; Applied Optics 60; Arts and Sciences 1938; Arts-education 64; Commerce and Administration 1647; Dentistry 191; Education 1756; Engineering 1404; Law 260; Medicine 365; Nursing 61; Pharmacy 129; Veterinary Medicine 198. There were in addition 4447 students registered in the Summer Quarter of 1932. The faculty numbered 950, a decrease of 50 under 1931. The endowment amounted to \$1,165,622. The total income for the year was \$7,955,063 while the total expenditures were \$7,900,428. The buildings and equipment were valued at \$22,081,674. The library contained 395,000 volumes. President George W. Rightmire, LL.D.

**OHIO UNIVERSITY.** A State university for the higher education of men and women, founded in Athens, Ohio, in 1804. The student enrollment for the first semester of 1932 was 2546, of whom 1317 were in the College of Liberal Arts, and 1229 were in the College of Education. The enrollment for the 1932 summer session was 1195, of whom 246 were in the College of Liberal Arts, and 949 were in the College of Education. The income for 1931 was \$1,529,586. The faculty numbered 214. The library contained more than 80,000 bound volumes. President, Elmer Burritt Bryan, LL.D., L.H.D.

**OHIO WESLEYAN UNIVERSITY.** An institution for the higher education of men and women in Delaware, O., under the control of the Methodist Episcopal Church, founded in 1844. For the autumn semester of 1932 the total enrollment was 1444. The faculty numbered 126. The productive endowment of the university amounted to \$3,486,000 and the income for the year 1931-32 for educational enterprises was \$540,860 and for auxiliary enterprises \$308,534. The library contained 137,088 volumes. President, Edmund D. Soper, D.D., LL.D.

**OIL.** See PETROLEUM.

**OIL CONSERVATION.** See PETROLEUM.

**OKLAHOMA.** POPULATION. According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 2,396,040, as against 2,028,283 in 1920. Oklahoma City, the capital, had (1930) 185,389 inhabitants.

**AGRICULTURE.** The accompanying table shows the acreage, production, and value of the principal crops for 1932 and 1931.

**MINERAL PRODUCTION.** About nine-tenths of the yearly value (1930) of the State's mineral

Crop	Year	Acreage	Prod. Bu.	Value
Cotton	1932	3,128,000	1,080,000*	\$30,780,000
	1931	3,395,000	1,261,000*	31,908,000
Corn	1932	3,288,000	65,760,000	11,897,000
	1931	3,321,000	51,808,000	18,988,000
Wheat	1932	3,966,000	43,626,000	18,088,000
	1931	4,407,000	74,919,000	24,723,000
Hay	1932	1,041,000	1,197,000 <sup>b</sup>	5,809,000
	1931	956,000	992,000 <sup>b</sup>	5,926,000
Grainsorghum	1932	1,602,000	15,219,000	2,739,000
	1931	1,443,000	14,480,000	3,463,000
Oats	1932	1,834,000	24,012,000	2,881,000
	1931	1,516,000	43,206,000	7,777,000
Potatoes	1932	42,000	8,108,000	1,647,000
	1931	45,000	8,240,000	1,912,000
Sweet potatoes	1932	22,000	1,584,000	729,000
	1931	18,000	1,260,000	882,000

\* Bales. <sup>b</sup> Tons.

product was contributed by petroleum, natural gas, and the gasoline derived from the latter; over two-thirds, by petroleum alone. The course of the State's petroleum industry in 1931 was singular; it was affected to a great degree by two influences: glut production in the East Texas field not far away, and the establishment of fairly rigid State limitation of output from the wells of Oklahoma itself. There resulted a fall in the petroleum production of 1931 to 180,574,000 barrels, from 216,486,000 for 1930; and a much sharper fall by total value to \$119,200,000 (1931), from \$279,250,000 (1930). As prices and, consequently, production by value varied abnormally for different parts of the year, the total by value for 1931, entire, could not be taken as fairly reflecting the result of the State's course in restricting production.

The production of natural gas, for which totals covering 1931 were not yet tabulated by the Federal Bureau of Mines, was 348,116,000 M cubic feet for 1930 and 357,893,000 M cubic feet for 1929; in value \$47,632,000 for 1930, and \$53,528,000 for 1929. The quantity of gasoline derived from natural gas fell sharply to 454,886,000 gallons for 1931, from 591,194,000 for 1930; but the yearly total was not strictly proportionate to the production of natural gas, and the decline for 1931 could not be taken as indicating any like decline in natural-gas production. The value of natural-gas gasoline for 1930 was \$29,148,000. The production of zinc attained 136,153 short tons, in value \$13,070,688 for 1930. That of coal, about 1,880,000 short tons for 1931, and 2,793,954 tons, in value \$7,768,000, for 1930. That of stone, \$1,631,477 for 1930. The total value of the State's mineral product, duplications eliminated, was \$390,170,991 for 1930; for 1929, \$516,685,232.

**FINANCE.** State expenditures in the year ended June 30, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments, \$26,048,448 (of which \$4,295,270 was for local education); for interest on debt, \$305,434; for permanent improvements, \$16,906,829; total, \$43,260,711 (of which \$19,260,440 was for highways, \$3,713,229 being for maintenance and \$15,547,211 for construction). Revenues were \$39,674,786. Of these, property and special taxes furnished 14.5 per cent; departmental earnings and compensation to the State for officers' services, 11.0; sale of licenses, 44.9 (in which was included a gasoline sale tax that produced \$8,824,406). Funded debt outstanding on June 30, 1931, totaled \$1,672,500. Net of sinking-fund assets, the debt was \$1,578,403. On an assessed valuation of

\$1,851,602,105 the State levied in the year ad valorem taxes of \$6,480,818.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 6741.62. In the year previous, 72.96 miles of new line had been put in operation; 9.49 miles abandoned.

**EDUCATION.** Reduction of teachers' salaries was widespread in the public schools in 1932, by reason of the insufficiency of collections of revenue for educational use, due to the impoverishment of taxpayers. It was reported, however, at the close of the year, that public schools had been kept open throughout the State, on the average basis of an academic year of eight months.

**CHARITIES AND CORRECTIONS.** Public activity in the care and custody of persons, under the system in force in 1932, was conducted by separately directed State and subdivisional institutions and by a Department of Charities and Corrections, the powers of which were chiefly limited to supervision. This department, established by provision of the State constitution, had as its head an elected Commissioner (in 1932, Mabel Bassett). It was required to make yearly inspection of State correctional and eleemosynary institutions and of similar institutions of counties and municipalities; to make special inquiries in case of complaint and on demand of the Governor; to inspect and to license, year by year, such institutions, not run by public authorities, as hospitals and orphanages.

**POLITICAL AND OTHER EVENTS.** A contest in the courts over the validity of the State's oil-conservation law ended on May 16 in a decision of the Federal Supreme Court, refusing the demand of the Champlain Refining Company for an injunction against the enforcement of State curtailment of the production of petroleum. The operation of the law with the aid of militia was continued by Governor Murray. During Murray's absence in the East on a speaking tour Acting Governor Burns ordered the end of "martial law" in the oil fields, but Murray ordered the troops back. The effort of the State Corporation Commission to subject manufacturers of ice to licensing and regulation was defeated in litigation carried to the Federal Supreme Court, which, on March 21, held the ice industry a private business not subject to regulation in the manner of an ordinary public utility. The State's general revenue fund was impaired during the year by reason of deficiency in tax collections in the counties. Governor Murray was active in the spring as one of the minor candidates for the Democratic Presidential nomination. He made at the same time an effort to carry out ambitious policies in his own State, causing a referendum vote to be held in July on three measures that he favored. These were the creation of an unemployment relief commission, a limitation of the ad valorem tax and State control of the cotton and wheat crops. All three were defeated by popular vote.

**ELECTIONS.** The popular vote of November 8 was cast for the Democratic ticket in a proportion somewhat less than 3 to 1. For President the officially reported totals were: Roosevelt (Dem.), 516,468; Hoover (Rep.), 188,165. Elmer Thomas (Dem.) was reelected United States Senator, defeating Wirt Franklin (Rep.). The eight incumbents, all Democrats, were reelected as Representatives to the Seventy-third Congress.

An adverse popular vote was cast on a proposal, favored by Governor Murray, to lay an income tax with heavy rates on high incomes.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, William H. Murray; Lieutenant-Governor, Robert Burns; Secretary of State, R. A. Sneed; Treasurer, Ray O. Weems; Auditor, Frank C. Carter; Attorney-General, J. Berry King; Superintendent of Public Instruction, John Vaughan.

**Supreme Court:** Chief Justice, E. F. Lester; Associate Justices, J. Howard Langley, James B. Cullison, Charles Swindall, Robert A. Hefner, Edwin R. McNeill, Thomas G. Andrews, J. W. Clark, Fletcher Riley.

**OKLAHOMA, UNIVERSITY OF.** A State institution for the higher education of men and women in Norman, Okla., founded in 1890. The enrollment for the autumn of 1932 totaled 5211. For the summer session of 1932, 2199 students were registered. There were 304 faculty members. The productive funds of the university amounted to \$3,200,000 and the income for 1932-33 was \$2,013,324 (including two hospitals operated by school of medicine). The library contained 134,000 volumes, President, William Bennett Bizzell, Ph.D., LL.D.

**OLCOTT, CHAUNCEY (CHANCELLOR JOHN).** An American actor, singer, and ballad writer, died in Monte Carlo, Monaco, Mar. 18, 1932. He was born in Buffalo, N. Y., July 21, 1860, and made his first stage appearance as a ballad singer in that city in 1880. Coming to New York City six years later, he appeared as Pablo in *Pepita*, or *the Girl with the Glass Eyes*. In 1888 he appeared as Frank Hopkins in *The Old Homestead*, in which he continued to play until 1890. He then turned to musical comedy and comic opera, appearing in several Gilbert and Sullivan operettas, and in London in *Miss Decima* (1891) and *Blue Eyed Susan* (1892). His successful tour in *Mavoureen* on his return to the United States led to his appearance in such Irish musical dramas as *The Irish Artist* (1894), *The Minstrel of Clare* (1896), *Sweet Inniscarra* (1897), *A Romance of Athlone* (1899), *Garret O'Magh* (1901), *Old Limerick Town* (1902), and *Terence* (1904). He subsequently appeared in *Edmund Burke* (1905), *Eileen Ashore* (1906), *O'Neill of Derry* (1907), *Ragged Robin* (1908), *Barry of Barrymore* (1911), *Macushla* (1911), *The Isle of Dreams* (1912), *Shameen Dhu* (1913), *The Heart of Paddy Whack* (1914), *Honest John O'Brien* (1916), *Once Upon a Time* (1917), and *The Voice of McConnell* (1918). His career closed with a successful revival of *Macushla*, in which he appeared as Sir Brian Fitzgerald during 1919-21. After 1925 he lived most of the time in Europe. He composed *My Wild Irish Rose*, *Mother Machree* (with Ernest Ball), and either words or music of *Katy Malone*, *Look in My Heart*, *My Beautiful Irish Maid*, *Olcott's Irish Serenade*, *Kate O'Donoghue*, *Sweet Inniscarra*, *The Old Fashioned Mother*, and *Love Remains the Same*.

**OLD AGE PENSIONS.** The *Monthly Labor Review* of June, 1932, printed a résumé of the status of public old age pension systems in the United States at the end of 1931. It was there reported that laws had been enacted in seventeen States, five of them (Delaware, Idaho, New Hampshire, New Jersey, and West Virginia), having created old age systems during the year. In the States of California, Delaware, Massachusetts, and New York the operation of the

old age pension system was practically State-wide. Of 681 counties in the fifteen States in which the pension system was in operation to some extent at the end of 1931, reports were received from 645, or 95 per cent. Of these 645 counties, 268 or about 42 per cent, had adopted the system and were caring for 76,349 needy aged persons. The total expenditures for old age pensions during 1931 were \$16,173,207. Of the fifteen States represented, 75 per cent of the total number of pensioners and almost 90 per cent of the total expenditures were accounted for in the States of California and New York. The year 1931 marked a great step forward in the progress of old age pension activity in that within a single year the number of aged receiving assistance increased from 10,307 to 76,349 while the annual amount spent for their support increased from \$1,714,388 to \$16,173,207. Undoubtedly the continuance of the depression played an important part in this great increase. The administrative authorities in New York

chusetts, New Hampshire, New York, Utah, and Wyoming.

The average annual amount disbursed per pensioner varies, of course, from State to State due, in many instances, to the statutory provisions prescribed by the separate laws. The largest average amounts spent were those of California, Maryland, and New York where the annual figures per pensioner were respectively \$248.81, \$333.33, and \$255.33. The annual amount disbursed per pensioner for the whole group of 15 States was \$227.42. Table II shows in summary form the spread of the pension system since 1928. It will be observed that in 1928 financial relief to the aged affected but 87 of the population in those States having pension laws; by the end of 1930 the percentage had mounted to 55.6; and by 1931 to 76.3 per cent. Table III indicates in summary form the provisions of old age pension laws on the statute books of the seventeen American States at the end of 1931.

TABLE I—SUMMARY OF OPERATIONS UNDER STATE OLD AGE PENSION LAWS, 1931

State	Year of passage of law	Counties in State		Counties having pension system		Amount paid in pensions, 1931
		Total	Number reported for	Number	Number of pensioners	
California	1929	58	58	57	9,887 <sup>a</sup>	\$2,460,000 <sup>b</sup>
Colorado	1927	63	54	7	50	2,190
Delaware	1931	3	3	3	1,497	66,568 <sup>c</sup>
Idaho	1931	44	38	31 <sup>d</sup>	698 <sup>d</sup>	4,224
Kentucky	1926	120	120	1	10	1,000
Maryland	1927	24	24	1	150	50,000
Massachusetts	1930	14 <sup>e</sup>	14 <sup>e</sup>	14 <sup>e</sup>	11,076	904,939 <sup>c</sup>
Minnesota	1929	87	87	4	1,227 <sup>f</sup>	94,068 <sup>f</sup>
Montana	1923	56	56	45	1,130	178,934
Nevada	1925	17	13	2	34	7,360
New Hampshire	1931	10	6	5	246	3,614 <sup>g</sup>
New York	1930	62	62	62	47,585	12,007,352
Utah	1929	29	22	12	873	92,305
Wisconsin	1925	71	71	9	1,597	283,848
Wyoming	1929	23	17	15	289	16,805
Total		681	645	268	76,349	16,173,207

<sup>a</sup> As of Jan. 31, 1932

<sup>b</sup> Estimate, based on reports for June, 1931, and January, 1932.

<sup>c</sup> Six months

<sup>d</sup> But only two of these counties, with 143 pensioners, actually paid any pensions during 1931.

<sup>e</sup> System is not, however, a county system, but a city-and-town system, of 335 cities and towns in the State all were reported for, but 22 (of which only one was large enough to have its population figures shown separately in the population census) had not put the pension system into effect

<sup>f</sup> Three counties.

<sup>g</sup> Three months.

and Massachusetts indicated that the number of pensioners had been increased by 30 per cent and 35 per cent respectively from this cause alone. Table I presents a summary of the operations in 1931 in the various States. The survey notes that in the following States the pension system is voluntary, that is to say, election is optional with the counties: Kentucky, Maryland, Minnesota, Montana, Nevada, and Wisconsin. The result has been that in this group only a comparatively small number of counties have elected to participate. Thus, of Kentucky's 120 counties, but one makes provision for its aged; the county in which Baltimore is located is the only one of the 24 Maryland counties to participate, though it is to be noted that it has almost 50 per cent of the State's population; in Minnesota four out of 87 counties participate; in Montana 45 out of 56 counties participate; in Nevada, two out of 17 counties participate; and in Wisconsin nine out of 71 counties participate. In the following States the system is mandatory, in other words, counties are required to join with the State in the care of the aged: California, Colorado, Delaware, Idaho, Massa-

TABLE II—PROGRESS IN OLD AGE PENSION MOVEMENT, 1928 TO 1931

Item	1928	1930	1931
Number of States having law at end of year	6	12	17
Number in which benefits were being paid	5	9	15
Counties in States with pension law:			
Total	327	461	681
Number paying benefits	52	137	267
Population of States with law in operation:			
Whole State	7,218,050	15,260,239	35,810,577
Counties with system—			
Number of inhabitants	629,986	8,482,092	27,308,694
Per cent of State population	8.7	55.6	76.3
Number of pensioners	1,003	10,307	76,349
Amount paid in pensions	\$208,624	\$1,714,388	\$16,173,207

CALIFORNIA. A study made of the two years' pension experience of the State of California,



TABLE III—PROVISIONS OF OLD AGE PENSION LAWS

State	Year of passage	Date effective (original act)	ELIGIBILITY REQUIREMENTS					Required period of—		Funds furnished by—
			Type of law	Maximum pension	Age	Citizen-ship	Residence	Maximum property limit		
									Years	
							Years	Years		
California	1929	Jan. 1, 1930	Mandatory \$1 a day	.....	70	15	15	1	Assets, \$3,000	County or city, half; State, half.
Colorado	1927	Mar. 19, 1927	... do	.. do	... 65	15	15	15	... do	County.
Delaware	1931	July 1, 1931	... do	... \$25 a month	.. 65	15 <sup>b</sup>	5	..	.....	State.
Idaho	1931	Feb. 12, 1931	... do	... do	..... 65	15	10	3	Income, \$300 a year.	County.
Kentucky	1926	Mar. 25, 1926	Voluntary \$250 a year	..	70	15	10	10	Income, \$400 a year; assets, \$2,500.	Do.
Maryland	1927	Apr. 26, 1927	... do	... \$1 a day	..... 65	15	10	10	.....	County (or city of Baltimore).
Massachusetts	1930	July 1, 1931	Mandatory No limit	.....	70	( <sup>c</sup> )	20	..	.....	City or county, two-thirds; State, one-third. <sup>d</sup>
Minnesota	1929	Mar. 1, 1929	Voluntary \$1 a day	.....	70	15 <sup>b</sup>	15	15	Assets, \$3,000	Payments by county. <sup>f</sup>
Montana	1923	Mar. 5, 1923	... do	... \$25 a month	.. 70	15	15	..	Income, \$300 a year.	County.
Nevada	1925	Mar. 18, 1925	... do	... \$1 a day	..... 65	15	10	..	Assets, \$3,000	Do.
New Hampshire	1931	Sept. 1, 1931	Mandatory \$7 50 a week	..	70	15	15	15	Assets, \$2,000	Payments by county. <sup>f</sup>
New Jersey	1931	Jan. 2, 1932	... do	... \$1 a day	..... 70	( <sup>c</sup> )	15	1	Assets, \$3,000	County, one-fourth; State, three-fourths.
New York	1930	Apr. 10, 1930	... do	... No limit	... 70	( <sup>c</sup> )	10	1	Unable to support self	City or county, half; State, half.
Utah	1929	May 14, 1929	... do	... \$25 a month	.. 65	15	15	5	Annual income, \$300.	County.
West Virginia	1931	June 11, 1931	Voluntary \$1 a day	..	65	15	10	10	Any property or income.	Do.
Wisconsin	1925	May 12, 1925	... do	... do	... 70	15	15	15	Assets, \$3,000	County, two-thirds; <sup>f</sup> State, one-third.
Wyoming	1929	June 1, 1930	Mandatory \$30 a month	..	65	15	15	5	Income, \$360	County.

<sup>a</sup> Became mandatory Jan. 1, 1932. <sup>b</sup> Required period of residence in United States. <sup>c</sup> Citizenship required but no period specified. <sup>d</sup> Provision of original law, but State bears whole cost during 1931 and 1932, by ruling of State attorney general on 1931 amendment. <sup>e</sup> Becomes mandatory July 1, 1933. <sup>f</sup> Reimbursed by cities, towns, etc.

whose law has been in operation longer than any other State-wide mandatory pension system, by Mr. Abraham Epstein, the secretary of the American Association for Old Age Security, indicated that this social insurance scheme had met with unqualified success. The California act for State aid to the needy aged went into operation on Jan. 1, 1930. Its chief provisions were: 70 years of age; a resident of the State for 15 years; citizen of the United States for the same period; resident of the county for one year; an income not in excess of \$1 a day or not over \$3000 in real property or not having immediate relatives able or responsible under the law for the support of the aged person. The amount of aid was fixed with due regard to the conditions in each case but was not to exceed \$30 per month, the cost being shared equally by the State and the county of residence. During the first two years of operation of the law, 11,307 pension grants were made; the average pension for these first two years was \$22.93 per month. The total amount paid in pensions by the State and counties together was \$2,927,000. Figures collected for the group of pensioners throw important light on the incidence of indigence among aged persons. Of every 100 persons 65 years of age and over in the State, 2.75 were in receipt of pensions. The discrepancy between urban and rural places was marked. As against 1.45 pensioners for every 100 persons 65 years of age and over in Los Angeles and 3.1 persons in San Francisco, eleven rural counties had rates running from 8 to 15. The average for the four most populous counties was 2.03 as compared with 4 for the rest of the State. The comparison between the costs for the care of the aged in almshouses and by the pension system showed that in 1925 in thirty-one of the State's fifty-five city and county almshouses, the average annual cost ranged from \$600 to \$750 per inmate. Thus, provisions for the aged by pensions was at least \$25 cheaper a month than by the method of almshouse maintenance. According to Mr. Epstein State and county officials have been unanimous in their praise of the State's old age pension act. Mr. Epstein quotes Miss Miley M. Pope, acting director of the department, as declaring: "The immediate effects of the law are most plainly seen in the lives of the recipients and their families. Already, county workers tell us, a marked improvement in health due to better living conditions, and greater peace of mind has been noticed." Mr. Epstein's inquiry divulged the fact that 500 almshouse inmates, or 15 per cent of the almshouse population 70 years of age and over, left the institutions to live their own lives with the aid of pension grants. Mr. Epstein closes his survey with these words:

The benefits of an extensive old age pension system are clearly demonstrated in this study of the two years' experience in California—the longest experience of any State. The results of the actual operation have exceeded the boldest prophecies of the proponents of this legislation. Not only are administrative costs kept at a minimum but the pension payments are only half the costs of institutional maintenance. The cost to the taxpayers is insignificant. While few persons are taking undue advantage of the law, thousands of lives have been rejuvenated and cheered.

**NEW YORK STATE.** During the first year of the operation of the New York State Old Age Security Law 51,168 aged persons were granted pensions and when the year ended on Dec. 31,

1931, 47,585 persons were actually already receiving assistance. A total of 81,936 applications had been filed, of which 3093 were voluntarily withdrawn or as a result of death, the remaining being disallowed because of non-compliance with the provisions of the New York law. By Jan. 15, 1932, 38,815 applications were filed in New York City. On that date 37,354 investigations had been completed, 24,318 grants had been approved and 23,279 pensions had actually been ordered. For the whole State, in October, 1932, 53,504 aged persons were receiving pensions, the cost to the State, counties, and cities for the month being \$1,293,722. The average allowance for the State per month was \$24.18; New York City's average grant came to \$29.42 per person per month.

**NEW JERSEY.** On July 1 New Jersey put into effect its old age security law which had been passed by the 1931 legislature and provided for payment of pensions to citizens over 70 years of age who had been resident in the State for 15 years and had no children able or responsible for their support. The maximum grant was fixed at \$30 a month with the State bearing three-fourths of the costs of the pensions and the counties one-fourth. By the end of July a total of 14,193 applications had been received and by Aug. 1, 7413 investigations had been completed, and 4254 pensions granted. The average pension grant was \$15.14 at the end of the first months of the law's operation.

**MISSOURI.** In the November election the voters of Missouri, in many areas by overwhelming majorities, adopted a constitutional amendment authorizing the legislature to enact a pension law for persons 70 years of age and over. Incomplete returns indicated that the amendment had been carried by a four-to-one majority; in the city of St. Louis the vote was 260,567 for, and 48,327 against; in Kansas City the vote was 96,693 for, and 26,500 against. The election of a governor and legislature pledged to the enactment of an old age security law pointed to the early enrollment of Missouri among the American commonwealths already furnishing this form of social protection.

**CANADA.** The latest report of the operation of the old age pension in Canada showed that in the whole Dominion 63,285 aged persons were recipients of old age relief. Since the inauguration of the system in 1927—and five provinces now have pension legislation on their statute books—there has been expended for old age pensions by the Dominion government, the provinces, and Canadian municipalities more than \$26,000,000. Toward the end of 1931 federal contributions to the cost of pensions were raised from 50 per cent to 75 per cent; the 25 per cent local contribution was to be made up jointly by the provincial and municipal governments.

**NEW ZEALAND.** The thirty-third annual Report of the Pensions Department of New Zealand, covering the period Apr. 1, 1930, to Mar. 31, 1931, indicated that a total of 28,995 aged persons were receiving pensions amounting to an annual total of 1,158,788 pounds sterling. During the year in question, 4640 new pensions were granted from a total of 5918 claims lodged. Of the pensioned aged, 1040 were in homes and hospitals and 130 in mental hospitals. Since the establishment of the old age security system the New Zealand pensions department has received

a total of 113,038 applications and has approved 88,551 pension requests.

**OLDENBURG**, ől'den-bóork. A State of the German Republic. See GERMANY under *Area and Population, History*.

**OLDS**, ROBERT EDWIN. An American lawyer, died in Paris, Nov. 24, 1932. Born in Duluth, Minn., Oct. 22, 1875, he attended Harvard University, from which he was graduated with the A.B. degree in 1897 and the LL.B. degree in 1900. Admitted to the Minnesota bar in the latter year, he began his long association with Frank B. Kellogg, Secretary of State in President Coolidge's cabinet, being successively a member of the firms of Davis, Kellogg & Severance and Davis, Severance & Olds in St. Paul. On the entry of the United States into the World War he was sent to France as counselor of the American Red Cross Commission, and during 1919-21 was European commissioner in charge of American Red Cross operations abroad. In 1923 he was named member for North America of the commission appointed by the Twelfth International Conference at Geneva to report a plan of world organization for the Red Cross. He was also a member during 1923-25 of the arbitration tribunal to adjust pecuniary claims between the United States and Great Britain under the treaty of 1910, and during 1924-25 of the League of Nations commission to report a plan of international cooperation for disaster relief. In 1925 he succeeded John V. A. MacMurray as Assistant Secretary of State, and in 1927 Joseph C. Grew as Under Secretary of State. On his resignation in 1928 he became French representative of the New York law firm of Sullivan & Cromwell. In 1925 he supervised the negotiations of the United States with Mexico in regard to alien land and petroleum legislation. He was also appointed American member of the Permanent International Commission provided by the Treaty of Conciliation between the United States and Finland and of the Economic Consultative Committee of the League of Nations. After 1929 he was American citizen member of the Reparation Commission and after 1931 a member of the Permanent Court of Arbitration at The Hague.

**OLYMPIC GAMES.** The Tenth Olympic games were held in the United States in 1932. These games, staged every four years, patterned after the Greek games of that name, are competitions in almost every conceivable sport among the nations of the world. The Olympic games proper were held at Los Angeles, Calif., in August and the Third Winter Olympics were held at Lake Placid, N. Y., in February.

**WINTER OLYMPICS.** The Third Winter Olympic games were held at Lake Placid, N. Y., in February, 1932, and 364 athletes, wearing the shields of 17 different nations competed for honors. Again, although there is no official scoring, the United States carried off the laurels. The United States took six of the fourteen first places. In the speed skating, the United States made a surprising showing, winning all four races. The skaters started in American fashion, in a group and not alone against time as had been the custom at St. Moritz and Chamonix in 1928 and 1924. Jack Shea, of Lake Placid and Dartmouth College, won both the 500 and the 1500 meter races, and the 5000 and 10,000 meter events were taken by Irving Jaffee of New York City. These victories gave the United States the impetus toward amassing 103 points in the un-

official toll. Norway was second with 77 points, Canada third with 49, Sweden fourth with 28, Finland fifth with 25, Austria sixth with 15, and Germany seventh with 12.

The event that attracted most attention at the games was the bobsledding, four-man and two-man. The bobsledders were sent down a narrow groove in Mt. Hoevenberg, and there were many accidents, serious and harmless, in both the official competition and in the days of practice that preceded the events. The two-man bobsled race was won by J. Hubert Stevens and his brother, Curtis Stevens, in a thrilling contest with 11 other sleds. The United States team of Billy Fiske, Jay O'Brien, Eddie Eagan and Clifford Gray retained the four-man title won in 1928.

The figure skating brought together the experts of the world and Miss Sonja Henie of Norway won the women's title and Karl Schaefer of Austria won the men's championship. The pairs was again won by M. and Mme. Pierre Brunet of France. Sherwin C. Badger and Miss Beatrix Loughran of the United States were runners-up to the Brunets. Miss Maribel Vinson of the United States was third in the women's competition and Roger Turner of the United States was sixth in the men's.

Sven Utterstrom of Sweden won the 18-kilometer ski race. Olle Zetterstrom, in twenty-third place, was the first United States skier to finish. Johan Grottnumsbraaten of Norway captured the combined skiing event, Rolf Monsen of the United States taking ninth. Birger Ruud of Norway won the ski jump with two teammates, Hans Beck and Kaare Wahlberg, second and third. Casper Olmoen of the United States was fifth. The long distance ski run, the 50-kilometers, was won by Veli Saarinen of Finland, with Vaino Luukkanen, another Finn, second.

The hockey was closely contested with Canada nosing out the United States for the title, by the margin of a goal scored in the overtime period. Emile St. Goddard of Canada won the sled dog demonstration race, beating Leonard Seppala of the United States. Women's speed skating was demonstrated on the Olympic programme and Miss Jean Wilson of Canada won the 500-meter race; Miss Elizabeth Dubois, of the United States, the 1000 meters; and Miss Catherine Klein, of the United States, the 1500 meter event.

#### CHAMPIONS AT THE WINTER OLYMPICS:

*Speed Skating*—500 meters, Jack Shea, United States.

1500 meters, Jack Shea, United States.

5000 meters, Irving Jaffee, United States.

10,000 meters, Irving Jaffee, United States.

*Figure Skating*—Men. Karl Schaefer, Austria.

Women. Miss Sonja Henie, Norway.

Pairs. M. and Mme. Pierre Brunet, France.

*Skiing*—18-kilometer run, Sven Utterstrom, Sweden.

50-kilometer run, Veli Saarinen, Finland.

Combined run and jump, Johan Grottnumsbraaten, Norway.

Jump, Birger Ruud, Norway.

*Hockey*—Canada.

*Bobsledding*—Two-man team, United States (Hubert and Curtis Stevens).

Four-man team, United States (William L. Fiske, Edward F. Eagan, Clifford B. Gray, Jay O'Brien).

Point scoring according to the unofficial press system (10, 5, 4, 3, 2, 1):

United States, 103; Norway, 77; Canada, 49; Sweden, 28; Finland, 25; Austria, 15; Germany, 12; France, 10; Switzerland, 9; Hungary, 7; Rumania, 4; Poland, 3; Italy, 3; Belgium, 1; Czechoslovakia, 1.

**TENTH OLYMPIAD.** The games at Los Angeles were the finest ever held in the history of the world. The facilities, furnished by Los Angeles, included excellent stadia for the different sports and a bungalow village to accommodate the army of 2000 athletes from 39 nations from different parts of the world. In point of performances, the games of the year 1932 have never been excelled. Olympic world records were shattered in almost every sport, and athletics in general rose to a new peak of perfection. In point of numbers of spectators, the games were witnessed by the largest crowds in history. On several occasions the huge Olympic Stadium, used for football by the University of Southern California for the past few years, was packed to overflowing, and that meant that more than 100,000 persons were inside the gates watching the athletes in action.

Rather than attempt to pick out the outstanding events and performances, the different sports and games are reviewed in the following paragraphs. Unofficial scoring results are also appended with the complete list of championships won at the games.

**TRACK AND FIELD.** The track and field events proved the greatest attraction to the spectators and also furnished the greatest number of new Olympic and world records. Among these the victories of Thomas Hampson of England, in the 800-meter run (equivalent to the half mile in the United States) and the triumph of Bill Carr of the United States in the 400-meter run (equivalent to the quarter mile) are generally regarded as among the greatest athletic feats of all time. Hampson, a thin, bespectacled British schoolmaster, lightly considered before the games, raced all opposition into the ground in his specialty and negotiated the distance in the amazing world record time of 1:49.8, beating Alex Wilson and Phil Edwards, of Canada, Edwin Genung, Edwin Turner, and Charles Hornbostel of the United States in that order. The former Olympic mark was 1:50.6.

Carr, University of Pennsylvania runner, who had surprised as well as disappointed Californians when he twice defeated the ace, Benjamin Bangs Eastman, of Stanford, in the 400 meters before the games, duplicated his victory of the intercollegiates and the Olympic tryouts in the games themselves. In the final he sped around the cinder track in 0:46.2, a new world and Olympic record, beating Eastman and Alex Wilson to the tape in a thrilling contest. Carr's new mark bettered the recognized world mark made by Emerson Spencer in 1928 of 0:47, and the Olympic record of 0:47.6 established by Eric Liddell, the Scot, who in 1924 ran the quarter mile rather than run the half mile on a Sunday.

But Carr and Hampson were not the only stars. Eddie Tolan, negro runner from the University of Michigan, accounted for the only "double" in the men's events. The mid-Westerner, recognized before the game as among the premier sprinters of the world, captured both the 100- and 200-meter dashes. In the 100-meter event the judges at the finish were unable to decide who had won—Tolan or Ralph Metcalfe, negro from

Marquette University. The electro-photographic "camera-clock" was consulted and through this mechanical medium, a comparatively new invention which, by means of a ray of light and films, timed and pictured the races (see *PHOTOGRAPHY*), Tolan was determined winner, after the 50,000 spectators in the stands had decided that Tolan had been defeated by a scant inch. The timers had clocked Tolan in 0:10.3 and the electric "eye" timed him 0:10.28. Two days later Tolan again led the pick of the world sprinters home. This time, in the 200 meters, Metcalfe was third, with George Simpson, former Ohio State University representative, second. Tolan was timed in 0:21.2.

Since the days of the ancient Greeks the laurel wreath of achievement has gone to the winner of the classic marathon, the final event on the track and field programme. In 1932, Juan Carlos Zabala, a native of Argentina, won this 26-mile race, breaking the Olympic time for the event, and setting such a fast pace throughout that the second and third men—Sam Ferris of Great Britain and A. Tiovonen of Finland—also bettered the existing standard for the distance. Zabala was timed 2:31:36. The former Olympic record of 2:32:35.8 was set by Hannes Holm-mainen in 1924.

One of the surprise victories of the games was that of Luigi Beccali, of Italy, in the 1500-meter run (the Olympic mile). This proved to be the first flat race victory ever scored by Italy. Beccali, springing from nowhere in the last two laps, was clocked 3:51.2, leading John F. Cornes, captain of the Oxford University track team, and Phil Edwards, former New York University star middle-distance man, to the tape. It was Edwards' second third place of the games, the negro having also taken third in the 800 meters.

In the 3000-meter steeplechase an unfortunate thing occurred, when, because of the error of an official, the field was made to run an extra lap making a total of 3450 meters. It made no difference to the winner, Volmari Iso-Hollo, of Finland, who was 40 yards ahead at the finish, Joe McCluskey, popular Fordham University runner, was second at 3000 meters but, the way the race was run, finished third, 3 yards behind Tom Evenson of Great Britain.

The only event of the track and field games that bred ill-feeling was the 5000-meter run. In this Lauri Lehtinen, durable Finnish runner, bearing the hopes of his country after the Olympic Committee had upheld the International Federation's ruling not to allow Paavo Nurmi, Finnish wonder, to run because of charges of professionalism, battled to the finish line with Ralph Hill, United States. Near the finish line, as Hill strove to pass Lehtinen, the Finn swerved over as if to block Hill. When Hill switched to the other side, again Lehtinen lurched and blocked the American off. The judges placed Lehtinen first, and failed to recognize the "boos" of the crowd, which believed that Lehtinen had purposely made the moves. The judges ruled that Lehtinen's swerving was due to fatigue and not to any ulterior motive.

The unofficial point score in the track and field events, based on the 10-5-4-3-2-1 scoring system used in the United States, was:

United States—296½; Finland—72; Great Britain—64; Germany—51½; Canada—49; Japan—40; Poland—25; Ireland—23; Italy—23; Sweden—17; Argentina—13; South Africa—12; France—7;

Holland-7; New Zealand-6; Latvia-5; Philippines-4; Czechoslovakia-4; Hungary-3; Brazil-1; Australia-1.

**SWIMMING.** Japan's swimmers winning five firsts dominated the aquatic sports and forced the United States male swimmers into second place. The swimming of the American women was superb and the United States was able to pile up 167 points against Japan's 95 in the final unofficial standing.

For the first time in twenty-five years the United States entrants were beaten in the 100-meter free style and backstroke. Yazuzi Miyazaki (15 years old) won the 100-meter free style in 0:58 $\frac{1}{10}$ , and Masazi Kivokawa won the 100-meter backstroke in 1:08 $\frac{9}{10}$ . In the 200-meters breaststroke the Japanese finished one-two. Yoshiyuki Tsurata repeated his 1928 victory in 2:45 $\frac{1}{10}$ , and Reizo Koike (15 years old) was second in 2:46 $\frac{1}{10}$ . Kasuo Kitamura (14 years old) won the 1500-meter free style event with Iyozo Makino (16 years old), second, Kitamura's time was 19:12 $\frac{1}{10}$ . Clarence "Buster" Crabbe, of the United States, defeated Tatsumo Oyokata in the 400-meter free style in 4:48, a new Olympic record. By winning the 800-meter relay the Japanese proved conclusively their superiority in the sprint ranks. Miyazaki, Yusa, Toyoda, and Yokoyama thrashed the distance in 8:58 $\frac{1}{10}$  as against the former Olympic record of 9:36 $\frac{1}{10}$ , an amazing feat. They finished 20 yards ahead of the United States quartet, which also broke the former Olympic mark by doing 9:10 $\frac{1}{10}$ .

In the men's events the Japanese finished with 76 points as against 33 for the United States in second place. This was a remarkable showing. Immature boys from Japan, adopting American methods, had improved on them. The Japanese stroke did not vary much from the stroke taught here for the last six years. Some of the competitors used the six-beat crawl, others the eight-beat. Some swam with their feet entirely submerged and others raised them above the surface.

In the women's events, the United States was supreme, winning six of the seven events. Miss Helene Madison, who holds every world's record for women from the shortest distances up to a mile, won the 100-meter and the 400-meter free style, and swam anchor on the winning 400-meter relay team. Miss Eleanor Holm, won the 100-meter backstroke, and Miss Clare Dennis, sixteen-year-old Australian, broke the United States monopoly by winning the 200-meter breast-stroke in 3:06 $\frac{1}{10}$ .

All of the four diving events were won by United States representatives. Mickey Riley Galitzen won the springboard dive for men, and Miss Georgia Coleman, won the same event for women. Harold Smith captured the men's high dive and Miss Dorothy Poynton won the event for women. In the diving the United States made the highest possible number of points—38—and Japan scored only one.

Hungary won an expected victory in the water polo. The surprise of the water polo came when the little-considered United States team held Germany to a 4-4 tie. Hungary blanked the United States, 7 to 0. The Brazilian team was disqualified in the match with Germany. The referee called repeated fouls and the South Americans loudly resented the officiating. Germany was leading, 7 to 3, when the match was called.

The unofficial point score in the swimming events, based on the 10-5-4-3-2-1 scoring system:

United States-167; Japan-95; Australia-21; Great Britain-20; Canada-11; Holland-10; Germany-10; France-8; Denmark-6; Philippines-6; South Africa-5; Hungary-4; Austria-4; Sweden-3; Mexico-3; Argentina-1.

**ROWING.** For the second successive Olympic a University of California eight-oared crew, representing the United States, swept the Olympic feature event. The California crew, winner on the Oakland Estuary in March, at Poughkeepsie in June, and at Worcester in the trials in July, beat the world's best at Long Beach, where a rowing course was laid out in Alimitos Bay. In the first heat the United States eight led the Leander crew of Canada by 1 foot over the 2000-meter course. In the final, the United States crew nipped Italy as the boats slid across the finish line. Trailing Italy's surprising eight by 2 yards with twenty to go, the burly Californians, before 80,000 persons lining the banks of the course, whipped their shell over the finish line one-tenth of a second ahead of the Italians—the span of a man's hand. The United States boat was behind after Italy had taken its last stroke but the final United States sweep pulled the shell to the lead. Canada and Great Britain followed, all four finishing within one boat length. The members of the United States eight were Winslow Hall, Harold Tower, Charles Chandler, Burton Jastram, David Dunlap, Duncan Gregg, James Blair, Edwin Salisbury, and Norris Graham, coxswain. The Italian eight were Cioni, Garzelli, Del Bimbo, Vestrini, Barsotti, Bracci, Balleri, Barbieri, and Milani, coxswain.

Bobby Pearce, of Australia, retained his Olympic title in the single sculls, defeating Bill Miller of the United States in the final by three-quarters of a length in the rather slow time of 7:44 $\frac{1}{2}$ . Pearce acted as if out for a pleasure row but Miller collapsed after the race.

**BOXING.** The victory of Stephen Enekes, of Hungary, champion of Europe, in the 112-pound class was the feature of the boxing at Los Angeles. Enekes defeated Louis Salica of the United States in an early round bout and the decision was roundly booed by the spectators. In the final he outpointed Francisco Cabones of Mexico. Eddie Flynn, former representative of Loyola University, New Orleans, won the welterweight title by defeating Erich Campe of Germany in the final. Lawrence Stevens, 18-year-old youth from Johannesburg, South Africa, defeated Thure Ahlqvist of Sweden for the lightweight championship.

**WRESTLING.** Johan Richthoff of Sweden duplicated his 1928 victory in the heavyweight catch-as-catch-can class, defeating Nikolaus Hirschl of Austria in the final. In his first match, Richthoff defeated Jack Riley, former Northwestern University football player, representing the United States. Robert Pearce, Jack Van Bebber, and Peter Mehringer won titles for the United States. Pearce defeated Aatos Jaskari of Finland in the bantamweight final, and Van Bebber defeated Eino Leino of Finland for the welterweight championship.

**EQUESTRIAN.** Lieut. Takeichi Nishi of Japan, riding the magnificent bay gelding Uranus, won the Prix des Nations, the main event on the equestrian programme. The test called for a circuit of the difficult course set up in the Olympic Stadium. There were fence jumps over timber and water jumps, and so difficult was the course



**BILLY FISKE AND HIS OLYMPIC TEAM**  
Winner of the Four-man Bobsled Race



**CHUHEI NAMBU**  
Winner of the hop-step-jump



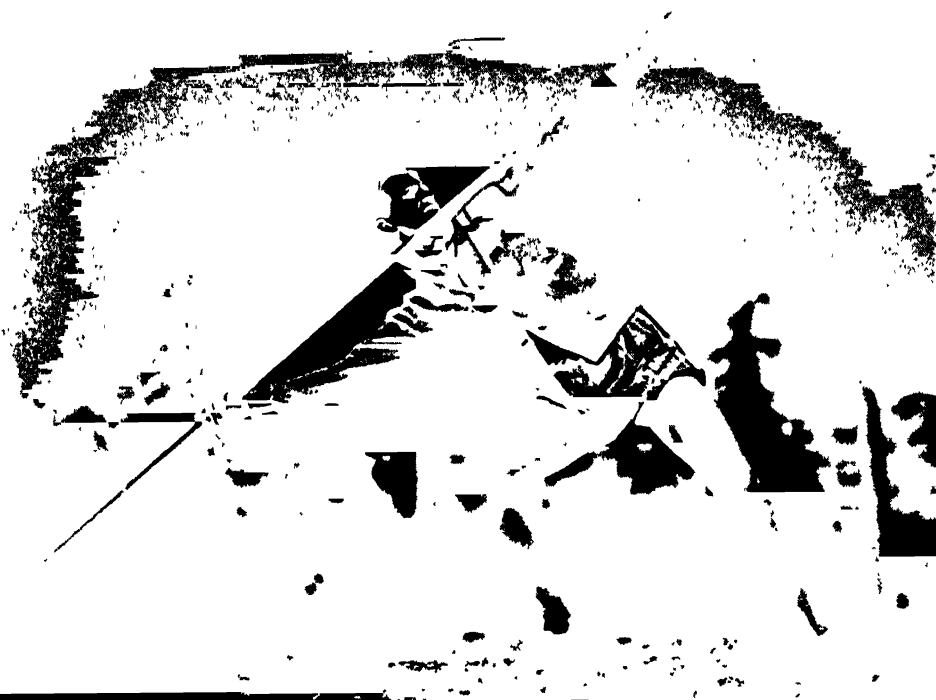
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**FINISH OF THE 400-METER FINAL**  
Carr first, on left, Eastman, on right, second



*Copyright, International*

**HELENE MADISON**  
Holder of every world's distance record for women



**"BABE" DIDRIKSON**  
Champion Woman Javelin Thrower



**JAN KUSOCINSKI**  
Winner of the 10,000-meter Run



**JUAN CARLOS ZABALA**  
Marathon Winner



that at least one rider and mount of each of the four nations competing was eliminated and no team title was awarded. Lieutenant Nishi was charged with eight faults. Maj. Harry D. Chamberlin of the United States, riding Show Girl, was second.

**YACHTS.** Gilbert Gray of Lake Pontchartrain, representing the United States, with his *Jupiter*, won the Star class championship in Los Angeles Harbor. Owen Churchill gave the United States a second victory by amassing the most points in the 8-meter class which his *Angelita* won. Jacques Le Brun of France won the class for Olympic monotypes with 87 points. He was under disqualification after the eleventh race of the series and Jan Maas of Holland was declared the winner but the Olympic board of review upheld his protest and restored his points. Maas finished with 85 points. *Bissbi*, sailed by Tore Holm of Sweden, won the 6-meter class.

**FIELD HOCKEY.** The Indian field hockey team again dominated play at the Olympics, repeating its 1928 triumph easily. In the final game the Indian team defeated the United States, 24 to 1. In this game Roop Singh, India left inside, scored twelve goals and Shyan Chand, centre forward, seven.

The unofficial scoring in the Olympic games, all sports, based on three points for first place, two for second, and one for third, follows. There is no official scoring in the Olympics but this method was used by General McArthur in making his report to the U. S. Olympic Committee in 1928 and was adopted by the newspapers in 1932.

Nation	Firsts	Seconds	Thirds	Points
United States .....	39	32	21	202
Italy .....	9	12	11	62
Japan .....	7	6	4	37
Sweden .....	9	3	3	36
France .....	8	4	2	34
Finland .....	5	5	8	33
Germany .....	3	10	4	33
Great Britain .....	4	6	5	29
Hungary .....	6	1	4	24
Canada .....	2	4	10	24
Holland .....	2	4	1	14
Australia .....	3	1	0	11
Argentina .....	3	1	0	11
Poland .....	2	1	2	10
South Africa .....	2	0	3	9
Austria .....	1	1	2	7
Ireland .....	2	0	0	6
Czechoslovakia .....	1	1	0	5
Mexico .....	0	2	1	5
India .....	1	0	0	3
Denmark .....	0	1	1	3
Philippines .....	0	0	3	3
Latvia .....	0	1	0	2
Greece .....	0	0	1	1
Spain .....	0	0	1	1
Uruguay .....	0	0	1	1
New Zealand .....	0	0	1	1

The champions crowned at Los Angeles were:

**Track and Field (Men)**—Shotput, Leo Sexton, U. S. A.; high jump, Duncan McNaughton, Canada; 10,000-meter run, Jan Kusocinski, Poland; 100-meter dash, Eddie Tolan, U. S. A.; 400-meter hurdles, Robert Tisdall, Ireland; 800-meter run, Thomas Hampson, Great Britain; \* hammer throw, Dr. Pat O'Callaghan, Ireland; broad jump, Edward L. Gordon, U. S. A.; 110-meter hurdles, George Saling, U. S. A.; 200-meter dash, Eddie Tolan, U. S. A.; pole vault, William Miller, U. S. A.; discus, John Anderson, U. S. A.; 50,000-meter walk, Thomas William Green, Great Britain, javelin, M. Jarvinen, Finland; hop, step, and jump, Chuhei Nambu, Japan; 1500-meter run, Luigi Beccali, Italy; 5000-meter run, Lauri Lehtinen, Finland; 400-meter run, William Carr, U. S. A.; 8000-meter steeplechase, Volmari Iso-Hollo, Finland; decathlon, James Bausch, U. S. A.; 400-meter relay, U. S. A. (Kiesel,

Toppino, Dyer, Wykoff); 1600-meter relay, U. S. A. (Fuqua, Ablowich, Warnet, Carr); marathon, Juan Carlos Zabala, Argentina.

**(Women)**—Javelin, Mildred Didrikson, U. S. A.; 100-meter dash, Stanislaw Walsiewicz (Stella Walsh), Poland; discus, Lillian Copeland, U. S. A.; 80-meter hurdles, Mildred Didrikson, U. S. A.; 400-meter relay, U. S. A. (Mary Carew, Evelyn Furtch, Annette Rogers, Wilhelmina Von Bremen); high jump, Jean Shiley, U. S. A.

**Swimming (Men)**—100-meter free style, Tasui Miyazaki, Japan; springboard dive, Mickey Riley Galitzen, U. S. A.; 800-meter relay, Japan (Miyazaki, Yusa, Toyoda, Yokoyama); 400-meter free style, Clarence Crabbe, U. S. A.; 100-meter backstroke, Masaji Kiyokawa, Japan; high dive, Harold Smith, U. S. A.; 1500-meter free style, Kasuo Kitamura, Japan; 200-meter breast-stroke, Yoshiyuki Tsuruta, Japan.

**(Women)**—100-meter free style, Helene Madison, U. S. A.; 200-meter breast-stroke, Clare Dennis, Australia; springboard dive, Georgia Coleman, U. S. A.; 100-meter backstroke, Eleanor Holm, U. S. A.; high dive, Dorothy Poynton, U. S. A.; 400-meter relay, U. S. A. (Josephine McKim, Helen Johns, Eleanor Saville, Helene Madison); 400-meter free style, Helene Madison, U. S. A.

**Water Polo**—Hungary.

**Modern Pentathlon**—Count Johan Oxenstierna, Sweden.

**Pistol Shooting**—Major Renzo Morigi, Italy; carbine shooting—Bertie Belhelm Ronnmark, Sweden.

**Equestrian**—Dressage, Commandant François Lesage, France, riding Taine; team, United States of America; individual all-around, Lt. de Mortanges, Holland; Prix de Nations, Lt. Takeichi Nishi, Japan, riding Uranus.

**Fencing**—Team Foils, France; team épées, France; team sabers, Hungary; women's foils, Ellen Preis, Austria; men's foils, Gustavo Marzi, Italy; men's épées, G. Cornaggia-Medici, Italy; men's sabers, George Piller, Hungary.

**Wrestling** (Catch-as-catch-can)—Bantamweight, Robert Pearce, U. S. A.; featherweight, H. Pihlajamaki, Finland; lightweight, Charles Pacome, France; welterweight, J. Van Bebber, U. S. A.; middleweight, I. Johansson, Sweden; light heavyweight, Peter Mehninger, U. S. A.; heavyweight, J. Richthoff, Sweden.

**(Greco-Roman)**—Bantamweight, Jakob Brendel, Germany; featherweight, Giovanni Gozzi, Italy; lightweight, Eric Malmberg, Sweden, welterweight, Ivar Johansson, Sweden; \* middleweight, Vaino Kokkinen, Finland; light heavyweight, Rudolf Svensson, Sweden; heavyweight, Carl Westergren, Sweden.

**Cycling**—\* 4000-meter pursuit race, Italy; 1000-meter scratch, J. Van Egmund, Holland; 1000-meter time trial, Edgar L. Gray, Australia; 2000-meter tandem, Louis Chailion and Maurice Perrin, France; long distance team, Italy (individual, Attilio Pavezzi Italy).

**Weight-Lifting**—Featherweight, R. Suvinny, France; lightweight, René Duverger, France; middleweight, R. Janyar, Germany, light heavyweight, L. Hostin, France; heavyweight, Jaroslav Skobla, Czechoslovakia.

**Yachting**—8-meter class, *Angelita*, Owen Churchill, U. S. A.; 6-meter class, *Bissbi*, Tore Holm, Sweden; star class, *Jupiter*, Gilbert Gray, U. S. A.; monotype class, *Jacques Le Brun*, France.

**Gymnastics**—Indian clubs, George Roth, U. S. A.; pommel horse, Frank Haubold, U. S. A.; horizontal bar, Stephen Pelle, Hungary; free exercises, Stephen Pelle, Hungary; parallel bars, Romeo Neri, Italy; rings, George Gulack, U. S. A.; mat exercises, Rowland Wolfe, U. S. A.; long horse, Savino Guglielmetti, Italy; team, Italy.

**\* Field Hockey**—India.

**Rowing**—Four-oared with coxswain, Germany; pair-oared without coxswain, Great Britain; \* single sculls, Bobby Pearce, Australia; pair-oared with coxswain, U. S. A.; double-sculls, U. S. A. (Gilmore and Myers); four-oared without coxswain, Great Britain; eight-oared, U. S. A. (University of California).

**Boating**—Flyweight, Stephen Enekes, Hungary; bantamweight, Horace Gwynne, Canada; featherweight, Carmelo Rohedo, Argentina; lightweight, Lawrence Stevens, South Africa; welterweight, Eddie Flynn, U. S. A.; middleweight, Carmen Barth, U. S. A.; light heavyweight, David Carstens, South Africa; heavyweight, Santiago Lovell, Argentina; team, U. S. A.

**RECAPITULATIONS.** Three things stand out vividly in reviewing the Olympic games at Los Angeles (1) the indisputable power of the United States entries that amassed thirty-nine first places, thirty-two seconds, and twenty-one thirds in all events; (2) the rise of Italy and Japan as athletic powers; and (3) the decline of Germany and Finland as athletic nations. In 1928

\* Retained title.

\* Retained title.

the United States gained 131 points as compared to 202 in 1932. Japan leaped from seventeenth among the nations in 1928 to third four years later. Italy advanced from seventh to second. Finland, second in 1928, was sixth in 1932; Germany, third in 1928 at Amsterdam, was seventh at Los Angeles. Finland, without the services of the incomparable Nurmi in the distance events, in which he had ruled supreme since 1920, was handicapped seriously. Much of Japan's rise can be traced to the swimming renaissance in the Orient, which is due to the betterment of American methods taught the Nipponese by American instructors within the last four years.

The Olympic Federation chose Berlin as the site of the 1936 games. Berlin was originally picked for the 1916 games but the World War intervened.

**OLYMPIC INTERNATIONAL EXHIBITION.** See ART EXHIBITIONS; SCULPTURE.

**OLYNTHUS.** See ARCHÆOLOGY.

**O'MALLEY, FRANK WARD.** An American newspaper writer, died in Tours, France, Oct. 19, 1932. He was born in Pittston, Pa., Nov. 30, 1875, and studied drawing and painting at the Art Students' League, Washington (1894-95), took special courses at the University of Notre Dame (1895-98), and again studied drawing, painting, and sculpture at the Pennsylvania Academy of Fine Arts, Philadelphia (1898-1902). He was then for several years a commercial illustrator in New York City. In 1906 he joined the staff of the *New York Sun* as a reporter and gained a wide reputation as a humorous and special writer. After 1919 he devoted himself principally to feature article writing. In conjunction with Edward Waterman Townsend he wrote the plays *The Head of the House* (1909) and *A Certain Party* (1910). His books include *The War Whirl in Washington* (1918) and *The Swiss Family O'Malley* (1928).

**OMAN.** See ARABIA.

**ONTARIO,** ōn-tā'ri-ō. Second in size (after Quebec) among the Canadian Provinces, Ontario lies between Quebec on the east and Manitoba on the west. The area is 412,582 square miles; the population (1931 census) was 3,431,683, compared with 2,933,662 in 1921. Toronto, the capital, had 631,577 inhabitants in 1931 (521,893 in 1921); Hamilton, 155,547 (114,151); Ottawa, 126,872 (107,843); London, 71,148 (60,959); and Windsor, 63,108 (38,591). Living births in 1930 numbered 71,263; deaths, 37,313; marriages, 25,605. Elementary and secondary schools in 1930 enrolled 747,000 pupils.

Besides leading all the other Canadian Provinces in manufacturing, Ontario is rich in agricultural, mineral, and forest resources. With 9888 manufacturing establishments, representing a capital investment of \$2,431,369,848, and 307,477 employees, the factories of the Province in 1930 manufactured goods valued at \$1,713,025,322 of which \$876,358,542 represented the value added in process of production. In 1930 the publicly owned Ontario Hydro-Electric Power Commission delivered 1,263,512 electric horsepower to 668 municipalities who through their various utility commissions supplied 586,267 customers.

There are about 14,000,000 acres of cultivated land, of which 9,064,649 acres yielded field crops valued at \$124,541,000 in 1931. Mineral production in 1931 was provisionally reported at \$96,126,990, the chief minerals being gold, silver, copper, nickel, platinum, crude petroleum, and

natural gas. Gold production in 1932 was reported by the provincial Department of Mines at \$47,250,000, or \$4,500,000 higher than in 1931. Seven new gold mines went into production during 1932.

From the forested area of about 240,000 square miles, lumber and other sawmill products valued at \$24,714,168, wood pulp valued at \$31,463,873, and paper and newsprint valued at \$56,251,703 were extracted in 1930. Fisheries yielded \$3,294,629 in 1930. Steam railways extend over 11,000 miles and highways over 52,000 miles. In 1932, the first full season, a total of 8,388,916 tons of freight moved through the new Welland Canal. The tidewater port and terminal of the Temiskaming & Northern Ontario Railway, on the southern shores of James Bay, was named Moosonee in place of Moose Harbor.

The budget for 1932-33 provided for increased taxation on corporations, gasoline (to 6 cents per imperial gallon), liquor, and legal documents; expenditures were estimated to total \$55,640,000. In 1930-31, revenue was \$54,390,092; expenditure, \$54,846,994. The bonded indebtedness in 1930 was \$398,821,344.

The Province is administered by a lieutenant-governor, appointed by the Dominion, a responsible cabinet, and a single legislative chamber of 112 members elected by popular vote. The 18th Legislature constituted in 1929 comprised 90 Conservatives, 15 Liberals, 5 Progressives, 1 Laborite, and 1 United Farmer. Ontario was represented in the Dominion Parliament at Ottawa by 24 members in the Senate, and 82 members in the House of Commons. Colonel (Dr.) H. A. Bruce was appointed Lieutenant-Governor, in October, 1931, to succeed W. D. Ross who resigned. Premier, President of the Council, and Minister of Education, G. S. Henry (Conservative). See CANADA.

As a result of the resurvey of the Ontario-Manitoba boundary in the vicinity of the eastern end of Island Lake, some 5320 square miles of mineral and timber country were added to the Province of Ontario in 1932.

**OPEN AIR ART EXHIBITS.** See ART EXHIBITIONS.

**OPERA.** See MUSIC.

**OPPENHEIM, JAMES.** An American author, died in New York City, Aug. 3, 1932. He was born in St. Paul, Minn., May 24, 1882, studied during 1901-03 at Columbia University, and was a social worker at the Hudson Guild Settlement in New York City. He also taught during 1905-07 at the Hebrew Technical School for Girls in New York City, after which literary work occupied him primarily. Among his novels and short stories (involving for the most part social and ethical problems) are: *Doctor Rast* (1909); *Wild Oats* (1910); *Pay Envelopes* (1911); *The Nine Tenths* (1911); *The Olympian* (1912); *Idle Wives* (1914); *The Beloved* (1915); *War and Laughter* (1916). He was also a poet of note, his poems appearing in such collections as *Monday Morning and Other Poems* (1909); *The Pioneers* (a poetic play, 1910); *Songs for the New Age* (1914); *The Book of Self* (1917); *The Solitary* (1919); *The Mystic Warrior* (an autobiographical poem, 1921); *The Golden Bird* (1923); and *The Sea* (1924).

**ORANGE FREE STATE.** A province of the Union of South Africa. Capital, Bloemfontein. See SOUTH AFRICA, UNION OF.

**ORANGES.** See HORTICULTURE.

**ORCHESTRAS.** See MUSIC.

**ORE DEPOSITS.** See GEOLOGY.

**ORE DRESSING.** See METALLURGY.

**OREGON. POPULATION.** According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 953,786, as against 783,389 in 1920. Portland had 301,815 inhabitants. Salem, the capital, 26,266.

**AGRICULTURE.** The accompanying table shows the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod. Bu.	Value
Hay ..	1932	1,281,000	1,994,000*	\$11,603,000
	1931	1,157,000	1,686,000*	14,142,000
Wheat ..	1932	991,000	20,060,000	8,024,000
	1931	945,000	17,662,000	6,712,000
Oats ...	1932	223,000	6,802,000	1,905,000
	1931	223,000	7,186,000	1,927,000
Potatoes ..	1932	42,000	5,040,000	2,066,000
	1931	42,000	5,460,000	2,348,000
Apples ....	1932	.....	4,950,000	2,277,000
	1931	.....	4,150,000	2,200,000
Corn ..	1932	65,000	2,015,000	1,028,000
	1931	62,000	1,984,000	1,290,000
Hops ...	1932	15,500	13,020,000*	2,344,000
	1931	15,500	16,988,000*	2,378,000
Barley ..	1932	96,000	2,688,000	887,000
	1931	74,000	2,220,000	888,000

\* Tons.    † Pounds

**MINERAL PRODUCTION.** The total value of the State's mineral product was \$6,169,898 for 1930; for 1929, \$6,876,703. In great part it consisted of production of divers minerals for which totals by value were not separately tabulated by the Federal Bureau of Mines. These aggregated \$2,453,926 for 1930. Of the remaining product nearly one-half was supplied by stone, to the quantity of 1,685,740 short tons quarried in 1930 and 1,951,980 in 1929; by value, \$1,708,956 for 1930 and \$1,905,747 for 1929. Sand and gravel production, somewhat less in value, totaled \$1,644,243 for 1930. Production of metals was distinctly secondary. Mercury was the leader, its production attaining 2919 76-pound flasks for 1930, as against 3657 for 1929; by value, \$355,711 for 1930, and \$446,684 for 1929. Gold was produced to the quantity of 15,301 fine ounces in 1931, and 14,300 in 1930; by value, \$316,300 for 1931, and \$295,600 for 1930.

**FINANCE.** State expenditures in the year ended Sept. 30, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments, \$14,537,129 (of which \$446,124 was for local education); for interest on debt, \$2,762,414; for permanent improvements, \$12,279,541; total, \$29,579,912 (of which \$15,250,217 was for highways, \$4,182,620 being for maintenance and \$11,067,597 for construction). Revenues were \$29,767,296. Of these, property and special taxes furnished 19.6 per cent; departmental earnings and compensation to the State for officers' services, 7.2; sale of licenses, 49.1 (in which was included a gasoline sale tax that produced \$6,356,292). Funded debt outstanding on Sept. 30, 1931, totaled \$58,749,460, of which \$29,491,750 was for highways. Net of sinking-fund assets, the debt was \$31,138,136. On an assessed valuation of \$1,125,180,592 the State levied in the year ad-valorem taxes of \$4,592,628.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 3472.07. In the year previous, 43.08 miles of new line had been put in operation; 26.54 miles abandoned.

**EDUCATION.** The control of all the State's

higher institutions of learning was vested in a single chancellor. An unsuccessful effort was made to increase the revenue for public schools by the proposed imposition of a special tax levy. This failing, the public schools were obliged to cope with severe reduction of revenue, due to deficient collections. The selection of textbooks, under the system of State adoption, and the shaping of curricula were placed in charge of a single commission chosen by the State board of education.

**CHARITIES AND CORRECTIONS** Full charge of the State's institutions for the care or custody of persons, under the system in effect in 1932, rested in the State Board of Control. This board was composed of the Governor, Secretary of State and State Treasurer, *ex officio*, and a secretary. It held visitorial power with regard to a number of State-aided institutions run by societies. It administered a law of 1931 for the collection of \$20 a month from relatives or patients' estates for the care of the insane, feeble-minded, or tubercular in State institutions.

The State institutions, with their average populations for the period October, 1930-1932, inclusive, were: for mental cases, Oregon State Hospital, at Salem (2084), and Eastern Oregon State Hospital, at Pendleton (1089); tubercular cases, Oregon State Tuberculosis Hospital, Salem (209); and Eastern Oregon Tuberculosis Hospital, The Dalles (109); State Penitentiary, Salem (879); for juvenile delinquents, Oregon State Training School, Woodburn (105 boys), and Oregon State Industrial School for Girls, Salem (74); State Institution for the Feeble-Minded, Salem (845); State schools for the deaf (125) and the blind (43), both at Salem; Oregon Employment Institution for the Blind, Portland (60); Oregon State Soldiers' Home, Roseburg (88). The Soldiers' Home was to be transferred to the Federal Government after the completion of new buildings.

**POLITICAL AND OTHER EVENTS.** Efforts to reform public finances in the State were continued. Governor Meier obtained support in the powerful Oregon Taxpayers' Equalization and Conservation League for a series of proposals advocated by him. These included extension over other State subdivisions of the plan employed in Multnomah County, where a county commission had the veto power over items in the budgets of taxing and borrowing units within the county; higher income-tax rates and lower exemptions; consolidation of school districts and other local governmental units; and a broad system for fixing salaries of public employees at "reasonable" levels. At Portland the Hibernia Bank, which had closed in December, 1931, was reopened with the support of depositors, who permitted 30 per cent of their deposits to be shifted to a specially formed security-holding company, that took over the unrealizable investments of the bank. American settlers in the neighborhood of the town of Banks drove out a group of 84 Filipinos on April 24, on the latter's arrival to start an agricultural settlement. In the State primary elections of May 20 Senator Steiwer gained a Republican renomination, while the Democrats chose as their nominee for Senate candidate Walter B. Gleason, an advocate of the repeal of prohibition. Representative W. C. Hawley was defeated for a Republican renomination by another repealist, James W. Mott.

**ELECTIONS.** The popular vote of November 8

was cast for the Democratic National ticket by more than 3 to 2. Reported totals, for President, were: Roosevelt (Dem.), 213,871; Hoover (Rep.), 136,019. Frederick Steiwer (Rep.) was reelected to the United States Senate, defeating W. B. Gleason (Dem.); 1 Republican and 2 Democrats were sent to the House of Representatives. An initiated measure to repeal the State's statute for the enforcement of prohibition was passed by popular vote.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, Julius L. Meier; Secretary of State and State Auditor, Hal E. Hoss; Treasurer, Rufus C. Holman; Attorney-General, I. H. Van Winkle; Superintendent of Public Instruction, Charles A. Howard.

**Supreme Court:** Chief Justice, John L. Rand; Associate Justices, Henry J. Bean, Harry H. Belt, J. O. Bailey, George Rossman, Percy R. Kelly, J. U. Campbell.

**OREGON, UNIVERSITY OF.** A coeducational institution under State control and support in Eugene, founded in 1876. It consists of a college of arts and letters, a college of social science, lower division groups (liberal arts), and schools of business administration, education, fine arts, journalism, law, physical education, and science. The total enrollment for the autumn term of 1932 was 2293, of whom 1352 were men and 941 women. The attendance at the 1932 summer sessions was 1549, of whom 447 were men and 1102 women. The faculty for the autumn term numbered 238. The total income for the year ending June 30, 1932, was \$1,305,409. The library contained 238,450 volumes.

Under the new Oregon State system of higher education, the University of Oregon is one of six units in the State's higher educational plan, organized under a single State Board of Higher Education with offices at Salem, Ore., and offering on six campuses a comprehensive programme of technical, liberal, and professional education. (See **OREGON STATE AGRICULTURAL COLLEGE**.) This system was contemplated by act of the 1929 legislature, and after a survey of the State by the educational commission of the United States Office of Education the new State Board was authorized beginning July 1, 1931, to conduct and reorganize the several institutions according to a programme of "higher educational development adapted to the needs of the State." A referendum measure proposing to move the university from Eugene to Corvallis and there combine it with the State Agricultural College was defeated Nov. 8, 1932, by a vote of more than 6 to 1. President, Arnold Bennett Hall, J.D., LL.D.

**OREGON STATE AGRICULTURAL COLLEGE.** The Federal land-grant college of Oregon, established under Federal and State support in 1868 in Corvallis. The enrollment for the autumn term of 1932 was 2263, of whom 1517 were men and 746 women. The 1932 summer session enrollment was 1221. The total resident enrollment for the full year 1931-32 was 5273. There were 298 members on the teaching faculty. By action of the State Board of Higher Education, all curricula of the State institutions were reorganized and correlated during the spring and summer of 1932. At the State College were placed lower division liberal arts and sciences, upper division and graduate biological and physical science (school of science), and professional and technical schools of agriculture, educa-

tion, engineering, forestry, home economics, and pharmacy. There were 111,196 catalogued volumes in the library. President, William Jasper Kerr, Sc.D., LL.D.

**ORGANIC CHEMISTRY.** See **CHEMISTRY**.

**ORIENTAL FRUIT MOTH.** See **ENTOMOLOGY, ECONOMIC**.

**OROZCO, JOSÉ C.** See **PAINTING**.

**ORT, WOMEN'S ASSOCIATION AMERICAN.** A society organized in 1927 for the support of trade and agricultural activities among the Jews in Central and Eastern Europe. It is derived from the organization ORT (the initials of three Russian words meaning Organization for the Promotion of Trade and Agriculture), founded in 1880 by prominent Russian Jews, such as Baron H. Ginzburg, S. Poliakov, and Prof. N. Bakst. Among its activities in 1932 were the support of trade and vocational schools for youths and adults of both sexes; the purchase of agricultural implements and livestock for Ort colonies; and the supplying of tools and machinery to artisans. The Ort Tool Supply Corp., for instance, enabled relatives in the United States to send machinery free of duty to the deceased Jews in the U.S.S.R. The society established also a guardian bureau to finance orphans through a three-year course in vocational schools. World headquarters of the Ort are in Berlin, Germany, with branches in England, France, South Africa, the United States, and Canada. The offices of the Women's Association are at 220 Fifth Avenue, New York City.

**ORTON, EDWARD, JR.** An American chemist, died in Columbus, Ohio, Feb. 10, 1932. He was born in Chester, N. Y., Oct. 8, 1863. Upon his graduation from Ohio State University in 1884, he served successively as chemist and mining engineer, superintendent of blast furnaces, and manager of the plants of several clay industries. In 1894 he was instrumental in establishing at Ohio State University the first school in the United States for instruction in ceramic engineering. He was director of this school until 1916 and served also as dean of the engineering college during 1902-08, and again during 1910-16. In 1916 he was elected one of the university's two first research professors, having earlier distinguished himself as the first American chemist to manufacture, under laboratory control, a high silicon alloy of iron, known as ferro-silicon. On his retirement in 1917 he became a commanding major in the Officers' Reserve Corps of the U. S. Army, and on the entry of the United States into the World War was assigned to the Motor Transport Corps, with which he served in France. He received the Distinguished Service Medal and in 1923 was made a brigadier general in the Officers' Reserve Corps.

In 1896 Orton established the Standard Pyrometric Cone Co., whose product was used for regulating the firing process of ceramic products and other wares burned in kilns. Two years later he founded the American Ceramic Society, which he served as secretary and editor until 1917, and as president during 1930-31. He was also State geologist of Ohio from 1899 to 1906, during which time he placed the work of the Survey on a firm basis and published a series of monographs, including *Clays of Ohio and the Industries Established upon Them*, and *The Clay-Working Industries of Ohio*. He was the author of *The Progress of the Ceramic Industry* (1903), and *Qualities of Paving Bricks* (1911).

**OSBORN, H. F.** See ZOOLOGY.

**O'SHEA, MICHAEL VINCENT.** An American educator, died in Madison, Wis., Jan. 14, 1932. He was born in Le Roy, N. Y., Sept. 17, 1866. On graduating from Cornell University in 1892 he taught at the State Normal School in Mankato, Minn., until 1895 and at the Buffalo Teachers' College until 1897. He was then called to the University of Wisconsin where he was professor of education until his death. He became prominent as a lecturer on pedagogy and also in university extension work and conducted several important surveys of educational systems, chief of which were those in Mississippi (1925-26) and Virginia (1927). He was chairman of the American committee at the International Congress of Education held in Liège, Belgium, in 1905, and at the International Congress of Home Education held in Brussels in 1910. In 1911-12 he was president of the Society of College Teachers of Education. His publications include: *Suggestions for the Observation and Study of Children* (1894); *Aspects of Mental Economy* (1900); *Education as Adjustment* (1903); *Dynamic Factors in Education* (1906); *Linguistic Development and Education* (1907); *Social Development and Education* (1909); *Every-Day Problems in Teaching* (1912); *Mental Development and Education* (1920); *First Steps in Child Training* (1920); *The Trend of the Teens* (1920); *Faults of Childhood and Youth* (1920); *Every-Day Problems in Child Training* (1920); *Tobacco and Mental Efficiency* (1923); *The Child: His Nature and His Needs* (1925); *Newer Ways with Children* (1929). He was editor of *The Junior Home Magazine* and *The Nation's Schools* and editor-in-chief of *The World Book Encyclopædia*, *Experimental Education Series*, *The Childhood and Youth Series*, and *The Parents' Library*.

**OSTWALD, WILHELM.** A German chemist, died in Grossbothen, Germany, Apr. 4, 1932. He was born in Riga, Latvia, Sept. 2, 1853, and attended the University of Dorpat. In 1882 he became professor of chemistry at the Riga Polytechnicum, and five years later was appointed professor of physical chemistry at the University of Leipzig. In 1905 he was nominated to the first German exchange professorship at Harvard. He resigned his university appointment the following year, retiring to his country home, "Villa Energy," near Leipzig, so as to devote himself more fully to research. Following the example of Chevreul he became particularly interested in the theory of color, and founded in Dresden in 1920 a laboratory for color-study. He was also president (after 1911) of the German Monist League, being an exponent of that form of monism, called energism, which identifies ultimate reality with physical energy. His conclusion was that all matter was but one phase or another of energy and that, consequently, the living organism was but a system of energies and a phase of a far greater system of energies constituting the universe.

In 1909 Ostwald received the Nobel Prize for chemistry in recognition of his contribution toward establishing a cohesive and unitary body of knowledge in the field of physical chemistry. His researches, while director of the Physicochemical Institute at the University of Leipzig, had dealt particularly with electrochemistry, including the electric conductivity of organic acids, the parallel existing between the electrolytic dis-

sociation of such acids and their power of chemical reaction, and the color of ions. One of his most important discoveries was that of oxidizing ammonia by passing it, mixed with air, over a heated platinum gauze, so as to form oxides of nitrogen from which nitric acid and nitrates might be made. It was by means of this process, and by later developments in connection with it, that Germany was enabled to continue the manufacture of explosives after the enforcement of the Allied blockade during the World War.

Among Ostwald's publications in the field of physical chemistry are: *Lehrbuch der allgemeinen Chemie* (2 vols., 1885-88); *Grundriss der allgemeinen Chemie* (1890); *Hand und Hilfsbuch zur Ausführung physikochemischer Messungen* (1893); *Die wissenschaftlichen Grundlagen der analytischen Chemie* (1894); *Elektrochemie* (1895); *Grundlinien der anorganischen Chemie* (1900); and *Die Schule der Chemie* (1904). His researches in the field of color were incorporated in such books as *Mathematische Farbenlehre* (1918); *Harmonie der Farben* (1918); *Physikalische Farbenlehre* (1919); and *Farbkunde* (1923). His important books on philosophical subjects include: *Vorlesungen über Naturphilosophie* (1903); *Energetische Grundlagen der Kulturwissenschaft* (1909); *Der energetische Imperativ* (1912); *Die Philosophie der Werte* (1912); and *Monistische Sonntagspredigten* (4 vols., 1911-14). In 1887 he established with Jacobus van't Hoff, the Dutch chemist, *Zeitschrift für physikalische Chemie*, and two years later undertook a collection of reprints of important scientific essays, called *Klassiker der exakten Wissenschaften*, of which more than 200 volumes were published. He edited also during 1901-14 *Annalen der Naturphilosophie*, during 1912-15 *Der Monist*, and after 1921 *Farbe*. His last published work was an autobiography, *Lebenslinien* (1926-27).

**OTTAWA CONFERENCE.** See CANADA, GREAT BRITAIN, and the other Dominions under *History*.

**OUTBOARD RACING.** See MOTORBOATING.

**OUTER MONGOLIA.** See MONGOLIA.

**OVERSEA TELEPHONE SERVICE.** See TELEPHONY.

**PACIFIC RELATIONS, INSTITUTE OF.** An organization formed in Honolulu in 1925 to serve as an unofficial body in studying the conditions of the Pacific peoples. It holds biennial conferences, promotes and coordinates research by other agencies, conducts research through its own secretariat, and endeavors to stimulate the mood of inquiry regarding Pacific problems on the part of the public generally. It is governed by a Pacific council, consisting of one representative from a recognized affiliated body of similar purposes in each country, including Australia, Canada, China, Great Britain, Japan, the Philippines, New Zealand, the United States, and the U.S.S.R.

During 1932 the institute's research and educational activities were continued through the national councils along the general lines agreed upon at the Shanghai conference. The next biennial conference was announced to be held at Banff in August and September, 1933. The development of the outline for the discussion agenda, following the original suggestions made at Shanghai, showed a definite preference for emphasis on economic aspects of conflict and control in the Pacific area, but provision was made that the political and educational factors be considered

also. Pertinent data papers are in preparation by the International Research Committee and by the various national councils.

The American council of the institute, in addition to carrying on its part of the conference preparation, published a series of fortnightly bulletins, *I. P. R. Memoranda*, and a pamphlet *Conflict in the Far East, 1931-32*; prepared several study outlines on the Far Eastern conflict and was instrumental in interpreting the Lytton Report to the American public; and widened its library and research facilities and services. The institute published *Problems of the Pacific, 1931*, the report of the Shanghai Conference, edited by Bruno Lasker; and continued to publish the monthly magazine *Pacific Affairs*, under the editorship of Miss Elizabeth Green.

Newton D. Baker was elected chairman of the American council upon the resignation of Jerome D. Greene, who accepted the appointment to the Wilson professorship of international affairs at the University of Wales. Edward C. Carter continued as secretary; Everett Case was elected treasurer; and Dr. James T. Shotwell continued as chairman of the American research committee. Headquarters of the institute are in Honolulu, and of the American council at 129 East 52 Street, New York City. An American branch office is located in the Claus Spreckels Building, San Francisco.

**PACIFIST MOVEMENTS.** See PEACE.

**PACKING INDUSTRY.** See LIVESTOCK.

**PADEREWSKI, IGNACE.** See MUSIC.

**PAGE SCHOOL OF INTERNATIONAL RELATIONS.** See INTERNATIONALISM.

**PAHANG.** See FEDERATED MALAY STATES.

**PAINTING.** The dominant influence shown in American painting during the year 1932 was, strangely enough, Mexican in its derivation. This resulted, without question, from the interest created in Mexican art by the late Dwight Morrow while Ambassador to Mexico. It was he who, realizing the ability of Diego Rivera, gave him a commission to execute a mural painting for a public building in the town adjacent to the City of Mexico where he had a summer home. The success of this led to similar commissions for public buildings in the United States. Rivera has produced mural paintings in public buildings on the west coast, in the Middle West and the East. An exhibition of his paintings was held at the Museum of Modern Art in New York in 1932. A commission has been given to him for mural paintings for the Great Hall, Rockefeller Center. Frank Brangwyn, of England, and José Maria Sert, of Spain, also received commissions for murals for this same building in New York.

Dartmouth College has commissioned José Clemente Orozco, Mexican by birth, to execute the largest fresco yet produced in the United States, illustrating "The Epic of Civilization on the American Continent," which will consist of two main and seven smaller panels, and will cover three thousand square feet of the walls of the Baker Memorial Library.

In Los Angeles during the past year a well known Mexican painter, David Alfaro Siqueiros, with the cooperation of a number of artists of Southern California, has produced two large frescoes on exterior walls of buildings, one at the Chournard School, the other on a wall in the Mexican village, Alvaro Street. Alfaro Ramos Martinez, founder of the open air art school in

Mexico, has also been working and teaching in Los Angeles. A Mexican painter wrote from Paris recently: "Mexican art has captured America," and it is true that many of the American painters of the younger school are following in the lead of these Mexican masters, imitating their somewhat stiff, primitive style—a style derived from Indian art produced under Spanish tradition.

However, American mural painters also have received, during the past year, numerous commissions. Ezra Winter was commissioned by the Rockefeller Center, or Radio City, to produce a painting 60 × 40 feet in dimensions, based subjectively on the legend which is folklore with the Oregon Indians—the theme of the age-old quest for the Fountain of Youth. In this connection it is interesting to note that a Radio City Art Commission has been appointed, consisting of Edward W. Forbes, Director of the Fogg Art Museum, Cambridge; Paul J. Sachs, Associate Director of the same museum; Herbert E. Winlock, Director of the Metropolitan Museum of Art; Everett V. Meeks, Dean of the Department of Fine Arts at Yale University; and Fiske Kimball, Director of the Pennsylvania Museum of Art, Philadelphia. The function of this commission is to pass upon works of art in connection with these great buildings in New York.

For the Metropolitan Life Insurance Company's new home office building, Fourth Avenue and 24th Street, New York, D. Putnam Brinley executed a series of mural decorations, illustrating Mark Twain's *Adventures of Huckleberry Finn* and "Scenes from Wild Life," and Nicholas Pavloff produced a series of murals, illustrating Washington Irving's *Knickerbocker History of New York*. Mr. Brinley also in 1932 completed a mural painting, 27 × 12 feet, for the chancel of St. George's Church, Bridgeport, Conn.

A series of murals illustrating "The Arts of Life in America" by Thomas Benton were installed in the Reading Room of the Whitney Museum of American Art on December 6 and much discussed.

Two murals representing the Old and the New South were executed by John Norton of Chicago, for the vestibule of the new Court House at Birmingham, Alabama. Mr. Norton's murals for the Tavern Club, Birmingham, Ala., won the Architectural League's gold medal in 1931.

Francis Scott Bradford, Fellow of the American Academy in Rome, completed in March, 1932, twenty-six mural paintings for the Milwaukee Court House illustrating events in the life and development of the city. The main panel, 10 × 15 feet, portrays the landing of the first white settler Juneau in Milwaukee.

Edward Buk Elreich, mural painter of New York, won the competition for a vast mural decoration, 430 feet in length and 30 feet high, for the westerly wall, back of the colonnade, in the Industrial Arts Building, designed by Ely Jacques Kahn, for the "Century of Progress Exposition" to be held in Chicago in 1933.

The second prize, oil painting, Olympic International Exhibition, Los Angeles, was awarded to Ruth Miller for "Struggle"—a wrestling match. In the class of water colors and drawings, a first prize was awarded to Lee Blair for "Rodeo," a water color, and second prize to Percy Crosby for a drawing of a skater, "Jack-knife."

Will S. Taylor, Curator of Art of Brown Uni-

versity, completed the first of a series of murals on the Life of the American Man of the Iron Age for the Morgan Memorial Hall of the American Museum of Natural History, New York.

An interesting series of murals by J. R. L. Styres were painted and placed in rooms occupied by children and others in the Metropolitan Hospital on Welfare Island, New York. The subjects for these were scenes from *Alice in Wonderland*, *Little Red Riding Hood*, and other familiar tales.

Jules Guerin in February completed mural paintings for the new State Capitol at Baton Rouge, Louisiana; and by midsummer Dean Cornwell completed his notable series illustrating the History of California for the Public Library in Los Angeles.

A mural painting for the reredos in the Chapel of Our Saviour, Church of the Seamen's Institute, 22 South Street, New York, was executed by Gordon Grant. This is a marine, rather than a subject picture. See ART EXHIBITIONS; ART MUSEUMS.

FELLOWSHIPS AND SCHOLARSHIPS. The John Simon Guggenheim Memorial Foundation awarded during 1932 two Latin American Exchange Fellowships in Art to Mr. Howard Cook, Granville, Mass., for creative work in etchings, wood engraving, and lithography in Mexico, and to Mr. Andrew M. Dasburg, Santa Fe, New Mexico, for creative work in painting and study of contemporary Mexican fresco painting; and the following Guggenheim Memorial Fellowships in Art: to Mr. Peter Blume, Gaylordsville, Conn., for creative work in painting abroad; to Mr. Mitchell Fields, New York City, for creative work in sculpture abroad; to Mr. Ernest Fiene, New York City, for study of the works of the old masters in several museums of Europe and creative work in painting; to Mr. John B. Flanagan, New York City, for creative work in sculpture abroad; to Mr. Benjamin Greenstein, New York City, for sculpture, drawing, and painting abroad; to Mr. Peppino Mangravite, New York City, for creative work in painting abroad; to Mr. Antonio Salemme, New York City, for creative work in sculpture abroad.

The Oberlaender Trust, Carl Schurz Memorial Foundation Fellowship for research work in Germany was awarded to Miss Helen Appleton Read, Art Critic of the Brooklyn Eagle, in order that she might study Germany's post-war cultural expression and write a book on *The Aesthetics of the New Era*.

The Pulitzer Art Prize consisting of an \$1800 scholarship to an American art student of greatest promise was awarded to Mr. Francesco Roggeri of New York.

The Paris Prize in Architecture of the Society of Beaux Arts Architects was awarded to Mr. Richard H. Granelli of New York, and the Paris Prize in Sculpture to Mr. George J. Sklar of Philadelphia.

NECROLOGY. Among the painters who died during 1932 were Harold Haven Brown, Emil Carlson, Glenn O. Coleman, Elliott Daingerfield, Lockwood de Forest, Ignaz Gaugengigle, Francis C. Jones, Will H. Low, Gari Melchers, Walter L. Palmer, Alethea H. Platt, Carleton Wiggins, and Dwight Williams.

BIBLIOGRAPHY. Among the publications of the year may be noted the following: *Samuel F. B. Morse, American Painter*, by Harry B. Wehle;

*Life Portraits of George Washington and Their Replicas*, by John H. Morgan and Mantle Fielding; *Gilbert Stuart*, by William T. Whitley; *Rembrandt*, by Arthur M. Hind; *Italian Pictures of the Renaissance*, by Bernard Berenson; *English Painting from Seventh Century to Present Day*, by Charles Johnson; *French Painting*, by R. H. Wilenski; *Early American Painting*, by Frederick F. Sherman; *The Teaching of Art*, by Margaret E. Mathias; *Art Appreciation*, by Margaret Dobson; *An Autobiography*, by Frank Lloyd Wright; *Men and Memories*, by William Rothenstein.

**PALESTINE.** A territory comprising that part of historic Palestine which lies to the west of Trans-Jordan; administered since Sept. 29, 1923, by Great Britain under a mandate of the League of Nations. Capital, Jerusalem.

AREA AND POPULATION. With an area of about 10,000 square miles, Palestine had a population of 1,035,154 at the census of Nov. 18, 1931. Of the total, 759,952 (73 per cent) were Moslems, 175,006 (17 per cent) were Jews, 90,607 (8 per cent) were Christians, and 9589 were of other faiths. The census population in 1922 was 757,182. In 1930, births numbered 44,587; deaths, 19,513. Immigrants in 1931 numbered 5533, of whom 4075 were Jews, and 197 British police; emigrants numbered 1346 (3003 in 1930). Populations of the chief towns at the 1931 census were: Jerusalem, 90,407; Jaffa, 51,366; Tel-Aviv, 46,116; Haifa, 50,533. English, Arabic, and Hebrew are the official languages.

EDUCATION. In 1931, there were 308 government schools, with 24,288 pupils, mostly Moslems; 377 Jewish schools, with 33,527 pupils; 156 Christian schools, with 16,099 pupils; and 137 private Moslem schools, with 7319 pupils. The government training colleges for teachers had 135 students, and the Hebrew University on Mount Scopus 204 students.

PRODUCTION. Agriculture is the main support of the population, but small industries are developing. The first commercial shipment of potash from the Dead Sea was made in 1931. Wine, soap, olive oil, tobacco products, cement, and salt are the chief industrial products. Livestock in 1930 included 145,397 cattle, 252,773 sheep, 25,321 camels, 13,825 horses, 76,858 donkeys, and 5247 buffaloes. The 1931 almond crop was 300 metric tons (692 in 1930); grapes, 3250 tons (6000); tobacco, 441 (958); oranges (shipments), 2,616,451 cases. The 1930 cereal harvest was: Wheat, 87,300 metric tons; barley, 51,972; durra, 31,000. Lentils and olives are other leading crops.

Besides potash, the principal minerals are salt, bitumen, gypsum, limestone, and sandstone. According to the 1928 census of industry, there were 3505 industrial plants employing 11,627 wage earners and 815 prime movers with a potential horse power of 15,873. The value of the net industrial output in 1928 amounted to £P3,886,000 (about \$18,900,000).

In 1931 the effects of the world depression were less severe in Palestine than in many neighboring countries. Industrial output was sustained, except for a decline in wine production, and an active domestic market offset the decreased foreign demand for Palestine exports. The output of tobacco products, matches, and soap increased, while the production of cement and flour continued large and that of salt and distillery products declined. There was a decline in the number of new enterprises, also. Following the abandon-



ment of the gold standard by Great Britain in September, 1931, funds were diverted into building construction, due to the uncertainty resulting from the depreciation of sterling. Total construction exceeded that for 1930. Investments in buildings at Tel-Aviv were estimated to have risen to £P300,000 from £P200,000 in 1930. The port improvements under way at Haifa added materially to the construction activity of the year.

**COMMERCE.** Exports of domestic products in 1931 were valued at 1,572,061 Palestine pounds (\$7,129,300), compared with £P1,896,095 (\$9,227,350) in 1930; imports were valued at £P5,940,000 (\$26,937,900), as against £P6,985,258 (\$33,993,760) in 1930. The leading exports were: Oranges, £P886,356; laundry soap, £P117,393; watermelons, £P47,720; durra, £P37,696; wine, £P30,592. Imports, in order of value, were cotton piece goods, cattle for slaughtering, silk tissues, wheat, wood and timber, wheat flour, and benzine. Imports came chiefly from Egypt, which furnished 17.2 per cent of the total (22.8 per cent in 1930); Syria, 17.1 per cent (14.8); and the United Kingdom, 16.8 (16.7). The United Kingdom in 1931 took 45.1 per cent of all exports (37.1 in 1930); Syria, 14.2 (11.1); and Germany, 12.8 (10.7). Imports from the United States were valued at £P257,370 (\$1,167,170), and exports to the United States at £P19,780 (\$89,700).

**FINANCE.** Revenue of the government in 1931 totaled £P2,110,985 (£P2,348,259 in 1930), to which was added a grant-in-aid from the British Government of £P222,909 (£P41,286 in 1930). Expenditure, including £P104,947 for public works and the railway deficit of £P67,916, totaled £P2,374,866, as compared with £P2,536,505 in 1930. The deficit for 1931 was £P40,972; for 1930, £P146,960. The public debt in 1930 amounted to £P4,475,000. The Palestine pound, which has the same par value as the pound sterling, fluctuated in sympathy with the latter after Great Britain abandoned the gold standard in September, 1931. It averaged \$4.535 in 1931, as compared with par of \$4.8665 in 1930.

**COMMUNICATIONS.** Palestine in 1931 had 774 miles of railway line, which provide direct communication with Egypt; 1275 miles of highway, of which 540 miles were suitable for motor traffic throughout the year; and air lines providing communication with Egypt, Iraq, Cyprus, Greece, and various other countries on the Imperial Airways system. A new desert air service between Palestine and Iraq was opened by Imperial Airways Sept. 5, 1932. In 1931, 2949 vessels of 1,859,780 tons entered the ports in the foreign trade, compared with 2608 vessels of 1,935,990 tons in 1930. Improvement of the harbor facilities at Haifa at an estimated cost of £P1,250,000 was under way in 1932.

**GOVERNMENT.** A Constitution promulgated Sept. 1, 1922, provided for the appointment of the High Commissioner and Commander-in-Chief, and of an executive council. It provided also for a legislative council, consisting of the High Commissioner, 10 official, and 12 unofficial members, the latter to be elected and to include not less than 2 Christians and 2 Jews. Due to disagreement among the religious communities, the legislative council had not been instituted by 1932. In the meantime its functions were performed by an advisory council appointed by the High Commissioner. The Jewish community enjoyed complete autonomy in their religious, cultural, and

communal affairs, which were controlled by a Chief Rabbinate, an elected assembly, and a general council elected by the assembly, which represented the community in its dealings with the government. A Moslem Supreme Council controlled Moslem religious affairs. High Commissioner and Commander-in-Chief in 1932, Lieut.-Gen. Sir Arthur Grenfell Wauchope (appointed Nov. 1, 1931).

**HISTORY.** While there were no violent outbreaks between Arabs and Jews during 1932, the deep currents of hostility between the two races showed no evidence of abating. Early in the year Arab leaders were reported to have accepted provisionally a proposal for the division of the country into two autonomous regions for Jews and Arabs, respectively, with a single Constitution and assembly. The plan was opposed by Revisionist Jews, who proposed that Great Britain relinquish her mandate in Palestine in favor of direct administration by the League of Nations. Meanwhile landless Arab peasants and nomads undertook what appeared to be a concerted movement to seize lands sold by Arab landlords to Jews. Some threw themselves in front of the plows of Jewish farmers, started to plow Jewish-owned lands, or tore down fences and uprooted young fruit trees of Jewish farmers. Racial hostility reached such a point that the government prohibited Moslem religious processions during feasts of the third week in April, other than those regularly held. The Jewish fair at Tel-Aviv was boycotted by the Arabs, and late in the year an Arab company was formed to buy land for Arab settlement as a counter-measure to land purchases by the Jewish National Fund.

While Arabs and Jews continued their hostility, bitter factional disputes developed within all three religious communities in Palestine. Within the Jewish community, antagonism continued between the Revisionists and Zionists. Revisionist students at the Hebrew University rioted when Norman Bentwich, formerly Attorney General in the Palestine Government, delivered his first lecture as incumbent in the Weizmann chair of international law and peace. On January 14, 600 teachers in the Jewish schools went on strike to secure payment of their salaries, which were six months in arrears. The strike was ended by a compromise on February 10. The adherents and opponents of the Moslem Grand Mufti, Haj Amin el-Husseini, continued their dissensions. His opponents, headed by the Mayor of Jerusalem, established a committee for the holding of a Pan-Arab congress (see IRAQ and SYRIA under *History*). The Greek Orthodox Christian community was divided by a dispute between the Arab-born majority and the Greek-born minority among the clergy over the election of a Patriarch of Jerusalem.

The British Colonial Secretary, Sir Philip Cunliffe-Lister, in a telegram to Dr. Nahum Sokolow, president of the World Zionist organization, reiterated in January that the British Government would "fulfill not only in the letter but in the spirit those solemn obligations (under the Balfour Declaration), which it is their privilege to discharge." Lewis French, director of a government agricultural development plan designed to benefit the Arab peasantry, resigned Nov. 17, 1932. The Arab press had opposed the project and Mr. French was said to have been in disagreement with the High Commissioner. The favorable economic condition of the country led

the government on October 16 to ease restrictions upon Jewish immigration; it was announced that 4500 Jews would be admitted under the labor quota during the ensuing six months. See JEWS.

**PALESTINE ARCHÆOLOGY.** See ARCHÆOLOGY.

**PALLADIUM.** See PLATINUM.

**PALMER, WALTER LAUNT.** An American landscape painter, died Apr. 16, 1932, in Albany, N. Y., where he was born Aug. 1, 1854. He studied painting under Frederick E. Church during 1870-72 and under Carolus Duran in Paris during 1873-77. Among his early landscapes were some charming views of Venice. He made a specialty of minutely elaborated winter scenes, and in his rendering of the clearness and brilliancy of New England winter atmosphere was perhaps unequalled. His chief works in American museums include: "Silent Dawn" and "La Salute at Noon" (Metropolitan Museum of Art, New York City); "Sundown at Walpole, N. H." (Buffalo Fine Arts Academy); "The Pasture Fence" (Public Gallery, Richmond, Ind.); "Lingering Oak Leaves" (Omaha Art Society); "Under the Pines" (Memorial Art Gallery, Rochester, N. Y.); "The Dell" (Art Museum, Youngstown, O.); and "An Upland Stream" (Museum of Fine Arts, Boston). Among the numerous prizes which he received were the second Hallgarten prize of the National Academy of Design (1887), medal at the World's Columbian Exposition, Chicago (1893), Evans prize of the American Water Color Society (1895), and silver medals at the Buffalo, Charleston, and St. Louis Expositions. He was elected an associate of the National Academy in 1887 and an academician in 1897.

**PANAMA**, pān'a-mā'. A republic of Central America, lying between Costa Rica and Colombia and bisected by the Panama Canal Zone. Capital, Panamá.

**AREA AND POPULATION.** Excluding the Canal Zone (q.v.), Panama has an area of about 28,575 square miles and a population (census of 1930) of 467,459, as compared with 446,098 in 1920. The natives are for the most part a mixture of Spanish, Indian, and Negro blood. The population of the principal cities in 1930 was: Panamá, 74,409 (59,458 in 1920); Colón, 29,765 (31,206). During the five-year period 1926 to 1930, births averaged 12,759 annually and deaths 5276, the excess of births being 7483 annually. The average birth and death rates per 1000 inhabitants in 1930 was about 27.3 and 11.3 respectively.

**EDUCATION.** Elementary education is compulsory for children from 7 to 15 years of age. In 1929-30, there were 57,592 pupils in 598 public primary schools, 2175 students in secondary, vocational, and normal schools, and 626 students in the National University. About 65 per cent of the children of school age were attending school in 1929.

**PRODUCTION.** Agriculture, the main industry, is supplemented by cattle raising and lumbering. The chief crops are bananas, cacao, coconuts, coffee, sugar, rubber, tobacco, and sarsaparilla. Banana exports in 1931 numbered 2,338,000 stems, compared with 4,679,000 stems in the peak year of 1929. The coffee production (1931) was about 2,250,000 pounds; sugar (1930-31 season), 5,000,000 pounds, with about 7,000,000 pounds estimated for 1931-32; cacao (exports), about 12,000,000 pounds; coconuts (exports), 9,225,000. Gold and manganese are produced in small quantities. Sugar, liquors, hats, furnitures,

shoes, etc., are manufactured for domestic consumption.

**COMMERCE.** Imports in 1931 were valued at \$12,812,000 (\$18,337,000 in 1930) and exports at \$2,608,000 (\$3,302,000 in 1930). The United States supplied about 61 per cent of the total 1931 imports, the United Kingdom 8.3 per cent, and Germany 4.5 per cent. About one-half of the total imports are purchased by employees, tourists, and travelers in the Canal Zone. The United States in 1930 took 96 per cent of the value of all exports. Bananas normally account for about 75 per cent of the total export value, other items being cacao, coconuts, ivory nuts, cattle hides, and cabinet woods.

**FINANCE.** The budget for the two-year fiscal period beginning Mar. 1, 1933, as passed by the National Assembly Dec. 30, 1932, balanced at 11,835,013 balboas, as compared with the 1931-33 budget estimates placing revenues at 19,961,353 balboas and expenditures at 18,500,934 balboas (balboa equals \$1.00 at par). Toward the autumn of 1932, the budget was running a deficit of about 200,000 balboas a month, but with the inauguration of President Harmodio Arias the deficit was reported to have been reduced to 50,000 balboas a month.

The public debt on Aug. 31, 1931, was reported at \$19,010,796, as compared with \$18,115,456 on June 30, 1930.

**COMMUNICATIONS.** Including lines in the Canal Zone, there were about 295 miles of railway line in 1931. The Panama Railroad, with 48 miles of main line, is owned and operated by an American company. In 1930-31, it carried 494,000 passengers and 325,000 tons of freight, the gross operating receipts being \$1,686,000. Highways extended 679 miles in 1930. A motor highway from Panama City to the Costa Rican border, to form part of the Pan American Highway, was under construction in 1932. A 315-mile section of the project was opened in 1931. On Apr. 14, 1932, the Pan American Airways opened direct service between Panamá and Mexico City.

**GOVERNMENT.** The Constitution of Feb. 13, 1904, as amended in 1918 and 1928, vested executive power in a President elected by a direct vote for four years and ineligible for a succeeding term and legislative power in a national assembly of 46 members, elected for four years. The National Assembly meets biennially on September 1. Three Vice-Presidents are chosen by the National Assembly and a cabinet of five is appointed by the President. Provisional President at the beginning of 1932, Ricardo J. Alfaro (Liberal), who assumed office Jan. 16, 1931, following the successful revolution of Jan. 2, 1931.

**HISTORY.** A troubled period in Panama's history came to a close with the election to the presidency on June 5, 1932, of Dr. Harmodio Arias, and his inauguration on October 1. A prominent lawyer and scholar, Dr. Arias was the candidate of the reformist party which drove President Arosemena from power in the revolution of January, 1931. The Arosemena régime, which was dominated by the so-called Chiarista clique, was accused of corruption and maladministration. In the interim between the revolution and the inauguration of Dr. Harmodio Arias, extensive governmental reforms were pushed through by Acting President Ricardo Alfaro, former Minister to Washington. Dr. Arias was elected by a majority of approximately 10,000 over Francisco Arias Paredes, candidate of the Liberal Reform party.

Political tension developed early in the campaign. President Alfaro on May 19 assumed personal charge of the national police and made extensive preparations to prevent disorders. The election took place with little disorder, however, and Dr. Arias Paredes conceded his defeat in a friendly letter to Dr. Harmodio Arias.

In his inaugural address, President Arias called for drastic economies, a balanced budget, honest and efficient service from public employees, a reduction of tariff rates, the encouragement of agriculture and aid to labor. He pledged his administration to indulge in no political persecutions and to grant no favors. On October 7, he issued a statement to the effect that he found the treasury empty, salaries to government employees in arrears two months, and a floating debt of \$3,000,000, in addition to "an enormous foreign debt." The government revenues, he said, had dropped by \$200,000 a month. To meet this situation, the President reduced his own salary and official expenses, and abolished the positions of 200 government employees. On October 25, he appointed Señor Alfaro as Minister to Washington. On October 31, he abolished the pay of Panama's Ministers to Cuba, Mexico, Colombia, Venezuela, Costa Rica, Ecuador, Chile, Argentina, and Uruguay, effective December 20. The positions were made honorary, but with a small allowance for expenses. About the same time, he introduced a bill to authorize an examination of the affairs of the National Bank of Panama, the stock of which was owned by the government. Within six weeks after the inauguration of President Arias, governmental expenditures had been reduced by \$150,000 a month.

President Arias also had to cope with a serious rent strike, which had broken out several months earlier in Panamá City. On August 15, Acting President Alfaro decreed the suspension of property rights and individual guarantees pending the passage of a rent law by the National Assembly. The Assembly, however, declined to grant the full demands of the strikers and on October 28 demonstrators invaded the Assembly following its refusal to approve a bill cutting all rents 10 to 30 per cent. The Assembly suspended constitutional guarantees in the city, while President Arias appointed a commission to settle the dispute. A law published Oct. 1, 1932, provided for the registration of all foreigners in Panama by December 31 and the payment of a \$5 registration fee. See PANAMA CANAL ZONE.

**PANAMA CANAL.** Traffic through the Panama Canal during the calendar year 1932 was the lowest since 1922, amounting to 4367 transits of commercial ships paying \$19,685,671 in tolls. This compared with 4972 transits and tolls aggregating \$22,530,820 for the calendar year 1931, or a decline in 1932 of 605 transits and \$2,845,149 in tolls. In comparison with 1930, there was a decrease of 1518 transits and \$6,460,353 in tolls. Traffic through the canal declined during the first half of 1932, but, commencing with September, there was a gradual increase for the remainder of the year, due chiefly to increased shipments of grain and fruit from the west coast of North America to Europe.

The daily average of commercial vessels in transit during 1932 was 11.93, as against 13.62 in 1931, 16.12 in 1930, and 17.6 in the peak year 1928. The daily average of tolls paid in 1932 was \$53,786, as against \$61,728 in 1931, and \$71,633 in 1930. The accompanying table shows the 1932

transits and toll collections by months, together with comparative totals for the calendar years 1931 and 1930 and the fiscal year ended June 30, 1932.

PANAMA CANAL TRANSITS AND TOLLS

Month	Totals for month	
	Transits	Tolls
January .....	377	\$1,770,250.68
February .....	358	1,647,797.06
March .....	363	1,645,366.81
April .....	370	1,608,634.67
May .....	357	1,717,401.26
June .....	336	1,534,793.19
July .....	326	1,468,728.36
August .....	314	1,440,848.87
September .....	353	1,598,265.98
October .....	394	1,714,779.06
November .....	388	1,756,865.84
December .....	431	1,781,940.03
Total calendar year, 1932 ..	4,367	19,685,671.81
Total calendar year, 1931 ..	4,972	22,530,820.84
Total calendar year, 1930 ..	5,885	26,146,024.96
Total fiscal year, 1932 . . .	4,506	20,707,377.05

**PANAMA CANAL ZONE.** A strip of land extending for 5 miles on each side of the Panama Canal ceded to the United States by Panama in the treaty of Nov. 18, 1903. Area, 552.8 square miles, of which 361.7 square miles are land and 191.1 square miles are water. The total population in June, 1932, was 42,070, including 11,090 members of the military and naval forces (Army, 9951; Navy, 1139), and 30,980 civilians. The figures represented an increase of 1505 in the military and naval personnel, and of 235 civilians over the previous year. Approximately 700 American and 5500 alien employees of the Panama Canal lived outside of the Canal Zone. In 1931 the death rate per 1000 of population was 7.52 and the birth rate, 12.69, the latter being the lowest on record. Of the 1930 census population, 17,783 were whites, 19,492 Negroes, and 1194 of mixed or other races.

For the fiscal year ended June 30, 1932, net revenues of the canal totaled \$11,751,896, or a return of 2.22 per cent upon the capital investment of \$530,479,285. The net revenue fell short of meeting the 3 per cent interest charge by \$4,162,482. Tolls collected during the year amounted to \$20,706,568; postal and civil revenues, \$327,444; and business profits were \$557,095, making gross revenues of \$21,591,108 against net appropriation expenses of \$9,839,211.

The treaty of 1903 gave the United States control over sanitation and quarantine in the cities and harbors of Panamá and Colón, although they remained within the jurisdiction of Panama. The status of the Canal Zone is that of a military reservation under the Governor, who is appointed by the President of the United States. Governor in 1932, Brig. Gen. Harry Burgess, who was succeeded on Oct. 20, 1932, by Col. Julian L. Schley. See PANAMA CANAL.

**PAN AMERICAN UNION.** An official international organization maintained and supported by the 21 American republics for the development among them of good understanding, friendly intercourse, commerce, and peace. It is controlled by a governing board composed of the Secretary of State of the United States and the diplomatic representatives in Washington of the other republics, and is administered by a director general and assistant director chosen by this board.

The services rendered by the union may be broadly summarized under the following heads: **ECONOMIC.** The office of the foreign trade ad-

viser provides a general commercial information service on all phases of Latin American trade. The division of finance supplies current information on developments in public and private inter-American finance. The division prepares an annual study on Latin American revenues, expenditures, and public debts. The statistical division prepares reports on the trade of the Pan American nations, as well as a general survey of the commerce of all Latin America. These reports are issued annually. The division of agricultural cooperation is active in promoting the exchange of information relating to new and improved agricultural methods throughout the American continent, the elimination of plant and animal diseases, and so forth.

**CULTURAL AND INTELLECTUAL.** The division of intellectual cooperation offers a valuable contribution to the development of cultural and intellectual relations among the Pan American nations by promoting the exchange of professors and students, the establishment of scholarships, and the fostering of contacts and exchange relations among scientific, literary, professional, and artistic organizations. The Columbus Memorial Library of the Pan American Union offers a collection of 75,000 books and many periodicals on Pan American affairs, and its facilities are in constant demand by scholars, research workers, and others.

**PUBLICATIONS.** The Pan American Union publishes monthly *Bulletins* in English, Spanish, and Portuguese, which are chronicles of all phases of Pan American activities. There are available nearly 100 booklets on American nations, their cities, commodities of commerce, ports and harbors, sightseeing, etc. In addition, it issues a large number of miscellaneous publications on a wide variety of topics. During 1932 four special series in Spanish and Portuguese were issued bi-monthly on agriculture, education, social welfare, and on finance, industry, and commerce.

**CONFERENCES.** One of the important functions of the Pan American Union is that of giving effect to the resolutions and conclusions of the International Conferences of American States. These activities consist in conducting investigations and preparing reports on the various subjects entrusted to the Union by the conferences, and in arranging for the many special or technical conferences which are the outgrowth of the International Conferences. During 1932 the governing board approved the programme and regulations of the Seventh International Conference of American States, which is scheduled to meet at Montevideo, Uruguay, in December, 1933.

The first congress of the Pan American Institute of Geography and History met at Rio de Janeiro, Brazil, on Dec. 26, 1932. The Institute was created by a resolution of the Sixth International Conference of American States for the purpose of conducting investigations of a geographical and historical character affecting the republics of the American continent. The headquarters of the institute are located at Mexico City.

**GENERAL CLAIMS COMMISSION UNITED STATES AND PANAMA.** On Apr. 1, 1932, the first meeting of the United States and Panama Claims Commission was held at the Pan American Union for purposes of organization. Another meeting was held on November 18, to consider the question of procedure and to initiate the actual work of the commission. The presiding officer of the commis-

sion is Miguel Cruchaga Tocornal, Ambassador of Chile at Washington, with Elihu Root, Jr., serving as American Commissioner and Horacio Alfaro representing Panama. The task entrusted to the commission is to pass upon unsettled claims of citizens of each country against the other arising since the independence of Panama (Nov. 3, 1903).

**GUATEMALAN-HONDURAN BOUNDARY TRIBUNAL.** During 1932 there has been sitting at the Pan American Union the Guatemalan-Honduran Boundary Tribunal to hear and pass upon the question of the boundary between these two republics of Central America. The cases and counter-cases of both parties were submitted and received by the tribunal and were taken under consideration by the members thereof. To assist the tribunal in reaching a decision an aerial survey of the disputed area was undertaken. The tribunal is presided over by the Chief Justice of the United States, Charles Evans Hughes, the other members being Emilio Bello Codesido, of Chile and Luis Castro Urefia of Costa Rica.

**COMMISSION OF NEUTRALS—BOLIVIAN-PARAGUAYAN CONTROVERSY.** During 1932 the Commission of Neutrals, composed of representatives of the United States, Colombia, Cuba, Mexico, and Uruguay continued to hold sessions in Washington with a view to bringing about a settlement of the dispute between Bolivia and Paraguay over the respective claims of the parties in the Chaco region of South America. In connection with this controversy, on Aug. 3, 1932, representatives in Washington of 19 republics of the American continent signed a declaration on behalf of their governments of far-reaching significance. In this statement it was declared that "The American nations further declare that they will not recognize any territorial arrangement of this controversy which has not been obtained by peaceful means nor validity of territorial acquisitions which may be obtained through occupation or conquest by force of arms." See BOLIVIA.

**PAN AMERICAN DAY.** Pan American Day, which was observed for the first time in 1931, and which was proclaimed by the governments of all the American republics to commemorate the spirit of continental solidarity prevailing among the nations of America, was again observed in 1932 (April 14) with appropriate ceremonies in all the countries members of the Union.

**PAN AMERICAN SANITARY BUREAU.** This is an official organization of the American republics which concerns itself with the collection and dissemination of information on all phases of questions relating to public health and sanitation in the republics. It may also assist in the actual work of combating outbreaks of disease in any republic, the authorities of which desire its cooperation. A monthly bulletin is issued. The bureau is headed by Dr. Hugh S. Cumming, Surgeon General of the United States Public Health Service, assisted by a directing council.

The director general of the Pan American Union is Dr. Leo S. Rowe; the assistant director, Dr. Esteban Gil Borges. Headquarters are in the Pan American Union Building, in Washington.

**PAN-EUROPEAN COMMITTEE.** See UNITED STATES OF EUROPE.

**PAN-PACIFIC UNION.** An organization founded in 1907 to "secure and collate accurate information concerning the material resources of Pacific lands, to study the ideas and opinions that mold public opinion among the peoples of

the several Pacific races, and to bring men together who can understandingly discuss these ideas and opinions in a spirit of fairness that they may point out a true course of justice in dealing with them internationally." Its central office is in Honolulu, because of the location of the Hawaiian Islands at the ocean's crossroads. Its management is under an international board of trustees, with Alexander Hume Ford acting as director.

The director spent the years 1931-32 in Japan and China, organizing student and adult Pan-Pacific clubs and forwarding plans for international clubhouses similar to the one in Honolulu where the various nationalities hold their civic and social activities. In an address before the Pan-Pacific Club of Tokyo he urged that the governments of the Pacific be asked to take over the machinery of the Pan-Pacific Union and finance that organization as their official mouthpiece. The present honorary heads of the union, the presidents, premiers, or governor-generals of the United States, Australia, New Zealand, China, Netherland India, Canada, Japan, Siam, Mexico, Peru, Chile, and French Indo-China, were to gather periodically in Honolulu for a friendly conference on Pacific affairs. The Pan-Pacific clubs would continue to function unofficially as at present, the mouthpieces and open forums of the people themselves. The president in 1932 was Wallace R. Farrington, a former governor of Hawaii.

**PAPER AND PULP.** Under normal conditions the total tonnage of wood pulp produced throughout the world is estimated at about 18,000,000 tons, according to *Paper Trade Journal*, upon which publication most of the following article is based. In 1932 this production dropped to an estimated 12,000,000 tons, a decrease of 33 per cent. Of the total production, by countries, the United States headed the list, followed by Canada, with Sweden third. In the United States the pulp production was estimated by the American Paper and Pulp Association at a total of 3,660,000 tons, composed of the following grades:

	Tons
Mechanical .....	1,160,000
Sulphite, total .....	1,145,000
Sulphate, total .....	930,000
Soda .....	307,000
Screenings and Semichemical .....	118,000
<b>Total, 1932 .....</b>	<b>3,660,000</b>

Figures are not available covering the pulp production of Canada, but the Canadian Pulp and Paper Association has estimated that the decrease from the 1931 production of 3,167,960 tons would run between 12 and 15 per cent, or a 1932 production of 2,700,000 to 2,850,000 tons. Because of labor conditions in Sweden, starting in February and concluded in August, pulp production was greatly reduced, though total exports, chemical and mechanical, showed Sweden still in the lead of European suppliers with 1,422,097 tons, of which 1,179,280 tons was chemical pulp and 242,817 tons mechanical pulp. Finland supplied 834,328 tons of chemical pulp and Norway held the lead in the export of mechanical pulp with 671,351 tons.

The estimates for paper production in the United States during 1932 showed approximately the same scale of reduction that has persisted

annually since 1929, as indicated in the accompanying table. The year's total of production was about 12.7 per cent below 1931, or about 56 per cent of capacity, and only slightly above the output of 1920. The output of newsprint dropped about 9 per cent below 1931, and for the whole of North America, including a Canadian production of 1,900,000 tons, Newfoundland of 272,000 tons, and Mexican of 13,000 tons, a total of 3,200,000 tons, the decline was 13 per cent below the 1931 output of 3,690,000 tons and 27 per cent below the high peak of 4,400,000 tons in 1929.

UNITED STATES PAPER PRODUCTION  
[From *Paper Trade Journal*]

	1932*	1931	1930	1929
Newsprint .....	1,050,000	1,203,862	1,226,086	1,409,169
Hanging .....	68,000	85,375	106,427	101,002
Catalogue .....	77,000	89,382	114,588	111,771
Book .....	1,000,000	1,208,674	1,389,500	1,497,912
Cover .....	14,000	30,000	40,059	28,072
Writing .....	414,000	487,598	574,681	607,590
Wrapping .....	1,175,000	1,401,667	1,580,489	1,605,783
Tissue .....	360,000	394,623	362,355	387,811
Absorbent .....	65,000	76,592	81,813	90,800
Building .....	347,000	395,359	468,730	659,178
Poster, Novel, Etc. ....	107,000 }			150,649 }
Other .....	23,000 }	160,895	163,696	39,311 }
Paperboard .....	3,300,000	3,847,823	4,060,716	4,451,187
<b>Total U. S. ....</b>	<b>8,000,000</b>	<b>9,381,850</b>	<b>10,169,140</b>	<b>11,140,235</b>

\* Estimated—1929-1930-1931 Bureau of Census.

Manufacturers of newsprint in the United States and in Canada were seriously affected by price reductions. At the beginning of the year, a reduction of \$4, making a price of \$53 a ton in New York, was effected; but competition of a cut-throat nature involving rebates, commissions, and other devices to secure trade, resulted in a further cut to \$45 a ton. To Canadian manufacturers this decrease, coupled with reduced consumption, showed a falling off in the value of all paper exports by \$35,926,822 as compared with 1931. The largest decrease was in newsprint, less by \$24,266,913 than for 1931; in quantity a reduction to 1,776,763 tons in 1932 from 2,008,241 tons in 1931. The total exports of pulp and paper from Canada for 1932 as compared with those in 1931 are as follows:

	Paper	1932	1931
Newsprint .....	\$	82,966,199	\$107,233,112
Others .....		3,357,540	3,880,870
<b>Total .....</b>	<b>\$</b>	<b>86,323,739</b>	<b>\$111,113,982</b>
	Pulp		
Sulphate .....		2,318,760	2,617,444
Sulphite (bleached) .....		11,181,623	16,282,735
Sulphite (unbleached) .....		2,596,647	5,109,732
Mechanical .....		2,562,089	4,616,167
Screenings .....		77,937	224,434
N. O. P. ....		82,978	178,909
<b>Total .....</b>	<b>\$</b>	<b>18,920,064</b>	<b>\$ 30,056,643</b>
<b>Total paper and pulp ..</b>	<b>\$105,243,803</b>	<b>\$141,170,625</b>	

For 1931 the production of writing paper averaged 58 per cent of normal, or a decline of 15 per cent below the 1931 average. Of cover paper, production averaged 37 per cent of normal, or a decline of 36 per cent from the 1931 average. In book paper, constant reduction in prices was not offset by increased demand, and by the end of the year it was believed that prices were quoted at cost or lower. Estimated capacity of book paper mills in 1932 was 1,862,000 tons with a produc-

tion of 54 per cent. For coated paper, total capacity was 168,000 tons, with a production of 53 per cent. Decreases in national advertising in magazines to about 25 or 30 per cent of the amount carried in 1929, and a decrease in billboard advertising were in part responsible for the decreased production, but an important factor was the large imports of sulphite pulp into the United States from countries operated under depreciated currency. Foreign manufacturers were able to reduce the cost of manufacture by about one-third and to sell pulp in the United States below the cost of American manufacture.

Nevertheless, the United States foreign trade in paper and paper products was marked by heavy reductions during 1932 in both the export and import fields. Exports, according to the U. S. Bureau of Foreign and Domestic Commerce, were valued at \$15,407,559, a decrease of approximately \$7,000,000, or 30 per cent, as compared with the preceding year. Imports of paper, valued at \$94,089,418, and of paper base stocks, valued at \$54,446,020, underwent proportionately nearly as heavy decreases, while the actual decline in the value of these receipts was much greater. The reduction in value of both imports and exports, however, represents the world-wide decline in prices during 1932, and the desire on the part of purchasers for the cheaper grades of paper, as well as an actual shrinkage in the consumption of paper and paper products. See CHEMISTRY, INDUSTRIAL; FORESTRY.

**PAPUA**, pā'pā-ā. A territory of the Australian Commonwealth, comprising the southeastern part of the island of New Guinea and all the groups of small islands between 8° and 12° S. latitude and 141° and 155° E. longitude; formerly known as British New Guinea; transferred to the Australian government, Sept. 1, 1906. Area, 90,540 square miles, of which about 87,786 are on the island of New Guinea. On June 30, 1931, there were 1128 Europeans and about 275,000 natives. Port Moresby, the capital, had about 2075 inhabitants. Revenue for 1931 amounted to £134,918; expenditure, £135,325; exports, £274,354; imports £240,074. Shipping entered and cleared aggregated 220,399 tons. Lieutenant-Governor and chief judicial officer in 1932, Sir J. H. P. Murray. See NEW GUINEA.

**PARAGUAY**, pār-ā-gwā. An inland republic of South America, bounded by Argentina, Bolivia, and Brazil. Capitol, Asunción.

**AREA AND POPULATION.** Including that part of the Gran Chaco under dispute with Bolivia, the area is estimated at 170,000 square miles; the estimated population in 1930 was 852,000 (excluding about 30,000 Chaco Indians). Populations of the leading cities, with suburbs, in 1926 were: Asunción, 113,884; Villarrica, 26,000; Luque, 13,000; Carapeguá, 12,000. Excluding suburbs, the population of Asunción in 1930 was 89,571. Births and deaths registered in the capital city, Asunción, during 1931 numbered 3671 and 1548 respectively, the corresponding rates per 1000 inhabitants being 38.8 and 16.8.

**EDUCATION.** Primary education is free and nominally compulsory. In 1931 there were 108,741 pupils in 766 elementary schools. Private elementary schools (1929) enrolled 4651 pupils; the two National Colleges (high schools), 1950 students (1930); and the university at Asunción 435 students (1929).

**PRODUCTION.** Agriculture, stock raising, and lumbering are the main industries. The chief

crops in 1930-31 were yerba maté (native tea), tobacco (22,046,000 pounds), cotton (5,500,000 pounds, ginned), sugar (16,535,000 pounds), corn, rice, and beans. In 1931, cattle slaughtered by the frigoríficos numbered 39 per cent less than in 1930, prices were lower, and exports of livestock products, valued at \$3,328,000, were 37.2 per cent less than in the previous year. Quebracho extract, for use in tanning, is the chief forest product. There is little mining, although iron, manganese, copper, and other minerals exist. Meat packing and the production of animal by-products are the leading manufacturing industries. In 1932, industry and trade was adversely affected by the outbreak of the war with Bolivia.

**COMMERCE.** Imports in 1931 declined 47 per cent in value to \$6,729,000 from \$12,643,000 in 1930, while exports fell 27.7 per cent to \$8,503,000 from \$11,839,000 in 1930. The chief exports in order of value in 1931 were quebracho extract, canned meats, cattle hides, tobacco, and yerba maté. Nearly 92 per cent of the exports went to Argentina, but about one-half of them were transhipped to other countries, chiefly the United States, Germany, and Great Britain. The United States furnished 16 per cent of the imports, Argentina, 29 per cent; Great Britain, 12; and Germany, 10.

**FINANCE.** According to the President's message, budget operations for the fiscal year ended Aug. 31, 1931, showed a net deficit of 2,895,647 paper pesos, which, added to the deficit for 1929-30, made an accumulated deficit of 8,156,010 paper pesos. The special external debt budget, not accounted for above, had a deficit of 140,883 paper pesos in 1930-31. Ordinary revenues in 1930-31 amounted to 227,099,000 paper pesos and ordinary expenditures to 226,778 paper pesos, while extraordinary receipts and expenses were 368,667 and 3,585,482 paper pesos, respectively.

The external debt on Nov. 30, 1931, was 3,540,775 gold pesos (3,878,934 gold pesos on Nov. 30, 1930), and the internal debt amounted to 6,385,320 gold and 40,267,006 paper pesos. Full service was maintained on the external bonded debt during 1931 and 1932. The Paraguayan peso was stabilized with relation to the Argentine currency in 1923, at the ratio of 18.75 Paraguayan paper pesos to one Argentine paper peso or 42.61 Paraguayan paper pesos to one Argentine gold peso. The exchange value of the Paraguayan peso declined in 1931 and 1932 in sympathy with the depreciation of the Argentine gold peso, which declined from par of \$0.9648 to \$0.5822 in February, 1932, and rose to \$0.5859 in December.

**COMMUNICATIONS.** There were 632 miles of railway line in 1931. The Paraguay Central Railway (275 miles), the main line, carried 582,000 passengers and 261,000 tons of freight, excluding livestock, in 1931. Highways extended about 3684 miles. Air-mail service between Buenos Aires and Asunción was discontinued in April, 1931. Ninety per cent of the country's foreign trade passed through the port of Asunción via the Paraguay River.

**GOVERNMENT.** Executive power is vested in a president elected for four years, who acts through a ministry of five members; and legislative power in a congress of two houses—a senate of 20 members and a chamber of deputies of 40 members elected directly by the people. Acting President at the beginning of 1932, Emiliano González

Navero, who assumed office Oct. 27, 1931, following the deposition of President José P. Guggiari.

**HISTORY.** Paraguay during the latter half of 1932 was engaged in a desperate struggle with Bolivia for possession of the Chaco Boreal. The full details of the struggle and of the international efforts to terminate it are given in the articles **BOLIVIA** under *History* and **MILITARY PROGRESS**.

On Jan. 28, 1932, Dr. José P. Guggiari was restored to the Presidency, which he had surrendered to Vice President Emiliano González Navero the previous October. The President had resigned pending an investigation of his responsibility for the killing in Asunción of five student demonstrators against the government's conciliatory policy toward Bolivia. The investigating commission absolved Dr. Guggiari of all blame. Upon the expiration of President Guggiari's four-year term on August 15, he was succeeded by Dr. Eusebio Ayala, who was nominated by the dominant Liberal party and elected without opposition on May 8. The new Vice President was Raul Casal Ribeira. Dr. Ayala was Provisional President in 1921-22 and Minister to Washington in 1925. His inaugural address was delivered while mobilization of troops for service in the Chaco was under way.

**PARAO.** See **CAROLINE ISLANDS**.

**PARASITES.** See **ENTOMOLOGY**, **ECONOMIC**; **VETERINARY MEDICINE**.

**PARDEE DAM.** See **DAMS**.

**PARK COLLEGE.** A nonsectarian institution for the higher education of men and women in Parkville, Mo., founded in 1875 and cooperating with the Presbyterian Church in the United States of America. The enrollment for 1932-33 totaled 512. The faculty numbered 37. The endowment funds amounted to \$1,711,500, from which the income was \$63,000. Tuition and fees amounted to \$103,000 and donations to \$14,000; \$32,000 was yielded from other sources. The library contained 25,460 volumes. President, Frederick W. Hawley, D.D., LL.D.

**PARKER, SIR (HORATIO) GILBERT.** A British novelist, died in London, Sept. 6, 1932. He was born in Camden East, Ont., Canada, Nov. 23, 1862, and was educated privately and at Trinity College, Toronto. He was ordained a deacon in the Church of England in 1882, but two years later decided on a journalistic career, going to Australia where in 1885 he was an associate editor on the *Sydney Herald*. After traveling extensively in Australasia he settled in London in 1889, where he became widely known for his short stories and romances of Canadian life and character. After 1900, however, he devoted himself also to other themes, largely those concerned with British imperial prospects and interests. He was Conservative member of Parliament for Gravesend from 1900 to 1918. In 1903 he organized the first Imperial Universities Conference in London. Also, he was chairman of the Imperial South African Association from 1903 to 1911, and of the Small Ownership Committee which he founded. During the World War he was a member of the Government Central Colonial Committee for War Purposes. During 1914-15, he had general charge of British publicity in the United States which served admirably in creating favorable sentiment in behalf of the Allies. He was knighted in 1902, was created a baronet in 1915, and was made a member of the Privy Council in 1916.

Among Parker's works of fiction are: *Pierre and His People* (1892); *Mrs. Falchion* (1893); *The Trespasser* (1893); *The Translation of a Savage* (1894); *The Trail of the Sword* (1894); *When Valmond Came to Pontiac* (1895); *An Adventurer of the North* (1895); *The Seats of the Mighty* (1896); *The Pomp of the Lavaliettes* (1897); *The Battle of the Strong* (1898); *The Lane That Had No Turning* (1900); *The Right of Way* (1901); *Donovan Pasha* (1902); *Old Quebec: The Fortress of New France* (1903); *A Ladder of Swords* (1904); *The Weavers* (1907); *Northern Lights* (1909); *Cumner's Son* (1910); *The Judgment House* (1913); *You Never Know Your Luck* (1915); *The Money Master* (1915); *The World for Sale* (1916); *Wild Youth* (1919); *No Defence* (1920); *Carnac's Folly* (1922); *The Power and the Glory* (1925); *Tarboe* (1927); and *The Promised Land* (1928). Also, he wrote the plays, *The Vendetta* (1889) and *The Seats of the Mighty* (1897); a book of travels, *Round the Compass in Australia* (1892); a volume of poems, *A Lover's Diary* (1894); and a book on the World War, *The World in the Crucible* (1915).

**PARKS, NATIONAL.** No new national parks were established during the year, according to the annual report of the Director of the U. S. National Park Service for the fiscal year ending June 30, 1932, but funds appropriated for the purpose were used to increase the area of several of the parks and especially to improve the approaches to and the facilities of the existing parks. These improvements not only permanently enhanced the natural attractions of the parks but also, in line with the recommendations of Congress, gave employment to many persons. Although, according to the report, there was a marked decrease in the number of recorded visitors to the parks over the previous fiscal year, the number was substantially larger than that of two years previous.

In the Great Smoky Mountains National Park a beautiful scenic highway was initiated through preliminary work on the first section of a mountain road that will ultimately extend through the heart of the Great Smoky Mountains from Newfound Gap in North Carolina to Deals Gap in Tennessee.

Approximately 40 miles of the Skyline Drive along the crest of the Blue Ridge Mountains in the Shenandoah National Park project in Virginia were graded, and the plans were developed toward the completion of this scenic highway from Front Royal along the crest of the mountain range to join the Staunton-Charlottesville highway.

The magnificent Trail Ridge Road in Rocky Mountain National Park a short distance from Denver, opened to the public last season, is one of the outstanding scenic roadways of the world, and is a splendid example of what the National Park Service is doing to make the natural beauty of America accessible to millions. Approximately 11 miles of this highway is 11,000 feet above sea level. Four miles of this section attains the impressive altitude of 12,000 feet and is probably the longest stretch of modern highway ever built at such a height. Another outstanding road project completed during the past year was the highway to the summit of Cadillac Mountain, the highest point within the United States on the Atlantic Coast. Cadillac Mountain is in Acadia National Park on the coast of Maine, and is



world famed for its panoramic views of mountain and sea.

The Wawona Tunnel, 4200 feet long, an important feature of Yosemite National Park's new highway, the Wawona Road, was completed and opened to the public. Access to the famous Petrified Forest of Arizona at all times of the year was assured to motorists by the completion of a bridge over the Rio Puerco and the construction of high-grade approach roads. Progress was made on the Colonial Parkway that will eventually connect Yorktown, Williamsburg, and Jamestown, and constitute a drive of historic interest. Three bridges were placed under construction during the past year.

During the fiscal year ending June, 1932, appropriations of \$7,500,000 were expended for road and trail work in the 22 national parks, and 36 national monuments located throughout the United States, and in the Territories of Alaska and Hawaii. In addition, the Secretary of the Interior had authority to obligate, through the letting of contracts, construction projects to an additional amount of \$2,850,000. During the year \$4,500,000 was available for road and trail construction from appropriations provided in the Interior Department supply bill, and another \$3,000,000 became available through the emergency relief and reconstruction act. Additional authority was also given the Secretary of the Interior to incur obligations up to a total of \$2,500,000, but this was offset by the obligations incurred the previous year for payment from the regular 1933 appropriations for road construction.

The need for the completion of the national-park system by the establishment of parks in the tropical Florida Everglades, California's picturesque Death Valley, the Kings River Canyon of the High Sierra, and other outstanding scenic areas was emphasized by the Director in his report. A few years more might find lands worthy of national-park status put to uses inconsistent with conservation principles, and private holdings difficult, if not impossible, to secure. A bill to establish the Everglades National Park passed the Senate by a unanimous vote on Jan. 19, 1932, and was placed on the House calendar with a favorable report from the Public Lands Committee. The situation with regard to the Kings River Canyon, first suggested for national-park status by John Muir and his associates nearly 40 years ago, has become of prime importance because of the building of a State highway into that region. As long as the area was accessible only by trail, it was fairly safe, but with the region penetrated by a fine highway, this magnificent mountain territory should be preserved from commercial exploitation. The establishment of parks in the Florida Everglades and Death Valley would provide two areas with mild winter climates that would be important factors in rounding out the park system. The majority of the national parks now in existence are regarded largely as summer vacation areas. But the most urgent extension project facing the National Park Service, according to the report, is in the Jackson Hole area where the Grand Teton National Park should be extended to include certain national forest lands, a considerable tract of unappropriated public domain, and a large area of former ranch holdings purchased by Mr. John D. Rockefeller, Jr., to aid in carrying out this plan. The extension is needed to preserve the scenery of the region

and provide adequate winter range for wild life, especially of elk.

Despite unfavorable conditions, total travel to the national parks and monuments in 1932 kept abreast of former years, and, including the estimated visitors to the national monuments, showed an increase of 209,740 persons over last year's total of 3,544,856. Though the sustaining of travel was due in a substantial degree to the public interest in Wakefield and Colonial National Monuments in Virginia and the Great Smoky Mountains National Park, recent additions to the system, the steady use of the national parks in periods of difficulty as well as prosperity shows their definitely useful place in the national life. Though many individual parks showed some decrease in the annual number of visitors, the following parks enjoyed increases over their records for 1931: Yosemite, Calif.; Rocky Mountain, Colo.; Hot Springs, Ark.; Acadia, Me.; and Hawaii.

A serious problem has developed in the menace to fine stands of trees through disease and insect infestation. In the Yellowstone, the mountain pine beetle threatens the destruction of the lodgepole pine constituting about 80 per cent of the park's forests. Serious insect situations also exist in the forests of Yosemite and Sequoia National Parks in California. The condition was reported to be critical in Yosemite where the great sugar pines recently purchased jointly by Mr. Rockefeller and the Federal Government were threatened by a pine beetle infestation.

Wild-life conditions in the national parks continued favorable throughout the year. In spite of the heavy winter, elk and other game in Yellowstone, and deer in the Western parks came through with minor losses. Grand Teton National Park reported some losses of moose, apparently the result of disease, but no serious outbreaks of disease developed anywhere. The most serious condition reported was the reduction of mountain sheep in Mount McKinley National Park as the result of the severe winter. An airplane census of the southern elk herd, which winters in Jackson Hole, was made by the Forest Service, and showed the herd to be larger than heretofore reported. A marked improvement in fishing conditions was noted, with a resultant larger catch per capita of visitors than previously reported. Yellowstone and Glacier National Parks in particular were among the Nation's foremost fishing grounds.

**PARRISH MEMORIAL ART MUSEUM.**  
See ART MUSEUMS.

**PARSHALL, HORACE FIELD.** A British-American engineer, died in Bayonne, France, about Dec. 20, 1932. Born in New York State, Sept. 9, 1865, he received his education in the United States, holding the degrees of M.Sc. from Lehigh University and of D.Sc. from Tufts College. In his early career he was associated with Thomas A. Edison and with the General Electric Co. Taking up his residence in London in 1893, he had acted as consulting engineer for hydroelectric installations, railway electrification, and other enterprises in Great Britain and on the continent. As consultant in the construction of the Central of London Railway, the first of the modern underground tubes in London, he had succeeded in introducing multiphase generation and transmission through application of the three-phase rotary converter which he had designed. He designed also the Lancashire electric

power installation. At the time of his death he was chairman of the board of the Central of London Railway and of the Lancashire Electric Power Co. His most important assignment on the continent was as consultant to the Barcelona Traction, Light & Power Co., for which he had designed the dam at Tremp, Spain. For technical monographs read before the Institution of Civil Engineers he received the Grampton and Telford prizes and the Telford gold medal.

**PARSONS, WILLIAM BARCLAY.** An American civil engineer, died May 9, 1932, in New York City where he was born Apr. 15, 1859. On his graduation from Columbia University with the C.E. degree in 1882 he became connected with the Erie Railway. In 1885 he established himself in general practice in New York City. He was chief engineer of the Rapid Transit Commission of New York from 1894 to 1904, during which period he planned and constructed the city's first subway. He was also engaged during 1898-99 in a survey of Chinese railways, and played a prominent part during 1904-05 in the construction of the Panama Canal, first as a member of the Isthmian Canal Commission and then as a member of the board of consulting engineers. He next served, in 1906, in an advisory capacity to the Royal Commission of London Traffic, and during the succeeding decade was examiner of various transportation problems for San Francisco, Detroit, Cambridge, Baltimore, Philadelphia, and Toronto. In 1916 he was chairman of the Chicago Transit Commission. Another important canal project which he constructed was the Cape Cod Canal, of which he served as chief engineer from 1909 to 1914. During the World War he served in France with the 11th U. S. Engineers, distinguishing himself as the commanding officer in warding off a German counter-offensive in the Peronne section of the Somme Valley late in November, 1917. At the time of his death he held the rank of brigadier general of engineers with the Reserve Corps of the U. S. Army. He received the Distinguished Service Medal and also many foreign honors, being made an officer of the French Legion of Honor, a companion of the Distinguished Service Order of Great Britain, and an officer of the Order of the Crown of Belgium. The American Society of Civil Engineers bestowed the Norman Medal on him, and the Institute of Civil Engineers of Great Britain, the Telford Medal. He was also a fellow of the American Academy of Arts and Sciences. He published *Turnouts* (1883); *Track* (1885); *Rapid Transit in Foreign Cities* (1895); *An American Engineer in China* (1900); *The American Engineers in France* (1920); and *Robert Fulton and the Submarine* (1923).

**PATENTS.** See UNITED STATES under *Patents*.

**PATON, LEWIS BAYLES.** An American theologian and archaeologist, died in Hartford, Conn., Jan. 24, 1932. He was born in New York City, June 27, 1864, was graduated from New York University in 1884 and from the Princeton Theological Seminary in 1890, and studied at the University of Berlin (1890-92) and at the University of Marburg (Ph.D., 1897). In 1890 he was ordained to the Presbyterian ministry, but two years later transferred to the Congregational Church. He was instructor in Old Testament exegesis and criticism at the Hartford Theological Seminary during 1892-93, associate professor during 1893-1900, and Nettleton professor thereafter. He directed also during 1903-04 the Amer-

ican School of Oriental Study and Research in Jerusalem and for several years served as associate editor of the *American Journal of Archaeology*. Besides editing *Recent Christian Progress* (1909) he was the author of *The Early History of Syria and Palestine* (1901); *Jerusalem in Bible Times* (1908); *The Early Religion of Israel* (1910); and *Spiritism and the Cult of the Dead in Antiquity* (1921).

**PATTEN, WILLIAM.** An American zoölogist, died in Hanover, N. H., Oct. 27, 1932. He was born in Watertown, Mass., Mar. 15, 1861, and was graduated from the Lawrence Scientific School of Harvard University in 1883, receiving the Ph.D. degree from the University of Leipzig in 1884. After serving for three years as assistant at the Lake Laboratory, Milwaukee, Wis., he became in 1889 professor of biology at the University of North Dakota. In 1893 he was called to Dartmouth College as professor of zoölogy, where he remained until his retirement as professor emeritus in 1931. He was president of Section F (zoölogy) of the American Association for the Advancement of Science in 1918. In 1931 he gained nation-wide fame for the explanation which he gave before that body of the "arachnid" theory of evolution, which he had been engaged in developing over a period of 40 years. In support of this theory he exhibited a billion-year-old fossil of a marine scorpion, the Ostracodern, found on an island in the Baltic Sea. As the common ancestor of both vertebrate and invertebrate life, he regarded this extinct animal as the key to evolution and the "missing link" in the remote ancestry of man. He was also a member of the American Academy of Arts and Sciences, the Academy of Natural Science, and the National Research Council for Biology. His works include *The Evolution of the Vertebrates and Their Kin* (1912) and *The Grand Strategy of Evolution* (1920).

**PATTON, FRANCIS LANDEY.** A British clergyman and educator, died Nov. 25, 1932, in Warwick, Bermuda, where he was born Jan. 22, 1843. He attended Knox College, Toronto, and the University of Toronto. On his graduation from the Princeton Theological Seminary in 1865 he was ordained to the Presbyterian ministry and was successively pastor of the Eighty-fourth Street Presbyterian Church, New York City, the Nyack (N. Y.) Presbyterian Church, and the South Presbyterian Church, Brooklyn. In 1872 he was appointed professor of didactic and polemical theology at the Theological Seminary of the Northwest (now McCormick Seminary), Chicago, and from 1874 to 1881 was pastor of the Jefferson Park Church in that city. He edited also the religious journal, *The Interior*, in which connection he brought charges of heresy against the Rev. David Swing, pastor of the Fourth Presbyterian Church, Chicago, resulting in the latter's trial and subsequent withdrawal from the church. He served in 1878 as moderator of the general assembly of the Presbyterian Church in the United States of America. In 1881 he assumed the professorship endowed for him at the Princeton Theological Seminary by Robert L. Stewart, styled "the relations of philosophy and science to the Christian religion." In 1886 he was made professor of ethics at Princeton College and two years later, in addition to holding that chair, succeeded James McGosh as president. His administration of Princeton was marked by the official assumption in 1896 of the title Princeton Uni-

versity in place of the charter name, The College of New Jersey (long out of use), and by large donations which enabled the university to erect 17 new buildings and to make extensive additions to its equipment. The addition of new courses to both the scientific and academic departments and the establishment of a graduate school caused the enrollment to double, from 603 in 1888 to 1354 in 1902. On resigning this office in 1902 he became president and professor of the philosophy of religion at the Princeton Theology Seminary. After his retirement in 1913 he made his home in Bermuda. He contributed frequently to leading periodicals and wrote *The Inspiration of the Scriptures* (1869), *Summary of Christian Doctrine* (1874), and *Fundamental Christianity* (1926).

**PAU, GEN. PAUL GÉRALD.** A French soldier, died in Paris, Jan. 2, 1932. Born in Montélimar Nov. 29, 1848, he attended the École Spéciale Militaire at Saint-Cyr, and in 1869 joined the 78th Infantry Regiment. During the Franco-Prussian War he took part with his regiment in the action at Fröschweiler and was so badly wounded that his right arm had to be amputated. This did not deter him, however, from continuing his military career, and he finished the campaign as captain in the 63d Regiment. He then served for five years in Algeria, and on his return to France passed through the various grades, becoming in 1897 brigadier general of the 7th Infantry Brigade with headquarters at Soissons. After 1903 he served successively as commander of the 14th Infantry Division at Belfort and the 20th Army Corps at Nancy. In 1909 he became a member of the Higher War Council, and two years later was offered the post of Chief of General Staff, which he declined. On the outbreak of the World War he was made commander of the forces entrusted with the task of invading Alsace so as to draw off as many German troops as possible from the Belgian front. The troops under his command invaded the whole territory from Colmar to the Swiss border but were unable to press home their advantage as they were needed to reinforce the army on the Marne. In 1915 Pau was sent on diplomatic missions to Italy, the Balkan States, and Russia, remaining in the latter country until the outbreak of the Revolution. There he attempted to coördinate the military policy of the Allies on the eastern and western fronts and to organize the supply and distribution of war material sent from France. In July, 1918, he was sent to Australia to express the appreciation of the French people for the services rendered by the Anzacs. In his later years he devoted much time to the care of disabled veterans and was president of the French Red Cross.

**PAUB, pour, EMIL.** An Austrian violinist, conductor, and composer, died in Mistek, Czechoslovakia, June 15, 1932. He was born in Czernowitz, Austria, Aug. 29, 1855, and after preliminary instruction under his father attended the Vienna Conservatory, studying composition under Dessooff and violin under Hellmesberger. Upon graduating in 1870 he joined the Vienna Hofoper Orchestra, and during 1876-91 held successively the position of *kapellmeister* at Kassel, Königsberg, and Mannheim. He then became musical director at the Leipzig Stadt Theatre, and in 1893 was called to the United States as conductor of the Boston Symphony Orchestra,

succeeding Artur Nikisch. In 1898 he became conductor of the New York Philharmonic Society concerts, and the following year assumed the directorship of the New York National Conservatory, a position which Antonin Dvořák had previously held. He conducted at the Metropolitan Opera House in New York City during 1899-1900 and occasionally during the next three years at Covent Garden, London, and the Royal Opera in Madrid. From 1904 to 1910 he was conductor of the Pittsburgh Symphony Orchestra. In 1912, on the appointment of Karl Muck as conductor of the Boston Symphony Orchestra, he was made conductor at the Royal Opera in Berlin. He suffered, however, from severe ear trouble, and as his performance fell short of expectations the Kaiser forced his resignation the following year. Among his compositions are a symphony in A, *In der Natur*; a violin concerto; a string quartet; a violin and piano sonata; pieces for the piano; and songs.

**PAVEMENTS.** See ROADS AND STREETS.

**PEACE.** No National Peace Congress was held during the year by the National Peace Council continuing the British Peace Movement, but the Council organized three successful Conferences attended by representatives of its affiliated societies and of other sympathetic organizations. The first of these Conferences was devoted to "The Prospects of Disarmament"; the second was summoned to give members of interested organizations an opportunity of considering the problems underlying Sino-Japanese relations, as well as the immediate aspect of the dispute between the two countries. In the third Conference, held in April, 1932, the Council returned to the consideration of the prospects of the Disarmament Conference, which had been in session two months.

Apart from its general work for disarmament, which continued steadily throughout the year, the Council undertook two special campaigns. In the month preceding the opening of the Conference, the Council sought to encourage the organization of a great number of eve-of-the-Conference meetings. The Council also encouraged the sending of a large number of telegraphic messages to the opening session of the Disarmament Conference from sympathetic groups in Great Britain, and presented to Sir John Simon, and the British delegation, a memorandum embodying the Council's policy and signed by the chairmen of the greater number of its affiliated societies. Following the adoption on March 17 of a resolution welcoming the large measure of agreement in favor of the abolition of the so-called "aggressive" weapons, which had been revealed in the earlier stages of the Conference, the Council organized a short and intensive campaign to secure a widespread expression of opinion urging British leadership at the Conference in what were expected to be critical discussions following the Easter recess.

The INTERNATIONAL PEACE GARDEN, a sanctuary of 3000 acres on the Canadian-United States boundary, equally divided between the province of Manitoba and the State of North Dakota, was dedicated to the cause of peace on July 14, 1932. It is located in the heart of Turtle Mountains, which are crossed by the international boundary line, and at a point supposed to be the geographical centre of the North American Continent. The garden was opened with impressive dedicatory services in the presence of many Canadian and

United States citizens. The development of the garden will be carried out by an International Peace Garden association. Beautiful garden plots will be created eventually covering the entire area, the full fruition of the plans depending on the raising of a maintenance fund of \$5,000,000, largely through subscriptions of ten-cent pieces by school children. This memorial to lasting peace between the two countries was originated by Henry J. Moore, of Islington, Ontario.

Paul Poiret, of Paris, created the *Green Shirt* to be adopted by those who wish to go on record as standing unequivocally for Peace. It was presented for the first time at the Congress of the War Resisters' International at Lyons, France, and is now offered to the Peace workers of the world, to be worn in meetings, in parades, to be used privately or publicly, as a visible expression of their purpose and comradeship, and as a challenge to those who have not yet made up their minds. Poiret has chosen the color of the olive branch.

The Women's International League for Peace and Freedom issued little yellow slips containing the following declaration: "That part of the income tax which is levied for preparation for war is paid only under protest and duress," to be pasted on income tax reports.

**FEDERAL COUNCIL OF CHURCHES.** The Federal Council of Churches Commission on International Justice and Goodwill built its annual Armistice Week publication around the question "What are the next steps in getting rid of war?", outlining a "Fourfold peace programme" for the consideration of the churches. A study of the following policies was recommended: reduction of armaments; strengthening of the Peace Pact; reconsideration of war debts; and, American membership in the World Court.

This Commission believes that the further reduction of armaments constitutes one of the most pressing issues before the nations of the world, and pointed out that "notwithstanding the widespread suffering and the economic impoverishment of multitudes in all lands, the nations spent, in 1930-31, more than four billion dollars on their armies, navies, and military aircraft." The proposals of President Hoover to cut down the armaments of the world by approximately 33 per cent were indorsed and commended to the churches at large. The opinion was expressed that the World Disarmament Conference, up to date, had fallen "far short of that drastic reduction of armaments and of military budgets demanded alike by far-seeing statesmen and by the vast majority of people generally." In view of this fact, it was urged that there be "a resumption of the will to peace of the churches in order that the Geneva Conference, when it reconvenes, may be encouraged to bring to a speedy and decisive end the present costly and war-provoking competition in armaments."

The second plank of the Commission's peace programme had to do with the strengthening of the Peace Pact. The address of the United States Secretary of State, stating that the nations ratifying the Pact were under an implied obligation to consult one another whenever war threatened, was hailed as "a significant advance in the development of American foreign policy." The policy of the Washington government in refusing to recognize "any situation, treaty, or agreement" brought about by any nation or nations in violation of the Peace Pact was heartily in-

dorsed. "It now remains," the Commission said, "to integrate the principle of 'non-recognition' into the law of the nations." Still another policy designed to strengthen the Peace Pact, as recommended by the Commission, had to do with the cessation of shipment of arms and munitions to nations that violate their peace pledges.

A third suggestion called for a reconsideration of war debts. The observation was made that many careful students of this problem were convinced "that this country, in its own interest and for the sake of world recovery and international peace, should state its willingness to reconsider its war debt policy." A revision downward both of war debts and of reparations was regarded as "essential," it being clearly understood that new war debt agreements "should be accompanied by assurances on the part of the debtor nations that the money thus remitted will not be spent directly or indirectly for increased war preparations."

In the fourth place, the Commission, believing that a world court is essential to world justice, recommended American adherence to the Permanent Court of International Justice.

**"HOOVER DOCTRINE."** "Territorial gains made by any nation guilty of breaking the terms of the Kellogg pact should not be recognized." This, according to Under Secretary of State William R. Castle, Jr., is the new "Hoover Doctrine" which aims to change the attitude of the nations toward the use of force. With its general acceptance, Castle says, "the spoils of war become Dead Sea fruit." To put it in another form: "Japan may acquire Manchuria, but we will not recognize her position in Manchuria." This non-recognition means in substance, that the American Government will ban any money loans to the new state and withhold any assistance looking toward the economic development of the stolen region by use of American financial or commercial aid. Mr. Castle defined this Hoover programme for further discouraging war-like nations before the American Conference on International Justice.

On May 4, he said: "The President has been determined ever since he took office really to base American policy on the Pact of Paris. He believes in all measures honestly to avoid war, but is determined that these measures should not themselves envisage war. He, therefore, looked into the future, realized that, in the mechanics of international relations, a stern deterrent of the use of force would be to make valueless the results of war. Out of this earnest belief grew that new dictum in international law that territorial gains made by any nation guilty of breaking the terms of the Kellogg pact shall not be recognized."

This idea was first embodied in the note of the Secretary of State to Japan and China of January 8; and this new American doctrine, inspired by the President, was accepted by the League of Nations on March 11. This Doctrine, accepted by most nations of the world through the League vote, is welcomed because it accomplishes, as nearly as may humanly be possible, the purpose of peaceful prevention of war.

Secretary Stimson's speech of Aug. 8, 1932, interpreting the Kellogg pact, has been widely accepted as a considered re-statement of American foreign policy. In Europe special emphasis was placed on the declaration that consultation is implicit in the Pact and becomes inevitable when

the signatories are faced with the threat of its violation. Added significance was given to this formal assurance of consultation by the fact that the report of the League of Nations Commission in Manchuria again brought to the fore the whole Far Eastern question, plus the question of co-operation between the League and the United States. British and French spokesmen, including Premier Herriot, welcomed the assurance of consultation as a step toward the assumption of equal responsibilities by the United States for the preservation of peace.

**BALKAN CONFERENCE.** A third Balkan Conference was held at Bucharest from October 22 to 26, 1932. It was attended by delegations from Greece, Turkey, Yugoslavia, Albania, and Bulgaria. The Conference decided to set up a commission to deal with the question of minorities, but when the draft of the Balkan Pact was brought up for discussion, the Bulgarian delegation left because the other delegations refused to take up the question of minorities first. See UNITED STATES OF EUROPE under *Balkan Conference*.

**DANUBIAN UNION.** In a speech before the Finance Commission of the Chamber of Deputies delivered by M. Tardieu in Paris on March 1, he reported that in Geneva he had urged the representatives of Austria, Hungary, Czechoslovakia, Rumania, and Yugoslavia to form a Danubian union based on a system of preferential agreements and import quotas, and had promised them the support of France, Great Britain, and Italy for this scheme. His speech represented one more attempt to reconstruct the economic unity of the former Austro-Hungarian Empire and thus revive trade between the Succession States, now hampered by high tariffs and drastic currency restrictions. France's willingness to include Austria and Hungary in the proposed union, from which, to Warsaw's dismay, Poland was omitted, constituted a new development in French foreign policy, which in Eastern Europe had hitherto concerned itself primarily with the interests of the Little Entente. See UNITED STATES OF EUROPE.

The failure to mention Germany among the great powers invited to coöperate in the formation of the Danubian union aroused apprehension in Berlin, Vienna, and Budapest, where the French proposal was viewed as a political scheme designed to detach Austria and Hungary from Germany and to bring them under French financial control. On March 3 the German government, ostensibly in reply to the plea for economic *rapprochement* made on February 16 by the Austrian Chancellor, Dr. Buresch, notified Vienna that it was willing to extend preferential treatment to Austrian goods, provided other states agreed to waive the most-favored nation clause. Germany's move for bilateral negotiations with Austria was attacked in the French press as an attempt to thwart the Tardieu proposal. On March 5, the French government, however, formally informed all interested states, including Germany, of its plan for a Danubian union, and the French Ambassador in Berlin assured Germany that her coöperation had been envisaged from the start.

Skepticism in the Danubian countries had not been dispelled by the lukewarm attitude of Great Britain, whose sanction of the French plan was limited to the guarded statement in a *communiqué* issued on March 12 by Sir John Simon and M. Tardieu that the two governments had agreed to coöperate for the purpose of appeasing Eu-

rope's political rivalries and of hastening economic reconstruction. Italy's response, contained in a memorandum of March 7, was less encouraging. The Italian government, opposed to the formation of a Danubian federation under French auspices, declared that conflict of interests in Eastern Europe made a general accord impracticable, and urged the conclusion of bilateral preferential agreements between industrial and agricultural states, similar to those signed by Italy with Austria and Hungary early in March, which provide for the mutual grant of credit and transit facilities. In addition, Italy expressed particular concern regarding the economic plight of Austria and Hungary, and suggested that direct aid should be immediately extended to these two countries. A similar position was taken by the German memorandum on March 16, which stated that neither Austria nor Czechoslovakia can absorb the agrarian surplus of Southeastern Europe, and that the situation of the Danubian countries, among which Germany would include Bulgaria, could be relieved only by preferential arrangements with industrial states.

**POLAND AND SOVIET RUSSIA PACT.** A non-aggression pact between the Soviet Union and Poland was signed July 25 and ratified Nov. 27, 1932. This had been initiated six months earlier and marks an important step toward the pacification of Eastern Europe. In this agreement the two countries note that under the Kellogg pact, they have abandoned war as an instrument of national policy, and declare that they will abstain from mutual aggression, either alone or in coöperation with third states. Any act infringing the territorial integrity or political independence of the other party, even if not preceded by a declaration of war, or unaccompanied by military operations, shall be regarded as a violation of the non-aggression pact. Should one of the parties be attacked by a third state or group of states, the other undertakes to maintain strict neutrality. Finally, the two countries agree to settle all differences, no matter what their nature, by peaceful means; failing settlement through diplomatic negotiations, such differences will be submitted to a conciliation procedure outlined in a special convention which will form an integral part of the non-aggression pact.

Poland delayed the signing of this pact pending the conclusion of a similar agreement between the Soviet Union and Rumania. Negotiations for a Soviet-Rumanian pact, however, have been hampered by Rumania's demand that the Soviet government recognize the occupation of Bessarabia, a Russian province until 1918 which was added to Rumania by the treaty of Oct. 28, 1920. Poland's decision to act without its ally, Rumania, was apparently due to apprehension of the growth of aggressive nationalist feeling in Germany.

The Polish-Soviet pact is a link in a system of non-aggression agreements which the Soviet government intended to conclude with other states. Such agreements were signed or ratified by France, Latvia, and Finland, and the Soviet Union invited Japan to sign a non-aggression pact, on the ground that it would allay fear in both countries regarding a conflict in Manchuria. The Soviet government argued that bilateral non-aggression agreements not only serve to strengthen the Kellogg pact, but provide more flexible machinery for the maintenance of peace. Japan, however, declined to accept the Soviet pro-

posals, stating that the Kellogg pact made a Soviet-Japanese agreement superfluous, and that bilateral negotiations might raise objections on the part of other countries, with whom no such "special intimacies" existed. See **POLAND**.

**WORLD PEACE.** The impressive development of American interest in world problems during recent years has created a widespread and imperative demand for information on international affairs which shall be authoritative, reliable, and entirely free from all suspicion of partiality. Founded by Edward Ginn in 1919, and dedicated to a definite educational objective, the World Peace Foundation is equipped to meet the needs to which this quickened interest has given rise. Operating on the policy that the actual facts concerning international relations constitute the best possible arguments for improved international understanding, the Foundation focuses its activities upon the task of making these facts available in clear and undistorted form. One of its principal means of accomplishing this purpose is the publication of timely and authoritative studies on salient world problems of especial concern to Americans. No series of studies in the international field issued in this country has won so many encomiums from such a wide variety of sources as the publications of the World Peace Foundation. Written by outstanding authorities, rigorously examined and evaluated by an editorial board, they are always noteworthy contributions to their subjects, and are often the most reliable studies in their special fields.

While these volumes are sound and scholarly, they are written in the simplest and clearest manner consistent with an adequate presentation of their subjects. Widely consulted by college and high school teachers and students of general reference purposes, they are also frequently used as texts in connection with a number of courses. Libraries of almost all types, large or small, find them indispensable on account of the wealth of well-organized and readily located information which they contain within small space. To specialists in history, political science, economics, and current world events they are invaluable. Finally, to the general reader they offer competent, unopinionative, and brief, but thorough, surveys and analyses of a wide variety of questions of public interest.

An American Conference on Institutions for the Establishment of International Justice, Washington, D. C., was held in May, 2-5. Its aim was to enable thoughtful men and women of the United States to take stock of their duties toward institutions for the establishment of international justice, with particular reference to the elimination of international war. It was held under the auspices of The American Peace Society.

What pacific means should be developed to make the Kellogg pact effective? The nations renounced war as a means of settling troubles and difficulties among them in the Paris (Kellogg) pact. It was mutually agreed that the solution of international disputes or conflicts should never be sought except by pacific means; but those means were not provided.

Formal alternatives for war are at least four in number—arbitration, a world court, conciliation, and conference. Of these the first two are juristic in character. They deal alike primarily with questions involving treaty rights and the

interpretation of international law. The procedure of the court culminates in a judgment, and that of arbitration in an award. The scope of the latter is widened, however, to include those miscellaneous cases which lie outside the categories of international law. Conciliation and conference, on the other hand, are political institutions. The conclusions of the former are not binding; while those of the latter, since its members include the plenipotentiaries of the disputant nations, work toward an agreement which is almost as binding as the verdict of a court.

These agencies are restricted in their relative powers and can function effectively only within their proper spheres. But this fact should not breed a suspicion of inefficiency. Each of these influences is a cog in the machinery which will eventually produce the perfect pattern of peace, which, I believe, is a world court. The principal obstacles in the way of a world Court for all disputes between nations are the lack of a code of international law and the growing spirit of nationalism so prevalent at present. The Supreme Court of the United States was not developed in a day, but by a slow and gradual process. All the sovereign States that form the Union agreed to accept it, and no one of them thinks of referring interstate difficulties to any other body except the Supreme Court.

The Nobel Peace Prize, which was valued at about \$40,000 last year when awarded to Nicholas Murray Butler, president of Columbia University and Miss Jane Addams, of Hull House, Chicago, was founded by Alfred Bernard Nobel, inventor of dynamite and gun cotton, who died in 1896. A Norwegian Assembly committee composed of five members was empowered to award the prize, but none was awarded in 1932.

**PEACE GARDEN, INTERNATIONAL.** See **HORTICULTURE; PEACE.**

**PEACHES.** See **HORTICULTURE.**

**PEARS.** See **HORTICULTURE.**

**PEAT.** See **SOILS.**

**PEDAGOGY.** See **EDUCATION IN THE UNITED STATES; UNIVERSITIES AND COLLEGES.**

**PELOPONNESE.** See **GREECE.**

**PEMBA.** See **ZANZIBAR PROTECTORATE.**

**PENAL INSTITUTIONS.** See **CRIME.**

**PENANG.** See **STRAITS SETTLEMENTS.**

**PENNSYLVANIA. POPULATION.** According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 9,631,350, as against 8,720,017 in 1920. Philadelphia had (1930) 1,950,961 inhabitants; Pittsburgh, 669,817; Scranton, 143,433; Reading, 111,171; Harrisburg, the capital, 80,339.

**AGRICULTURE.** The table on page 635 shows the acreage, production, and value of the principal crops for 1932 and 1931.

**MINERAL PRODUCTION.** The value of the State's production of coal, the chief component of its yearly mineral total, declined again, for 1931, by nearly 20 per cent. The value of all coal produced was \$451,415,000 for 1931, as against \$568,158,000 for 1930. The decline was due in part to lower prices for coal, but in greater part to lower production by quantity. The total of net tons of coal mined dropped to 157,304,350 (1931), from 193,847,624 (1930). As to kinds, the production of anthracite declined to 59,645,652 net tons (1931) from 69,384,837 (1930); in value, to \$296,355,000 (1931), from \$354,574,000 (1930). That of bituminous coal decreased to 97,658,698 net tons (1931), from 124,462,787 (1930); by

Crop	Year	Acreage	Prod. Bu.	Value
Hay	1932	2,437,000	2,613,000 <sup>a</sup>	\$24,800,000
	1931	2,467,000	3,167,000 <sup>a</sup>	38,273,000
Corn	1932	1,255,000	46,485,000	18,574,000
	1931	1,268,000	62,768,000	26,988,000
Potatoes	1932	195,000	21,450,000	10,082,000
	1931	191,000	26,549,000	14,071,000
Wheat	1932	898,000	13,465,000	7,271,000
	1931	909,000	19,987,000	11,193,000
Oats	1932	944,000	24,072,000	6,740,000
	1931	954,000	28,143,000	9,006,000
Apples	1932	.....	9,537,000	5,531,000
	1931	.....	14,000,000	8,680,000
Tobacco	1932	42,100	43,363,000 <sup>b</sup>	3,035,000
	1931	40,900	57,689,000 <sup>b</sup>	4,268,000
Buckwheat	1932	138,000	2,070,000	807,000
	1931	162,000	3,483,000	1,393,000
Rye	1932	124,000	1,550,000	666,000
	1931	135,000	2,025,000	972,000

<sup>a</sup> Tons    <sup>b</sup> Pounds.

value, to \$155,060,000 (1931), from \$213,584,000 (1930). The number of persons employed at coal mines was reduced to 256,157 (1931), from 280,954 (1930); the average number of days of work of the employed, to 175 (1931), from 204 (1930). The output of the coke ovens was much curtailed, to 8,380,249 short tons (1931), from 14,540,579 (1930); by value, to \$32,458,184 (1931), from \$54,098,236 (1930). The minor production of native iron ore was cut, for 1931, approximately to half of that for 1930. Blast furnaces produced in 1931, 5,099,016 long tons of pig iron (in 1930, 9,734,591); by value, in 1931, \$86,877,965 (in 1930, \$176,521,843).

Production of Portland cement dropped to 28,510,231 barrels (1931) from 37,843,662 (1930); shipments, in nearly the same amounts as production, attained the values of \$30,952,302 (1931) and \$52,712,176 (1930). The production of petroleum was moderately reduced, to 11,892,000 barrels (1931), from 12,803,000 (1930); in value, to \$23,550,000 (1931) from \$33,410,000 (1930). Natural gas production, not yet stated for 1931, was 88,706,000 M cubic feet, by value \$44,521,000, for 1930, and was moderately below totals for 1929. Production of ferro-alloys declined in quantity to 340,475 long tons (1930) from 428,629 (1929), in value to \$29,627,740 (1930) from \$42,361,076 (1929), and declined further in 1931, as would seem from a great reduction in the totals of this product for the whole Union. The clay products of the State, chiefly consisting of brick and tile, attained the value of \$38,336,710 for 1930, the latest year covered by Federal compilations, as against \$49,674,492 for 1929. The quantity of lime shipped by the State's producers declined to 480,000 short tons (estimated, 1931) from 633,520 (1930); the value, to \$3,200,000 (estimated, 1931) from \$4,661,670 (1930). The State had other substantial yearly lines of production, notably those of sand and gravel, stone and slate, chiefly for its own markets. The total value of the State's native mineral products, duplications and such items of chiefly extraneous raw-material supply as pig iron eliminated, was \$778,523,421 for 1930; for 1929, \$892,913,833.

FINANCE. State expenditures in the year ended May 31, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments \$117,033,554 (of which \$29,409,634 was for local education); for conducting public-service enterprises, \$107,715; for interest on debt, \$3,985,248; for permanent improvements, \$61,052,492; total, \$182,179,009 (of which \$74,905,967 was for high-

ways, \$28,415,305 being for maintenance and \$46,490,662 for construction). Revenues were \$195,981,737. Of these, special property and other special taxes furnished 43.7 per cent; departmental earnings and compensation to the State for officers' services, 6.8; sale of licenses, 38.7 (in which was included a gasoline sale tax that produced \$27,483,131). Funded debt outstanding on May 31, 1931, totaled \$89,978,320, of which \$89,221,000 was for highways. Net of sinking-fund assets, the debt was \$78,635,764. The State levied in the year no general ad-valorem taxes on property.

TRANSPORTATION. The total number of miles of railroad line under operation on Jan. 1, 1932, was 11,155. In the year previous, 66.9 miles of new line had been put in operation, 52.91 miles abandoned.

EDUCATION. The commission organized in 1931 to study the State's problems pertaining to public education carried on its work in 1932 through a number of committees, which examined such matters as costs, legislative, administrative, and curricular needs. A ten-year programme was to be formulated in accordance with the resultant findings. In the meanwhile there was some disposition to postpone legislative action of a general character, to await the outcome of the inquiry. An attempt made at the legislative session of 1932, to permit an intermission of three years in payments into the school retirement fund was defeated. For the academic year 1930-1931, the latest for which figures were obtainable, the number of persons of school age in the State was reported as 2,010,566. There were enrolled in the public schools 1,970,416 pupils. Of these, 1,521,033 were in common schools or elementary grades, and 449,383 were in high schools. The expenditures of the year for public-school education totaled \$215,426,010. Teachers' salaries, by the year, averaged \$1293 for the elementary, and \$1931 for the high-school positions.

CHARITIES AND CORRECTIONS. A Department of Welfare, created by an act of 1921, performed in 1932 the State's central functions of supervision over the penal reformatory and eleemosynary institutions of the State. It had as its head a Secretary of Welfare (Mrs. I. Albert Liveright), holding by appointment for a term of four years. The State institutions of care and custody, with their populations of May 31, 1932, were: Eastern State Penitentiary, Philadelphia and Graterford (2931); Western State Penitentiary, Pittsburgh (1059); Western State Penitentiary, Rockview (1023); Pennsylvania Industrial School, Huntingdon (1251); State Industrial Home for Women, Muncy (161); Pennsylvania Training School, Morgantown (788); eight State Hospitals (mental), situated respectively at Allentown (1458), Danville (1811), Farview (642), Harrisburg (1733), Norristown (3091), Torrance (1061), Warren (1872), and Wernersville (1190); for the feeble-minded and epileptics, State Schools at Pennhurst (1588), and Polk (2749), a State Village at Laurelton (622), and a State Colony for Epileptics at Selingsgrove (362); ten medical and surgical hospitals, chiefly to serve special needs in the mining districts, situated at Ashland (184), Blossburg (56), Coaldale (80), Connellsville (54), Hazleton (113), Locust Mountain (60), Nanticoke (94), Philipsburg (84), Scranton (166), and Shamokin (70).

LEGISLATION. The General Assembly met in



special session on June 29, to effect retrenchment in State expenditure and to provide funds for the relief of the needy. It passed a law permitting the cities of Philadelphia and Pittsburgh to levy special taxes, not duplicating any taxes imposed by the State, for general revenue purposes. A State sales tax was enacted, levying 1 per cent on gross sales; it was designed to provide about \$12,000,000 a year. Political subdivisions were empowered to borrow money needed for relief expenditures on the security of uncollected tax bills; this measure applied particularly to Philadelphia, as it served to remove a limitation in the city charter on borrowing for such a purpose. An amendment to the State constitution was initiated, for submission to popular vote; it provided for the State repayment of \$25,000,000 expended for local cost of relief to the needy. Payment of taxes to political subdivisions by a number of installments was made lawful. The State appropriations that had been made in 1931 were reduced, as to many items, by a total of some \$5,778,000. The "lame duck" Amendment to the Federal Constitution, providing for earlier inaugurations and earlier initial sessions of Congress, received State ratification. A committee of the State Senate was created, to investigate the relations of the State public-service commission with utility interests.

**POLITICAL AND OTHER EVENTS.** A special session of the Legislature had enacted, late in 1931, the Talbot Law, providing \$10,000,000 of State funds to be distributed during 1932 among the 308 poor-districts, for the relief of the needy unemployed. The State Supreme Court rendered on April 7 a decision affirming the constitutionality of the law. The measure was found to have made inadequate provision for the need that existed. Governor Pinchot called another special session and resumed his effort of 1931 to put through a much more ambitious relief programme. His lack of control over the Republican legislative group ruined his plans and left the State precariously provided to contribute to poor-relief, although an additional \$12,000,000 for the purpose was estimated to have been provided by a 1 per cent sales tax. Governor Pinchot sought in August to obtain from the Reconstruction Finance Corporation a loan of \$45,000,000 to Pennsylvania to meet the State's further requirements for poor-relief. This application was denied, the Corporation holding that the State had failed to qualify for assistance by drawing as far as it could on its own resources. Governor Pinchot appealed to President Hoover in person, but the President declined to bring official pressure on the Corporation. Eventually a small fraction of the loan demanded was granted to Pennsylvania on condition that it be used in certain specified parts of the State only. Loans for relief needs were, however, made piecemeal by the corporation to Pennsylvania or to subdivisions of the State, to a total, by the year's end, of \$12,835,538.

Assertions made by A. A. Chapman led in July to Governor Pinchot's ordering an investigation of payments made by the Philadelphia Rapid Transit interests to public officials. William D. B. Ainey, chairman of the State Public Service Commission, denied having received \$150,000 from the late Thomas E. Mitten. Charges were placed before the State Senate, and Mr. Ainey resigned on August 3. State Attorney General Schnader admitted on August 13 that he had received a salary

from one of the subsidiaries of the transit company while serving as special deputy attorney general, but declared he had resigned the company post on becoming State Attorney General. Former Mayor Mackey of Philadelphia also admitted having been a recipient of a salary from the Philadelphia Rapid Transit organization, asserting the circumstances to have been entirely proper. U. S. Senator James J. Davis was indicted in New York on a Federal charge alleging that he had been interested in the running of a lottery among members of the Loyal Order of Moose. He was brought to trial in September; after the case had run several weeks a mistrial was declared on October 3, because of improper conduct on the part of a juror, reported by the defense. Mayor Charles H. Kline of Pittsburgh was tried before a jury in Butler County and was found guilty of malfeasance in office on May 14, on a charge involving advance payment of \$5000 on a city purchase of trucks. A taxpayer's suit for an injunction against the construction of a proposed Allegheny County town hall at Pittsburgh failed, the State Supreme Court denying the injunction on May 9 and holding that the allegation of excessive cost in the contract price of \$1,127,911 had not been established.

A strike without regular union authorization occurred in part of the anthracite coal-mining region in March. At Johnstown, in August, a part of the "bonus army" that had been expelled from Washington was harbored for some days and received assistance from the local authorities. Governor Pinchot later facilitated the removal of the men by rail to their home States. The finances of Philadelphia were strained throughout the year by deficiencies in tax collections. The city government was forced to effect considerable economies, so that its expenditures for the first half of the calendar year ran about \$6,000,000 below those for the like period of 1931. Up to the beginning of April it was reported that the city had dropped 1571 employees. The pay of the police and firemen was cut in June by 4 per cent. At Villanova the Augustinian Villanova College was partly destroyed by fire on August 2.

At the State primaries, held on April 26, regular Republican candidates prevailed over the Pinchot partisans, who ran as supporters of prohibition and of large bond issues to meet economic needs. James J. Davis was renominated by the Republicans for Senator.

**ELECTIONS.** The popular vote of November 8 was cast for the Republican National ticket in a proportion (much less than the State's normal), of approximately 9 to 8. For President, the officially reported totals were: Hoover (Rep.), 1,453,540; Roosevelt (Dem.), 1,295,948. James J. Davis (Rep.) was reelected to the United States Senate, on the apparent returns, by a plurality not far from that for Hoover. The number of Republicans in the State's delegation to the House of Representatives was reduced to 23 and that of Democrats was increased to 11 in the elections to the Seventy-third Congress.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, Gifford Pinchot; Lieutenant-Governor, Edward C. Shannon; Secretary of the Commonwealth, Richard J. Beamish; Treasurer, Edward Martin; Auditor-General, Charles A. Waters; Attorney-General, William A. Schnader; Superintendent of Public Instruction, James N. Rule.

**Supreme Court:** Chief Justice, Robert S. Frazer; Associate Judges, Alexander Simpson, John W. Kephart, William I. Schiffer, George W. Maxey, James B. Drew, William B. Linn.

**PENNSYLVANIA, UNIVERSITY OF.** A nonsectarian institution of higher education in Philadelphia, primarily for men but with certain courses open for women, founded in 1740. It is composed of the college of arts and sciences, the Towne Scientific School (engineering and chemistry), the Moore School of Electrical Engineering, the Wharton School of Finance and Commerce, the school of fine arts (architecture, fine arts, music), the school of education, the graduate school, and the professional school of medicine, graduate medicine, law, dentistry, veterinary medicine, hygiene, and public health. The 1932 autumn enrollment was 13,298, including all schools and departments. Of those enrolled, 7854 were candidates for degrees; 2718 were candidates for certificates; and 2726 were partial students and auditors. The enrollment for the 1932 summer session was 1900. The faculty numbered 1536. The productive funds amounted to \$18,598,934. The income for the year from all sources, exclusive of hospitals and museums was \$5,750,550.

The important gifts and subscriptions received during the year included the Morris Arboretum of 180 acres of land and numerous buildings, with an adequate endowment, to be maintained for the development of botany and botanical research and for certain public purposes. The library contained 740,294 bound volumes and 74,000 pamphlets. President, Thomas S. Gates, Ph.B., LL.B., LL.D. Provost, Josiah H. Penniman, Ph.D., Litt.D., LL.D., L.H.D. See UNIVERSITIES AND COLLEGES.

**PENNSYLVANIA MUSEUM OF ART.** See ART MUSEUMS; SCULPTURE.

**PENNSYLVANIA RAILROAD.** See RAILWAYS; ELECTRIC TRANSPORTATION.

**PENNSYLVANIA STATE COLLEGE,** THE. A nonsectarian institution for the higher education of men and women at State College, Pa., founded in 1855. In Nov. 1, 1932, the undergraduate enrollment totaled 4403, distributed in seven schools. The 1932 summer session enrollment was 3503. The resident faculty numbered 644, including agricultural and home economics extension staffs. The productive funds of the college amounted to approximately \$517,000 and the income for operation for the year to \$4,806,150. The library contained 136,064 volumes. A home economics building and a dairy building were completed during 1932. President, Ralph D. Hetzel, LL.D.

**PENSIONS.** See CHILD WELFARE; MATERNITY PROTECTION; OLD AGE PENSIONS; UNITED STATES under *Veterans' Administration*.

**PEPTIC ULCER, ETIOLOGY OF.** See MEDICINE AND SURGERY.

**PERAK, pa'rāk'.** See FEDERATED MALAY STATES.

**PERIM.** See ADEN.

**PERKIN MEDAL.** See CHEMISTRY, INDUSTRIAL.

**PERLIS.** See UNFEDERATED MALAY STATES.

**PERMANENT COURT OF INTERNATIONAL JUSTICE.** See ARBITRATION, INTERNATIONAL; LEAGUE OF NATIONS; WORLD COURT; LAW IN 1932.

**PERSIA.** A monarchy of southwestern Asia, extending north from the Persian Gulf and the Gulf of Oman to the Caspian Sea. Capital, Tehran

(Teheran); reigning Shah in 1932, Riza Khan Pahlevi.

**AREA AND POPULATION.** The area is estimated at about 628,000 square miles; the population at from 8,000,000 to 10,000,000, about 2,000,000 of whom are nomads. Europeans in the country were estimated at from 1000 to 6000. The chief cities, with their estimated population in 1931, are: Tehran, 320,000; Tabriz, 240,000; Meshed, 152,000; Isfahan, 126,600. The bulk of the population are Moslems of the Shiite sect.

**EDUCATION.** About 90 per cent of the population are illiterate. In 1930, the number of pupils enrolled in the schools was about 146,870; more than 750 students were studying in Europe.

**PRODUCTION.** Persia is a predominantly agricultural country, producing chiefly wheat, barley, rice, tobacco, fruits, wool, opium, gums, cotton, and silk. The 1931 crops and wool output were reported to be larger than the 1930 figures. (See 1931 YEAR BOOK.) Petroleum is the chief mineral product, the output in 1931 totaling 44,300,000 barrels, as against 45,420,000 barrels in 1930. The Anglo-Persian Oil Company controlled the bulk of the Persian production. Iron, coal, copper, lead, manganese, marble, cobalt, and nickel are found, but there is little production. Rug making and petroleum refining are the leading industries. Rug exports to the United States in 1931 were valued at \$3,828,500 (\$4,485,000 in 1930); the United States normally takes about half the total production. Local manufacturing was stimulated in 1931 by the establishment of a government monopoly of foreign trade. Several new textile mills were constructed and a sugar refinery at Karizek began operations.

**COMMERCE.** For the fiscal year ended Mar. 20, 1931, exports were valued at \$111,250,000 (including mineral oil valued at \$76,384,000), as against exports of \$132,129,000 (mineral oil, \$91,246,000) in 1929-30. The 1930-31 imports totaled \$61,600,000 (\$77,176,000 in 1929-30). Imports of cotton textiles, wearing apparel, iron and steel, and wood products declined in 1930-31, while increases were reported in machinery, chemicals, drugs, dyes, and munitions. Besides mineral oils, the leading exports in 1930-31 were: wool rugs, \$9,478,000 (\$12,316,000 in 1929-30); opium, \$3,726,000 (\$5,891,000); rice, \$2,433,000 (\$2,782,000); and raw cotton, \$2,358,000 (\$3,304,000). The United Kingdom furnished 30 per cent of the 1930-31 imports (21 per cent in 1929-30); Soviet Russia, 29 per cent (31); United States, 3 per cent (8). Of the exports, exclusive of mineral oils, 36 per cent went to Soviet Russia (31 per cent in 1929-30); 15 per cent to the United States (18). The United Kingdom took 48 per cent of the mineral oils, Egypt 18 per cent, and India 9 per cent. According to United States statistics, exports to and imports from Persia during 1932 (calendar year) were \$1,082,363 and \$2,764,428, respectively, as compared with \$1,056,631 and \$4,457,487, respectively, for the previous year.

**FINANCE.** In the budget for the fiscal year ended Mar. 20, 1932, revenues were estimated at 320,610,399 kran and 822,611 pounds sterling, and expenditures at 321,925,358 kran and £800,684. (The par value of the kran varies with the price of silver, but the average exchange rate was \$0.0760 for 1931, \$0.0839 for 1930, and \$0.1007 for 1929. The official rate of 12.24 kran to the dollar fixed Feb. 25, 1930, was changed on Feb. 9, 1931, to 18.33 kran to the dollar). The budget

for 1932-33 anticipated revenues (excluding oil royalties) of 421,400,000 krans and £787,000, and expenditures of 421,399,870 krans and £407,176. The government planned to introduce the pahlavi, equal to the pound sterling in value, as the new unit of currency in 1932 but was forced to postpone the experiment.

The funded debt on Mar. 20, 1931, amounted to £1,601,260 (\$7,792,700 converted at par) and the floating debt to 6,661,430 krans (about \$360,200), as compared with £1,626,480 (\$7,915,260) and 11,676,660 krans (\$1,144,000), respectively, on Mar. 20, 1929.

**COMMUNICATIONS.** Railway lines in operation in 1932 totaled about 230 miles, and a new trans-Persian line was under construction. There were about 7953 miles of highways. Air lines, operated by the Junkers Company of Germany, extended 2050 miles and linked Tehran and Meshed with Bagdad, Bushire, and Baku. During 1930-31, the Persian Gulf ports were entered by 12,506 vessels of 6,202,000 net registered tons, and the Caspian Sea ports by 3007 vessels, of 456,000 tons.

**GOVERNMENT.** Executive power is vested in the Shah, an absolute ruler down to 1906, when was established a constitutional form of government with a parliament or Mejliss of 136 members. The actual running of the government is in the hands of a cabinet, appointed and controlled by the Shah. Prime Minister in 1932, Mehdi Quli Kahn Hedayat, appointed March, 1929.

### HISTORY

**ANGLO-PERSIAN OIL DISPUTE.** A dispute between the Persian and British governments, which for a time appeared to present a threat to world peace as serious as the Manchurian situation, broke out on November 27. The Persian government suddenly notified the Anglo-Persian Oil Company that the oil concession, granted in 1901 for 60 years, had been cancelled. The announcement followed fruitless negotiations for an increase in Persia's share of the oil company's profits and for a larger voice in its management. The Persian government's revenues, of which about 70 per cent was normally derived from oil royalties, had been drastically reduced as a result of the depression and the consequent slump in oil prices. The oil royalties received declined from \$6,000,000 to \$1,000,000 between 1930 and 1931.

The Persian case for cancellation was based on the charge that the oil company owed the government millions in unpaid royalties and that the Shah's government was not obliged to recognize a contract made before the establishment of his régime. The Persian Foreign Minister announced that his government was ready to negotiate a new agreement and that operations in the oil fields might continue for the time being. The government's action was applauded by the Persian press as a major step in the campaign to free the country of foreign monopolies. Less than two months before, the government had rejected an application of the British Imperial Airways for a long-time permit for aviation stations. As a result, Imperial Airways was compelled to alter its route to India.

The Anglo-Persian Oil Company's concession was the most important in Persia, covering 500,000 square miles and giving the company exclusive right to produce and sell petroleum and oil products in all but five Persian provinces. In return, the concessionaire agreed to pay the Per-

sian government 16 per cent of the net profits, which up to the end of 1932 totaled about £11,000,000. The British government owned more than half of the common stock of the company and during the same period had received dividends aggregating almost £10,000,000. Moreover, the British admiralty depended upon the Persian monopoly for the bulk of its oil fuel supply.

Accordingly, the British government vigorously protested the cancellation of the concession, declaring that the contract made no provision for such action. Captain Anthony Eden, British Under-Secretary for Foreign Affairs, on December 8, warned Persia that Britain would take all legitimate measures to protect its interests and that unless the cancellation was rescinded by December 15, the question would be referred to the World Court. Persia replied that the World Court was not competent legally to hear the dispute, but that owing to British "threats and pressure," it would bring the dispute to the attention of the Council of the League of Nations. However, the British government was the first to act, requesting the League by telegraph on December 14 to consider the dispute as soon as possible under Article XV of the League Covenant. The Council fixed January 23 as a tentative date for opening the arguments.

**OTHER FOREIGN RELATIONS.** Persia during 1932 concluded new trade agreements with the Soviet Union and Turkey, and a security pact with Turkey. The government gave a warm reception to King Feisal of Iraq, who visited Tehran in April accompanied by the Iraqi Prime Minister and other members of the Cabinet. Economic and political questions affecting the two countries were discussed. The Soviet-Persian treaty, signed at Tehran Oct. 27, 1931, became effective through the exchange of ratifications at Moscow June 22, 1932. It granted most-favored-nation treatment for commerce and navigation between Persia and the Soviet Union and provided for a balanced annual trade during the three years the treaty remained in force. The Turkish-Persian pacts, signed at Ankara November 5, consisted of a security pact, an extradition treaty, and an agreement to renew the existing treaty of friendship. The friendship and neutrality pact was reported to have been ratified by the Persian parliament about December 27. A semi-official Persian newspaper, commenting upon the Turkish treaties, said that the union of Eastern peoples "would protect them against foreign intrigues and guarantee their independence."

That Persia was preparing for all eventualities was indicated by large new orders for warships placed in Italy and for ammunition and airplane parts placed in the United States and Germany during the year.

**FOREIGN CONCESSIONS AND CONTRACTS.** The Persian parliament in June ratified the treaty of Feb. 17, 1932, with Great Britain, by which the Indo-European Telegraph Company in Persia was dissolved. The British and Indian governments retained the right to operate cable stations on the Persian Gulf and to control the land line from Jask to the Indian frontier until 1945. Early in 1932, the government commissioned Swedish engineers to continue the work upon the trans-Persian railway, which was temporarily stopped by the cancellation of the contracts of German and American groups. The contract with the Junkers Air Transport Company was provisionally prolonged when it expired. It was reported

in September that the Persian government had concluded a contract with a Belgian company for the electrification of Tehran and the installation of street cars. Later in the year came reliable reports that the Shah's government was negotiating concessions giving the General Motors and Firestone interests of the United States a virtual monopoly of the Persian automobile and rubber trades.

Improvement of Persian communications along other lines was reported. The highway from the capital to Talus, on the Caspian Sea, was nearly finished. Leading streets in Tehran were widened and surfaced. A regular motor-car service was established between Tehran and Khanikin.

**DOMESTIC UNREST.** Unrest among several of the powerful nomadic tribes was reported at various times during the year. Lur tribesmen in Western Persia on September 1 captured three United States consular officers near Kermanshah, while they were traveling by automobile from Bagdad to Tehran. According to a U. S. State Department release, the tribesmen intended to hold the American officers as hostages for the release of several members of the Lur tribe imprisoned by the Persian government at Tehran. The Americans were rescued by Persian troops on September 4.

**PERU, pē-rōō.** A republic on the Pacific coast of South America; bounded on the north by Ecuador and Colombia; on the east by Brazil and Bolivia; and on the south by Chile. Capital, Lima.

**AREA AND POPULATION.** The area of Peru is about 524,800 square miles. The population in 1930 was estimated at 6,237,000, as compared with 4,574,000 in 1896. Over one-half of the population were native Indians. For the period 1925 to 1929 annual births and deaths averaged 145,989 and 62,736, respectively. The estimated population of the principal cities in 1931 was: Lima, including suburbs, 374,000 (205,000 in 1920); Callao, 75,000 (52,843 in 1920); Arequipa, 70,000; Cusco (Cuzco), 40,000; Chiclayo, 35,000; Trujillo, 30,000; Iquitos, 25,000.

**EDUCATION.** For the school year 1929-30, there were 318,735 pupils enrolled in 3567 primary schools, with an average attendance of 65 per cent. The high school enrollment (1930) was 11,820; normal schools, 1398; universities, 2772.

**PRODUCTION.** Agriculture is the main support of the population, the chief crops being cotton, sugar, cacao, coffee, rice, wheat, and wool. Tobacco, corn, olives, grapes, and rubber are produced also. The arable land in 1929 was reported at 3,663,000 acres; permanent meadows and pasture, 17,683,000 acres; trees, shrubs, and bushes, 89,000 acres. Livestock in 1931 included 1,806,000 cattle, 688,000 swine, 13,000,000 sheep, 1,207,000 llamas and alpacas, 432,000 horses, and 395,000 mules and asses. Production of cotton (1931-32 crop) was 207,000 bales; sugar (1931-32 crop), 402,000 metric tons; coffee (1930), about 3,954,000 pounds; wheat (1930-31), 4,525,000 bushels; wool (1931), 12,125,000 pounds of sheep's wool and 9,921,000 pounds of llama, alpaca, and other wool.

Mineral production during 1931 was valued at 128,039,000 soles (about \$35,940,000), as compared with 183,091,000 soles (\$65,217,000) in 1930 and 368,320,000 soles (\$147,321,000) in 1929. Production of the chief minerals in 1931 was: Gold, 79,412 troy ounces; silver, 8,597,000 troy ounces; copper, 44,330 metric tons (metal

content); lead, 3482 metric tons (metal content); zinc, 104 metric tons (metal content); petroleum, 10,421,000 barrels (12,773,000 barrels in 1930); coal, 180,000 metric tons. Vanadium ore (479 metric tons in 1930) and guano (146,537 short tons in 1930-31) are other products. Petroleum refining, smelting, and the production of textiles, flour, and other products for domestic consumption are the principal manufacturing industries. Local industries were encouraged by tariff protection and concessions as well as the depreciation of the currency in 1930-32.

**COMMERCE.** Preliminary foreign trade figures for 1931 showed imports of \$27,488,000 and exports of \$55,416,000, as against imports of \$51,308,000 and exports of \$88,207,000 in 1930. The leading export items in 1931 and 1930 (in parentheses) were: sugar, \$7,793,000 (\$9,379,000); cotton, 8,605,000 (\$15,185,000); copper bars, \$11,055,000 (\$16,464,000); crude petroleum, \$7,740,000 (\$14,952,000); and gasoline, \$6,313,000 (\$9,498,000). The leading imports (1930) were machinery and tools, foodstuffs, and wood and wood manufactures. (Conversions into United States dollars in the trade statistics were made at the annual average exchange rates for the Peruvian pound and sol of \$0.3562 for 1930 and \$0.2807 for 1931. The sol superseded the pound as of Mar. 27, 1930.)

The United States in 1931 supplied 40.9 per cent of the total imports; the United Kingdom, 12.4 per cent; and Germany, 8.8 per cent. The United States was also the chief market, taking 36.4 per cent of the total exports in 1931 as against 21.9 per cent by the United Kingdom, and 8.7 per cent by Germany. For the fiscal year ended June 30, 1932, United States statistics showed exports to Peru of \$5,930,000 (\$10,598,000 in 1930-31) and imports from Peru of \$5,466,000 (\$13,385,000).

**FINANCE.** According to preliminary figures released by the Minister of Finance Aug. 16, 1932, ordinary revenues during 1931 amounted to 99,852,246 soles and ordinary expenditures to 105,112,242 soles, the deficit being 5,259,996 soles. No data on extrabudgetary operations were available. In 1930, ordinary revenues and expenditures were 118,792,210 soles and 131,281,854 soles, respectively.

The national debt on June 30, 1931, amounted to \$96,056,319, £4,239,046, and 105,859,076 gold soles. Interest and sinking-fund payments on all national debts were suspended by the decree of May 29, 1931 and no provision was made in the 1932 budget estimates for foreign debt payments. The municipality of Lima and the Province of Callao suspended service on their dollar bonds during 1931. Nevertheless, Congress on Sept. 21, 1932, approved a 20,000,000-sole internal war loan (see *History*). After stabilizing the sol at \$0.28 in April, 1931, the government was forced to abandon the gold standard on May 14, 1932. The sol thereafter depreciated to \$0.175 at the end of the year.

**COMMUNICATIONS.** The railways in 1930 had 2810 miles of line, of which 642 miles were state owned. The railways in 1930 carried 5,597,000 passengers and 3,242,000 metric tons of freight, the gross revenues being equivalent to \$10,520,000. Highways extended about 12,000 miles (1930), of which 1140 miles were macadam. Air lines in 1931 connected the principal cities. Automatic telephone service was inaugurated in Lima in December, 1931, and on Oct. 14, 1932, wireless

telephone connections were officially established with the United States, Canada, Mexico, and Cuba. The capacity of vessels entering all Peruvian ports (including those on Lake Titicaca and the Amazon River) in 1930 was 16,225,000 net registered tons.

**GOVERNMENT.** Following the overthrow of President Leguía (see 1930 YEAR BOOK) Congress was dissolved in August, 1930. By a decree of Sept. 2, 1930, a temporary junta assumed all functions conferred on the executive and legislative powers by the Constitution. Constitutional government was restored on Dec. 8, 1931, and a Constituent Assembly was engaged during 1932 in drafting a new constitution (see *History*).

#### HISTORY

**THE CLASH WITH COLOMBIA.** The last four months of 1932 witnessed the development of a crisis between Peru and Colombia over the possession of the port of Leticia on the upper Amazon. The port, situated in territory ceded by Peru to Colombia in 1922 in return for other territory, was seized by Peruvian private citizens on September 1. When Colombia prepared to restore its sovereignty by force, Peru gave notice that it would resist such measures. Peru's proposal for arbitration of the dispute was rejected by Colombia on the ground that the issue was an internal one, involving acknowledged Colombian territory. The Peruvian Congress on September 21 authorized a \$5,000,000 internal war loan. On October 4, it laid a special war tax ranging from 1 to 15 per cent on all incomes, including those of foreign residents. Peruvian troops were mobilized and by the end of the year a strong force had been concentrated at Leticia to meet Colombian forces advancing overland from Bogotá and up the Amazon. The outbreak of war early in 1933 was generally expected. For details, see COLOMBIA under *History*.

**INTERNAL DEVELOPMENTS.** The Leticia incident served, at least temporarily, to unite the bulk of the people of Peru behind the government of President Sánchez Cerro. Previous to this incident, the government had been forced to devote most of its energies to maintaining itself in power. From the time of his inauguration on Dec. 8, 1931, Sánchez Cerro faced the vigorous opposition of the Aprista party (*Partido Aprista Peruano*). This radical and reformist group, led by Victor Raúl Haya de la Torre, polled a heavy vote in the 1931 elections and seated 23 representatives in the Constituent Congress. Charging that the elections were unfairly conducted, it demanded the appointment of a junta to take over the government and call new elections.

The President took vigorous action to suppress his opponents. Haya de la Torre and other leaders of the party were forced into hiding and when Haya de la Torre was finally arrested on May 6, he was held incommunicado for the remainder of the year. Government police invaded the Congress building, seized the 23 Aprista representatives, and deported them. The Civilist (government) majority in Congress then outlawed the Aprista party. According to a statement of the general secretary of the Apristas (New York *Times*, Jan. 15, 1933) a systematic persecution and boycott of the party was launched by the government. It ordered that all Apristas be dismissed from their employment, imprisoned hundreds, and sent other prisoners to work in the forests or the guano islands.

On Jan. 9, 1932, a month after his inauguration, the President induced Congress to grant him extraordinary powers. In February, he frustrated a revolt in Lima and deported Gen. Gustavo Jiménez, former commander of the Peruvian Army, and 12 other leaders. On March 6, Sánchez Cerro and an aide were shot and wounded, while attending church services in the capital. The would-be assassin, José Arnaldo Melgar Márquez, and an alleged accomplice, Juan Seoane, were sentenced to death on March 15, but the sentence was later commuted to life imprisonment. The President's wound proved to be slight. While deportations and arrests continued, the President faced repeated Cabinet overturns and sporadic revolts in various parts of the country. On May 8, the crews of the two naval vessels, *Almirante Grau* and *Coronel Bolognesi*, revolted but were forced to surrender by loyal troops and air units. Eight of the ringleaders were executed and others sentenced to long terms of imprisonment. The most serious crisis faced by the government was the uprising in the city and port of Trujillo on the north coast on July 6. Loyal troops finally quelled the rebellion on July 10 after sharp fighting in which about 200 lives were lost. Forty-four involved in the revolt were executed on July 27 and 57 not yet taken into custody were condemned to death. Five more executions on August 4 followed a subsequent outbreak at Huaraz. The government officially attributed the uprising to Communists and Apristas. It was reported that the rebels, while in control of the city of Trujillo, massacred 150 loyal soldiers and civilians.

While President Sánchez Cerro succeeded in crushing open political opposition by executing, exiling, or imprisoning hostile leaders, he had less success in efforts to check the economic depression. On May 14, the government was forced to abandon the gold standard "for a temporary period." Widespread unemployment and want contributed to the political unrest. The Sánchez Cerro government proposed or enacted a series of laws intended to improve the status of labor or embodying the government's nationalistic principles. While administrative expenses were drastically reduced, Congress approved a contract for the completion of improvements on Callao harbor which were begun in 1928 by an American company. The project was expected to give work to 800 men. A measure of October 7 withdrew the match monopoly granted to the Swedish Match Company and authorized the government to organize and operate its own match monopoly. In November, a commission was appointed to frame an industrial code for submission to Congress. Bills were also introduced providing for 30 days' notice prior to the discharge of manual laborers, 15 days' pay for each year of service upon discharge, and half pay to laborers in compulsory military service. A number of laws were passed creating new districts and provinces in Peru.

**DEATH OF LEGUÍA.** Augusto Leguía (q.v.), former President and dictator of Peru for 11 years prior to his overthrow by revolution on Aug. 25, 1930, died in the Naval hospital at Bellavista on Feb. 6, 1932. He had been transferred there in November from the Panóptico prison in Lima. Information concerning the large loans raised in the United States during the Leguía régime was made public during hearings before the United States Finance Committee in January, 1932. Frederick Strauss and Henry C. Breck, partners in

the banking house of J. and W. Seligman & Co., testified that their company had paid \$415,000 in commissions to Juan Leguía, son of the President, for acting as agent in three loans to Peru totaling \$100,000,000. Of these loans there were outstanding \$87,000,000 in complete default when the testimony was given.

**FOREIGN RELATIONS.** As a result of Peruvian nationalism, combined with the propaganda carried on against the Sánchez Cerro régime by deported Apristas in various Latin American capitals, Peru became increasingly isolated during 1932. During the year, the Congresses of Argentina, Colombia, Spain, Ecuador, and Costa Rica passed resolutions asking for the release of Haya de la Torre or for a just consideration of his case. Scores of other organizations and leading intellectuals in various countries protested to the Lima government. In two instances, the Aprista propaganda threatened to involve Peru in difficulties with other countries. Diplomatic relations between Peru and Mexico were severed by the latter in May when President Sánchez Cerro declared the Mexican Minister in Lima *persona non grata*. The Mexican Minister was alleged to have allowed Apristas to use his diplomatic mail pouch in order to avoid interception of their correspondence by government agents. However, diplomatic relations were soon reestablished.

The Peruvian government strongly resented the action of the Argentine Congress in condemning the "tyranny" in Peru and asking amnesty for Haya de la Torre. Peru's action at Leticia led to friction with Ecuador and Brazil as well as to an open break with Colombia. With the development of this dispute, Peru withdrew from the ABC-Peru diplomatic accord which the Argentine Foreign Minister organized among Argentina, Brazil, Chile, and Peru in an effort to end the warfare between Bolivia and Paraguay in the Chaco. In June the Peruvian government sounded out the other South American nations with regard to its proposal for concerted Latin-American tariff reprisals against the United States, which was then about to impose a higher duty upon copper. Peruvian officials said the proposal met with favor in Chile and several other countries, but was flatly rejected by Argentina. See **COLOMBIA**, **BRAZIL**, **ECUADOR**, **ARGENTINA**, and **MEXICO** under *History*; **COMMUNISM**; **EXPLORATION**.

**PETROLEUM.** The production of crude oil for the world in 1932, amounted to 1,301,350,000 barrels, according to estimates compiled by the American Petroleum Institute. This indicates a decrease of approximately 5.1 per cent from the 1931 production, which amounted to 1,371,105,000 barrels. Approximately 95.5 per cent of the crude oil produced in 1932 came from the eight foremost producing countries of the world, viz.: United States, Russia, Venezuela, Rumania, Persia, Netherlands East Indies, Mexico, and Colombia. Together, it has been estimated, these countries produced 1,242,242,000 barrels. The United States remained the world's greatest producer, supplying 60.1 per cent of the total in 1932 against 62.1 per cent in 1931; 63.7 per cent in 1930, 67.8 per cent in 1929, 68 per cent in 1928, and 71.4 per cent in 1927. The output in the United States during 1932 was 781,845,000 barrels, as compared with 851,081,000 in 1931, indicating a decrease of 8.4 per cent on a daily average basis. Russia maintained its second place

ranking with its total of 156,570,000 barrels, 12 per cent of the world total, compared with 161,900,000 barrels in 1931. This indicates a decrease from 1931 of 3.3 per cent. Third place was held by Venezuela with its total of 115,680,000 barrels, or 8.9 per cent of the world total, compared with 118,770,000 barrels or 8.7 per cent of the world production in 1931. This indicates a decrease of 2.6 per cent.

#### WORLD PRODUCTION OF CRUDE PETROLEUM IN 1932

[American Petroleum Institute]

	Total	Per cent of total
United States . . . . .	781,845,000	60.08
Russia . . . . .	156,570,000	12.08
Venezuela . . . . .	115,680,000	8.89
Rumania . . . . .	52,160,000	4.01
Persia . . . . .	48,877,000	3.76
Netherlands East Indies . . . . .	38,656,000	2.97
Mexico . . . . .	32,200,000	2.47
Colombia . . . . .	16,254,000	1.25
Argentina . . . . .	12,724,000	.98
Trinidad . . . . .	10,060,000	.77
Peru . . . . .	9,685,000	.74
British India . . . . .	8,348,000	.64
Poland . . . . .	4,086,000	.31
British Borneo (Sarawak) . . . . .	2,323,000	.18
Sakhalin (Russia) . . . . .	2,000,000	.15
Egypt . . . . .	1,896,000	.15
Germany . . . . .	1,839,000	.14
Japan (including Taiwan) . . . . .	1,647,000	.13
Ecuador . . . . .	1,592,000	.12
Canada . . . . .	1,054,000	
Iraq . . . . .	1,000,000	
France . . . . .	500,000	
Italy . . . . .	175,000	.23
Czechoslovakia . . . . .	129,000	
Bolivia . . . . .	50,000	
Other countries . . . . .	50,000	
Total world . . . . .	1,301,350,000	100.00

The total production of crude petroleum in the United States in 1932 was 781,845,000 barrels, a decrease of 69,236,000 barrels from 1931, according to preliminary estimates of the U. S. Bureau of Mines. Texas was again the leading producing State although its output for the year, 311,069,000 barrels, was 6 per cent below the total in 1931. The output of the East Texas field in 1932 was 120,158,000 barrels compared with 109,630,000 barrels in 1931. The number of producing wells in the East Texas field rose from about 3600 on January 1 to about 9500 on December 31, while the daily allotment per well on January 1

#### CRUDE OIL PRODUCTION IN THE UNITED STATES, BY STATES

[In barrels of 42 gallons]

	1932	1931
Arkansas . . . . .	11,907,000	14,791,000
California . . . . .	178,128,000	188,890,000
Colorado . . . . .	1,177,000	1,545,000
Illinois . . . . .	4,661,000	5,039,000
Indiana . . . . .	804,000	840,000
Kansas . . . . .	84,800,000	87,018,000
Kentucky . . . . .	6,264,000	6,456,000
Louisiana . . . . .	21,478,000	21,804,000
Michigan . . . . .	6,729,000	7,789,000
Montana . . . . .	2,449,000	2,830,000
New Mexico . . . . .	12,511,000	15,227,000
New York . . . . .	3,501,000	3,863,000
Ohio . . . . .	4,597,000	5,327,000
Oklahoma . . . . .	152,621,000	180,574,000
Pennsylvania . . . . .	12,403,000	11,892,000
Tennessee . . . . .	5,000	6,000
Texas . . . . .	311,069,000	332,437,000
West Virginia . . . . .	3,882,000	4,472,000
Wyoming . . . . .	13,359,000	14,834,000
Total United States . . . . .	781,845,000	851,081,000
Daily average . . . . .	2,136,200	2,331,700
Decrease in daily average . . . . .	8.4 per cent in 1932	

was 100 barrels and 37 barrels on December 17. Drilling activities increased in 1932, when 10,444 oil wells were completed in the United States, compared with 6788 in 1931.

Total crude runs to stills in 1932 fell to 819,997,000 barrels from 894,608,000 barrels in 1931. Crude stocks declined 32,201,000 barrels during the year. Drafts were made in stocks of all oils in eight of the twelve months of 1932; the net decline in these stocks was 43,564,000 barrels, the total amount on hand December 31 was 588,172,000 barrels.

**REFINED PRODUCTS.** The indicated domestic demand for motor fuel in December, 1932, was 27,191,000 barrels, a decline of 11 per cent from a year ago. The domestic demand for 1932 was 373,770,000 barrels, or 7.3 per cent less than in 1931. Total demand, including 35,434,000 barrels exported, was 409,204,000 barrels, a decrease of 8.9 per cent from 1931. Stocks of motor fuel on Dec. 31, 1932, totaled 49,671,000 barrels, compared with 47,152,000 barrels on hand a month previous and with 51,521,000 barrels on hand on Jan. 1, 1932. The percentage yield of gasoline continued to increase, amounting to 44.7 per cent in 1932, compared with 44.3 per cent in 1931. The majority of the minor refined products showed declines in production and demand in 1932; a notable exception was kerosene which showed the first annual increase in indicated demand since 1925.

UNITED STATES REFINERY AND CONSUMPTION STATISTICS

	1932	1931
Crude oil run through refineries (bbls.):		
Domestic .....	777,696,000	847,671,000
Foreign .....	42,301,000	46,987,000
Total .....	819,997,000	894,608,000
Production of:		
Gasoline .....	392,623,000	431,510,000
Kerosene .....	43,836,000	42,446,000
Gas and fuel oils .....	294,287,000	336,987,000
Lubricants .....	22,433,000	26,704,000
Wax .....	458,920,000	477,400,000
Coke .....	1,788,800	2,032,000
Asphalt .....	2,409,000	2,976,500
Gasoline (by method of manufacture):		
Straight run .....	195,386,000	219,957,000
Cracked .....	170,905,000	176,437,000
Natural .....	26,332,000	85,116,000
Domestic consumption of motor fuel .....	377,453,000	407,843,000

**NATURAL GASOLINE.** The preliminary total for production of natural gasoline in 1932 was 1,502,400,000 gallons, a decline from 1931 of 18 per cent. In December, 1932, several districts, particularly Kettleman Hills, Calif., showed an increased output over the previous month, but no

NATURAL GASOLINE  
[Thousands of gallons]

	1932	1931
Appalachian .....	66,700	72,500
Illinois, Kentucky, Indiana .....	8,100	10,500
Oklahoma .....	377,700	454,900
Kansas .....	24,600	32,700
Texas .....	352,500	426,700
Louisiana .....	46,400	58,000
Arkansas .....	19,400	26,800
Rocky Mountain .....	62,000	70,000
California .....	545,000	680,300
Total .....	1,502,400	1,831,900
Total (thousands of barrels)	35,772	43,617

State or major district showed a larger production in 1932 than in 1931. Stocks of natural gasoline at the plants were materially lowered in 1932, beginning in May, and the total on hand at the close of the year, 13,840,000 gallons, was 8,230,000 gallons below the total on hand Jan. 1, 1932. However, this reduction was more than balanced by an increase in stocks of natural gasoline at refineries.

**OIL CONSERVATION.** The urge for individual profit at the expense of the public welfare, especially the welfare of future generations, has been most vividly shown in the unreasonable production of oil. In recent years this has resulted in a tremendous oversupply, and, prior to restraint in production, lowered prices for crude oil, dropping in 1931 from \$0.96 to \$0.18 a barrel in Texas. Voluntary State and interstate restrictions on output have, in 1932, somewhat relieved the unbridled competition; but Report V of the Federal Oil Conservation Board, a body composed of the Secretaries of the Interior, War, Navy, and Commerce, does not anticipate any permanent lessening of overproduction except by an interstate compact that will definitely prorate the production in each State. The Report sounds the following warning:

The public must not lose sight of the fact that our reserves are exhaustible and should not be exploited heedlessly. The public interest demands that these reserves should be properly and carefully developed to assure recovery of the maximum amount of oil and gas and their economic utilization. Accumulated stocks and reported large potentials are indicative of overproduction, caused by premature development, rather than the result of abundant underground reserves.

An analysis of the oil reserves of the United States, based upon the consensus of well-founded opinions, indicates that present known recoverable oil reserves in the United States are of the magnitude of 10 billion barrels. Although in its fourth report this Board discussed some of the factors causing revision of estimates of oil supply and pointed out that during the last decade every estimate had required revision upward in the light of increased production factors, nevertheless it is timely to realize the significance which should be attached to well-founded figures showing that at the current rates of production, the equivalent of our present known oil reserves will have been withdrawn from their underground reservoirs in 10 to 12 years.

**PHILADELPHIA OPERA COMPANY.** See MUSIC.

**PHILADELPHIA ORCHESTRA.** See MUSIC.

**PHILADELPHIA TRI-STATE DISTRICT.** See CITY AND REGIONAL PLANNING.

**PHILANTHROPY.** See WELFARE WORK.

**PHILHARMONIC-SYMPHONY ORCHESTRA.** See MUSIC.

**PHILIPPINES,** fil'i-pîns, -pêns -pîns. The largest island group of the Malay Archipelago; a possession of the United States, ceded by Spain in the treaty of Apr. 11, 1899. Capital, Manila.

**AREA AND POPULATION.** Only 466 of the 7000 islands which make up the group have an area of one square mile or more. The most important islands with their area in square miles are as follows: Luzon, 40,814; Mindanao, 36,906; Samar, 5124; Negros, 4903; Palawan, 4500; Panay, 4448; Mindoro, 3794; Leyte, 2799; Cebu, 1695; Bohol, 1534; and Masbate, 1255. Total area, 114,400 square miles; population, according to the census of 1918, 10,314,310. In 1931, the population was estimated at 12,084,021. The population of Manila was 285,306 in 1918; estimated at 336,906 in 1931. Other cities, with the population in 1918, were Cebu, 65,502; Legaspi, 52,756; Iloilo, 49,114.



Births reported during 1931 totaled 287,750; deaths, 165,429; marriages, 50,591. The average annual birth rate per 1000 of population for the five year period 1926-30 was 38.79; the death rate, 21.45. A total of 36,231 persons, excluding the personnel of U. S. military and naval forces, entered the Philippines during 1931 (41,732 in 1930), and 40,909 persons departed (39,759 in 1930). Arrivals included 5097 Americans, 10,610 Filipinos, 16,687 Chinese, and 1738 Japanese. Of those departing, 4660 were Americans, 11,502 Filipinos, 21,034 Chinese, and 1667 Japanese. In 1931 only 674 more Filipinos went to the United States than returned to the islands, while the Filipino population of Hawaii was increased by 606. Tagalog, Ilocano, and Visayan are the principal native dialects. In 1930, about 1,000,000 natives spoke English.

**EDUCATION.** Education is free, secular, and coeducational, the schools being conducted in English. Enrollment in the public schools for the 1931-32 school year dropped to 1,175,380 from the record figure of 1,224,548 in the previous year. All but 75,000 of the 1931-32 enrollment was in primary and secondary schools. There were 16,811 secondary pupils in vocational schools. Private schools numbered 363, with 100,399 pupils. In 1930, the sum of 23,625,736 pesos, or 23.36 per cent of the total insular expenditures, was appropriated for education. In 1929, 7753 students were enrolled in the University of the Philippines at Manila.

**PRODUCTION.** Agriculture is the basic industry of the islands. Cultivated land totaled about 9,990,000 acres in 1931, or about 13.5 per cent of the total area; grass and open lands, 13,100,000 acres; forests, 45,500,000 acres. The value of the nine leading agricultural crops declined from \$248,926,000 in 1929 to \$226,051,000 in 1930. In 1931, the value of all crops declined more than 25 per cent from the preceding year. Production of the chief crops in 1931 was as follows: Rice, 99,933,000 bushels (110,051,000 in 1930); Manila hemp (abaca), 362,019,000 pounds (430,975,000 in 1930); tobacco, 95,935,000 pounds (101,662,000 in 1930); sugar, 1,879,542,000 pounds (2,204,160,000 in 1932); cacao, 2,730,000 pounds (2,685,000 in 1930). Corn, maguay, coconuts, and coffee are other important crops. With the exception of sugar, prices of all farm products declined sharply in 1931. The value of coconut production was 40 per cent less than in 1930; Manila hemp, 55 per cent; corn, 30 per cent; the export value of maguay, 62 per cent.

Livestock at the beginning of 1931 included 2,031,301 buffaloes, 1,217,928 cattle, 344,448 horses, 2,774,758 swine, and 128,020 sheep. The total value of livestock declined to 264,482,048 pesos in 1931 from 285,959,900 pesos in 1930 (peso equals \$0.50). The output of the principal mineral and manufactured products in 1931, with 1930 figures in parentheses, was: Gold, 174,000 troy ounces (179,000); cigarettes, 4,301,000,000 (4,744,000,000); cigars, 282,000,000 (286,000,000); copra (year ended June 30), 1,069,000,000 pounds (1,151,000,000); coconut oil, 366,000,000 pounds (359,000,000); timber (cut), 513,000,000 board feet (610,299,000); rattan (split), 2,887,000 pounds (3,137,000); rattan (unsplit), 13,560,000 linear feet (15,693,000). The general business decline during 1931 is indicated by the decreases registered in the value of the following items, as compared with 1930: Imports, 19.4 per cent; exports, 21.9 per cent; gross sales, 23.4

per cent; monetary circulation, 8.68 per cent; agricultural production, 25 per cent; building construction, 4.5 per cent.

**COMMERCE.** Final trade returns for the calendar year 1932 showed total Philippine exports valued at 190,676,000 pesos (\$95,338,000) and total imports valued at 158,790,000 pesos (\$79,395,000), or decreases of 8 per cent and 20 per cent, respectively, from the previous year. In 1931, exports were valued at 207,944,000 pesos (\$103,972,000) and imports at 198,357,000 pesos (\$99,179,000). In 1932, the United States purchased slightly more than 87 per cent of the total exports and supplied 65 per cent of the imports. Spain, Great Britain, and Japan, in the year 1931, took 4.2, 4, and 3.5 per cent of the exports. Japan supplied 11.1 per cent of the imports; China, 5.8 per cent; Germany, 3.7; and Great Britain, 2.9. Sugar accounted for nearly half the total value of exports in 1931. Coconut oil, textile fibres, copra, and tobacco and manufactures, in the order named, were other leading export products. Cotton manufactures imported in 1931 were valued at \$16,401,000. Other chief import items were: Iron and steel, \$9,260,000; petroleum products, \$8,747,000; vehicles, \$4,581,000; machinery and parts, \$4,105,000; grains and products, \$4,639,000; dairy products, \$4,079,000.

**FINANCE.** The accompanying table shows insular receipts and expenditures, exclusive of all items of a refundable character, expressed in U. S. currency (1 peso equals \$0.50), for the fiscal calendar years 1930 and 1931.

#### PHILIPPINE GOVERNMENT RECEIPTS AND EXPENDITURES

	<i>Credits</i>	1930	1931
Balance from prior years . . .		\$39,918,081	\$36,528,286
<b>Revenues:</b>			
Customs . . . . .		11,243,783	10,243,860
Internal . . . . .		19,855,614	20,159,670
Repayment of Philippine National Bank losses, Act 3174 . . . . .		1,318,560	1,463,416
Miscellaneous . . . . .		11,463,416	11,094,297
Proceeds from sale of bonds . . . . .		3,610,840	258,888
Total revenues . . . . .		47,492,214	41,756,211
Total credits . . . . .		87,410,296	78,284,497
<b>Debits</b>			
<b>Expenditures:</b>			
Bureaus and offices . . . . .		19,083,146	15,866,265
Revenue service . . . . .		4,863,625	5,380,944
Fixed charges . . . . .		9,747,870	4,904,420
Public works and equipment . . . . .		4,133,415	4,065,216
Miscellaneous . . . . .		131,985	75,749
Aid to Provinces, cities, and municipalities . . . . .		9,562,536	13,418,469
Purchase of investment and securities . . . . .		3,053,200	1,889,455
Deferred credits to income of prior years . . . . .		306,229	722,687
Pensions and gratuities . . . . .		36,528,286	31,961,288
Surplus . . . . .			
Total debits . . . . .		87,410,296	78,284,497

\* Prior to 1931, included in item of bureaus and offices.

Ordinary revenues in 1931—receipts from customs, internal revenue, and miscellaneous sources—amounted to \$32,881,587, a decrease of \$5,345,905 from 1930, and ordinary expenditures were \$38,207,978, a decrease of \$1,728,419 from the preceding year. Expenditures exceeded revenues by \$5,326,391, but the surplus accumulated from previous years was sufficient to make up this deficit and leave an unappropriated balance

amounting to \$2,925,338. The budget for 1933, as passed by the Legislature, called for expenditure of \$30,500,000. The anticipated deficit of \$6,500,000 was to be met by further economies and higher tariff schedules (see *History*). The budget surplus in 1932 totaled \$983,837.

The net bonded indebtedness of the insular government on Dec. 31, 1931, stood at 100,736,917 pesos (\$50,368,458), and that of provincial and municipal governments at 16,065,162 pesos (\$8,032,581). The bonded indebtedness was increased by 500,000 pesos (\$250,000), during 1931 due to the sale of metropolitan water district investment bonds. Of the various government business enterprises, the National Development Company in 1931 showed a net loss of 9562 pesos; the Cebu Portland Cement Co. a net profit of 444,584 pesos; the Philippine National Bank a net income of 2,289,541 pesos (2,786,422 pesos in 1930); and the Manila Railroad Co. a net income of 527,786 pesos (1,111,581 pesos in 1930).

**COMMUNICATIONS.** The railway mileage in 1931 was over 800 miles, of which the government-owned Manila Railroad, operating in Luzon, had about 675 miles. The highway mileage was increased by 575 miles during 1931, bringing the total for the islands up to 8900 miles of first, second, and third-class roads. Vessels entering the ports during 1931 numbered 1300, of 5,212,850 net tons, and vessels clearing 1368, of 5,478,264 net tons. The inward cargo amounted to 1,618,381 tons; the outward cargo to 1,537,396 tons. American vessels handled 39 per cent of the total trade in 1931 (44 per cent in 1930).

**GOVERNMENT.** Executive power rests in a governor general, appointed by the President of the United States; and in six departmental secretaries, all Filipinos except the vice governor, who is also secretary of public instruction. A senate of 24 members and a house of 93 members are elected by popular vote (except for 9 representatives and 2 senators appointed by the Governor General). A council of state, headed by the Governor General, serves as a link between the executive and legislative branches. Governor General Dwight Filley Davis resigned, effective Jan. 9, 1932, and was succeeded on Feb. 29, 1932, by Theodore Roosevelt, eldest son of President Theodore Roosevelt, who had been Governor of Puerto Rico since Oct. 7, 1929. Vice Gov. George C. Butte resigned July 1, 1932, to accept an appointment as associate justice of the Philippine Supreme Court, and was succeeded on Aug. 20, 1932, by John H. Holliday, of Missouri.

### HISTORY

**CONGRESS GRANTS INDEPENDENCE.** Advocates of Philippine independence found powerful allies during 1932 in American sugar, farming, and dairying interests desirous of excluding competitive tariff-free Philippine products. There was also increasing public sentiment in favor of the restriction of immigration from the Philippines. The combination of these interests shattered the stubborn opposition offered by the President, the Secretaries of State and War, the manufacturing and commercial interests anxious to continue their virtual monopoly of the Philippine market, and those opposing independence on patriotic or idealistic grounds. The climax of years of agitation came on Dec. 29, 1932, when the House of Representatives at Washington passed a bill—previously adopted by the Senate,—providing for independence of the islands at the end of ap-

proximately 12 years. At the end of the year, the measure was awaiting action by the President.

The provisions of the independence measure were summarized in the *New York Times* of Dec. 30, 1932, as follows:

Once in effect, the act would authorize the Philippine Legislature to provide for the election of delegates to a constitutional convention to meet in Manila within a year after the enactment of the act for drafting a constitution for the Commonwealth of the Philippine Islands. The Constitution must be republican in form, contain a bill of rights, and include certain provisions pending the withdrawal of United States sovereignty.

It is required that until withdrawal of the United States Filipinos shall continue to owe allegiance to the United States; officers shall take an oath of loyalty to the United States; religious toleration shall be secured; United States and religious, charitable, and educational property shall be free from taxation; the Philippine public debt shall be subject to Congressional limitation and the contracting of foreign loans subject to Presidential approval.

In addition, it is provided that the new government is to assume and pay all the obligations of the present government and its subdivisions; public schools conducted primarily in English shall be maintained; acts affecting currency, coinage, foreign commerce, and immigration must have Presidential approval; foreign affairs shall be controlled by the United States, and all acts passed by the Commonwealth Legislature shall be reported to Congress.

The United States shall retain the right to expropriate property and maintain military forces and reservations in the islands, decisions of the insular courts shall be subject to review by the United States Supreme Court; the United States reserves the right to intervene for the protection of the insular government, for the preservation of life, property and individual liberty, and for the discharge of government obligations.

Also, the islands are to recognize the authority of a United States High Commissioner, while American citizens and corporations are to receive equal rights and treatment.

Within two years from the enactment of the independence act the Constitution thus formulated is to be submitted to the President. If he disapproves, the Constitution is to be returned for further action; if he approves, it is to be submitted to a direct vote of the Philippine people within four months. This vote is to be considered "an expression of the will of the people of the Philippine Islands in favor of independence."

If the popular vote is against the Constitution, the present government is to continue.

If the vote favors the Constitution the Governor General shall, within 30 days, issue a proclamation for a general election, to be held not earlier than three months nor later than six months after the proclamation, for choosing officers of the new commonwealth.

Upon the completion of the election the President shall order the termination of the present government and the transfer of authority to the new.

With this new government there begins the ten-year probationary period. During this time free entry of Philippine imports into the United States shall be done away with and regular tariff rates will be imposed on all Philippine sugar entering the United States in excess of 50,000 long tons of refined and 800,000 long tons of raw sugar a year; on all Philippine coconut oil in excess of 200,000 long tons a year, and on all Philippine cordage and fibers in excess of 3,000,000 pounds a year.

On all duty-free articles sent to the United States the Philippine Government shall levy an export tax, beginning at 5 per cent in the sixth year following the inauguration of the new government and increasing to 25 per cent in the tenth year.

The revenues from this tax shall be used to service the obligations of the Philippine Government and its subdivisions until those obligations are retired.

During the probationary period every amendment to the Philippine Constitution must be submitted for the approval or disapproval of the President; the President shall have the right to suspend any law or order of the Philippine Government which he believes will prevent the government from fulfilling its contracts or from meeting its bonded obligations, which is likely to impair the soundness of the insular currency, or which will violate international obligations of the United States.

Immediately upon the acceptance of the independence act by the Philippine Legislature or by convention, immigration restrictions against Filipinos shall be imposed. The islands shall be considered a separate country and receive an immigration quota of 50 a year; Filipinos not citizens of the United States shall be considered aliens.

On the Fourth of July following the expiration of a period of 10 years after the inauguration of the Philippine Commonwealth, the President shall proclaim the

freedom of the Philippine Islands and withdraw all American sovereignty except over American military reservations agreed upon.

The independence bill had a mixed reception both in the United States and the Philippines. The Philippine Independence Mission and the two Resident Commissioners of the Philippines in Washington approved it. The press and the Legislature in the Philippines at the end of the year were engaged in a bitter debate as to the advisability of accepting the measure. On December 29, the Legislature, meeting as the Independence Commission, voted to instruct the mission in Washington that the commission was willing to have President Hoover sign the bill in order to give Filipinos an opportunity to express their opinion, but that it was unwilling to urge him to do so. Manuel Quezon, president of the Philippine Senate, had previously telegraphed demanding "immediate independence or nothing." Filipino objections were directed chiefly against the provision for a ten-year transition period and that authorizing retention of naval bases by the United States. In the United States, the measure was defended as the best compromise obtainable and attacked as a "one-sided arrangement which benefited American special interests at the expense of the Philippine people."

The final action of Congress came after hearings early in the year before the Insular Affairs Committees of the Senate and House; the adoption of the Hare bill in the House, 306 to 47, on April 4; amendment of the Hare bill in the Senate in June; the passage of the Hawes-Cutting independence bill by the Senate December 17; and further revision of the amended measure by a conference committee of the House and Senate. See UNITED STATES under *Seventy-second Congress*.

**DOMESTIC POLITICS.** When the second session of the Ninth Philippine Legislature met in July, 1932, it faced four major tasks, namely, to balance the budget, reorganize the governmental system, standardize salaries of government employees, and revise the tariff schedule. When the session adjourned November 8, action had been taken on all these measures, but the net results were far from those envisaged.

In his first message to the Legislature on July 16, Governor General Roosevelt submitted a budget containing proposed economies sufficient to offset the 7,200,000 peso deficit incurred in 1931 and the 17,500,000-peso operating deficit forecast for the 1932 fiscal year. He suggested the consolidation of governmental offices and functions, revision of the revenue system, readjustment of taxes in favor of the small farmer, imposition of new indirect taxes, forest conservation, and the development of manufacturing, fishing, and other industries. The Legislature, however, threw out the Governor General's budget, which provided for appropriations of 54,000,000 pesos and a deficit of 6,000,000 pesos. Instead it adopted a budget calling for expenditures of 61,000,000 pesos, of which 42,000,000 was for operation of the budget, 10,500,000 pesos for fixed charges, 5,000,000 for "pork barrel" public works, and 3,500,000 for gratuities and pensions for those employees dropped through governmental reorganization. The resulting deficit of 13,000,000 pesos was expected to be offset by the savings and new income expected from the reorganization and tariff measures.

The governmental reorganization bill called for

the dismissal of from 6000 to 8000 employees and a saving of about 8,000,000 pesos. This was greatly modified by the Legislature, the law as passed providing for dismissal of only about 200 men. Coupled with the salary standardization law, it was expected to save only about 4,000,000 pesos. The salary standardization law provided for a general scaling down of government salaries and for uniformity of salaries throughout the various departments.

In revising the tariff, the Legislature raised many schedules by 200, 300, 500, and even 2000 per cent and, in addition, gave the Governor General discretionary power to alter the schedules. It raised the rates on 352 imported commodities. Aimed chiefly at Japanese and Chinese imports, at German and Swiss drugs, and at Indian jute sacking, the tariff measures closed the Philippines, to a large extent, to imports from any country other than the United States. The new rates, which became effective December 21, aroused protests and threats of tariff retaliation from both Japan and China.

When the regular session adjourned, the Governor General reconvened the Legislature in special session, in an effort to secure the passage of revenue bills and other measures needed to balance the budget. In the special session, insurgent groups were with difficulty prevented from voting salary increases for all members of the Legislature. Moreover, it developed that there had been wholesale tampering of many bills passed during both the regular and special session, including several already signed by the Governor General. These developments aroused a storm of protest. On December 9, 2000 students of the University of the Philippines demonstrated before the Legislative Building. Accusing legislators of treachery in seeking to raise their own salaries while lowering those of public servants, the students booed down speakers who attempted to explain the situation.

**MORO OUTBREAK.** Moro outlaws on October 9 ambushed a constabulary detail of 23 men near Culculi, on the Island of Jolo, killing 12 and wounding two. Reinforcements were sent to the district and on October 13 the outlaws were driven from their fortified village. Deaths of members of the constabulary and outlaws in the outbreak were reported at 49. A minor outbreak of 30 tribesmen was reported from Jolo on December 19. The unrest among the Moros was partly attributed to a destructive typhoon, which struck the Sulu Archipelago in April, 1932, causing about 200 deaths and heavy damage to property and crops.

**OTHER EVENTS.** During the first half of 1932, the following were appointed associate justices of the Philippine Supreme Court: José Abad Santos, Maj. Gen. John A. Hull, U. S. Army (retired), Judge James C. Vickers, Judge Carlos Imperial, and George C. Butte, who resigned as Vice Governor to accept the appointment. At Washington, on December 13, ratifications of a convention fixing the boundary between the Philippine Archipelago and the British protectorate of North Borneo, were exchanged. Sedition sentences against 30 Communists, arrested following a demonstration held in Manila in 1931, were affirmed by the Supreme Court of the Islands on October 26. It was announced in August by Dr. Stanton Youngberg, director of the Philippine Bureau of Animal Husbandry, that the rinderpest disease, formerly the most disastrous

animal scourge in the Philippines, had been completely eradicated.

**PHILLIPS UNIVERSITY.** A coeducational institution of higher learning at University Station, Enid, Okla., founded in 1907. The enrollment for the autumn of 1932 in all departments was 474. The attendance at the 1932 summer session was 318. The faculty numbered 34. The productive endowment amounted to 690,830. The income for the year was \$98,755. The library contained 20,859 volumes, exclusive of public documents. President, Isaac Newton McCash, D.D., LL.D.

**PHILOLOGY, CLASSICAL.** The best way to gain a fair conception of the more important contributions to classical philology is to examine lists of articles and books, or abstracts of them, or both, given in certain periodicals—*The American Historical Review*, *The American Journal of Philology*, *Antiquity*, *The Classical Journal*, *Classical Philology*, *Language*, *Speculum*, *The Classical Quarterly*, *The Classical Review*, *The Classical Weekly*, *Historical Outlook*, *History*, *Athenæum* (published at Pavia, Italy), *Bulletin Bibliographique et Pédagogique de Musée Belge* (a companion to *Le Musée Belge*, *Revue de Philologie Classique*), *Philologische Wochenschrift*, *Gnomon*, and *Revue de Philologie*. The reviews, too, in these periodicals are very helpful. Especially valuable is *Bibliotheca Philologica Classica*, *Beiblatt zum Jahresbericht über die Fortschritte der Klassischen Altertumswissenschaft*, whose aim is to cover all publications, both articles and books (except such as are definitely pedagogical in character), in the whole field of classical philology. No attempt is made, however, to indicate the relative importance of items listed. A very valuable feature of this work is the "Namenverzeichnis," which gives in alphabetical order the names of the scholars whose articles or books are named in the body of the work, with references back to the numbered items which describe articles or books. The latest volume of this work is vol. 56, which covers the publications of the year 1929. In France a work of like value is published under the title *L'Année Philologique et Analytique de l'Antiquité*, under the editorship of J. Marouzeau. Volume v of this work covers the publications of the year 1930.

*The Year's Work in Classical Studies*, published in England, lists material that appears between July 1 and June 30, under such captions as "Greek Literature," "Latin Literature," "Greek History," "Roman History," "Greek and Roman Religion," "Ancient Philosophy," "Greek Archaeology and Excavation," "Italian Archaeology and Excavation," "Papyri," and "Roman Britain."

To *The Loeb Classical Library* (see YEAR BOOKS, 1911–1931), additions were made, on the Greek side, of versions of Aristotle, *The Politics*, H. Rackham; Dio Chrysostom (the first of four volumes), J. W. Cohoon; *Elegy and Iambus*, two volumes (the remains of Greek elegiac and iambic poets, from Callinus to Crates, except the choliambic poets), J. M. Edmonds; Eusebius, *The Ecclesiastical History* (the second and concluding volume), J. E. L. Oulton; Philo Judæus (the fourth of ten volumes), F. H. Colson and G. H. Whitaker; Philostratus, *Imagines*, and Callistratus, *Descriptions* (in one volume), A. Fairbanks; *Select Papyri* (the first of two volumes), A. S. Hunt and C. C. Edgar. On the Latin side there were added versions of Ovid, *Fasti*, Sir

George James Fraser; Plautus (the fourth of five volumes; this volume contains translations of the *Pœnulus*, the *Pseudolus*, and the *Rudens*), P. Nixon; *Scriptores Historiæ Augustæ* (the third and concluding volume), D. Magie; Seneca, *Moral Essays* (the second of three volumes), J. W. Basore.

During the year progress was made on two lexicographical projects of the very highest importance. Of the tenth edition of Liddell and Scott, *A Greek-English Lexicon*, part vi was published (six parts out of ten have now appeared, with a total of 1200 pages). The *Lexicon* has been carried well into the letter Omicron. Of the *Thesaurus Lingue Latinæ*, one part appeared: volume v, second series, fascicle ii (*efficax . . . elaboro*).

Progress has been made also with *Paulys Realencyklopädie der Klassischen Altertumswissenschaft* (see YEAR BOOK, 1931). A half-volume, known as *Zweite Reihe, Achte Halbband (Symposion-Literatur . . . Tauris)* was published in 1932. So was the second half of volume xv (*Met . . . Molaris Lapis*).

Of A. Walde, *Latinisches Etymologisches Wörterbuch*, third edition, by J. B. Hofmann (see YEAR BOOK, 1931), part v appeared. This carries the work into *emo* (page 400).

In *The American Journal of Philology*, liii, appeared "The Public Finances of Rome 200–157 B.C.," T. Frank; "Die Quellen für das Spätromischen Heerwesen," E. von Nisicher; "The Hero of the Pharsalia," H. C. Nutting (Professor Nutting finds no true hero in Lucan's poem; he inclines to "suggest the claims of a heroine, namely *Libertas*. Certainly she plays an outstanding part through the tragedy . . ."); "Tacitus and the *Speculum Principis*," K. Scott; "Parmenides and the *Parmenides* of Plato," H. F. Cherniss; "The *Dirtas* of Tiberius," K. Scott; "Some Political Allusions in Plautus' *Trinummus*," T. Frank; "Plato in Afghanistan and India," W. L. Lorimer; "The Grammar of Drinking Healths," Grace H. Macurdy; "The Personal Endings of the Hittite Verb," W. Petersen (the author attempts to "trace the connection of practically the entire system of Hittite verb-endings with the primitive Indo-European as known before the discovery of Hittite . . ."); "The Inscribed *Kernos* of Duenos," A. D. Fraser (another attempt to interpret the famous Duenos-inscription); "On Plato's Republic X 597 B," H. Cherniss; "The Character of Clytemnestra in the *Choephoroe* and the *Eumenides* of Aeschylus," Florence M. B. Anderson; "The *Astronomica* of Manilius," R. B. Steele; "Tibullus, Messalla and the *Via Latina*," George McCracken; "Two Notes on the History of Alexander the Great," C. A. Robinson, Jr.; "Adfatim, Fatisci, Fessus," W. H. Kirk; "The Sacred Treasure and the Rate of Manumission," T. Frank.

From *Classical Philology*, xxvii, may be mentioned "Classical Authors in Certain Mediaeval *Florilegia*," B. L. Ullman; "Tiberius' Refusal of the Title 'Augustus,'" K. Scott; "Conservative and Philosophical Influence in the Reign of Diocletian," C. E. Van Sickle; "Pompeian *Ministri*," Gertrude Grether; "Posidonius and Solar Eschatology," R. M. Jones; "Sparta and the Ionian Revolt: A Study of Spartan Foreign Policy and the Genesis of the Peloponnesian League," J. A. O. Larsen; "Line Omissions in

Homeric Papyri Since 1925," Barbara P. McCarthy; "Humor at the Expense of the Ruler Cult," K. Scott; "The Speakers in the Case of Chrysippus v. Phormio," J. O. Lofberg; "Studies in Greek Noun-Formation," Dorothea C. Woodworth; "Aeschylus 'Choephoroi' 770-74," M. Mac Laren, Jr.; "St. Chrysostom's Use of the Greek Poets," P. R. Coleman-Norton; "Accounting in the Zenon Papyri," Elizabeth Grier; "A New Study of Paris Livy 5726 (T)," A. M. Young; "Notes on Lucan's 'Pharsalia,'" H. C. Nutting; "The Battle of the Assinarus," B. D. Meritt.

In *The Classical Journal*, xxvi, xxvii, appeared "Martial and the Roman Crowd," J. W. Spaeth, Jr.; "Early Roman Understanding of Christianity," E. J. Urch; "Conflagrations in Ancient Rome," H. V. Canter; "The Divine Retribution Suffered by the Helvetii," E. S. McCartney; "The Name Galatea in the Pygmalion Myth," Helen H. Law; "Some Observations on Aristotle's View of Tragedy," E. G. Schaubroth; "Julius Caesar in the Augustan Poets," William M. Green; "The Modern Touch in Seneca," Anna E. Strase; "The Duration of the Action in *Aeneid* iv," W. P. Clark; *Septima Aestas* Again," F. H. Potter (a discussion of the expression *septima . . . aestas*, used by Dido in *Aeneid* 1.755-756 of the length of Aeneas's wanderings since the fall of Troy); "The *Manes Catulliani* of J. C. Scaliger," K. P. Harrington; "Mussolini and the Roman Empire," K. Scott; "Alcibiades and the Persian Alliance," F. B. Marsh; "On Homer's Similes," Eleanor F. Rambo; "The Economic Collapse of the Roman Empire," L. C. West; "The Originality of the *Copa*," George McCracken; "The Gangster in Roman Politics," F. B. Marsh; "Hospites Venturi," Mary Johnston (on the entertainment of guests at Rome).

*The Classical Weekly*, xxv, contained the following articles: "A Classification of the Similes of Ovid," Eliza G. Wilkins; "Vergil and Epicureanism," N. W. DeWitt; "Ancient Memory Systems," L. A. Post; "Feminism in the Corpus Inscriptionum Latinarum," S. L. Mohler; "The Literary Lineage of Cupid <in Greek Literature>," F. A. Spencer; "Roman Barbers," D. B. Kaufman; "Diet in Ancient Medical Practice as Shown by Celsus in his *De Medicina*," E. LeV. Crum; "Possible Latin Sources for an Episode in Charles Reade, *The Cloister and the Hearth*," O. R. Kuchne; "Classical Weather Lore of Thunder and Lightning," E. S. McCartney; "Burial Customs of the Romans," J. L. Heller; "Symphosius and the Latin Riddle," R. T. Ohl; "The Autocrat and Horace," J. P. Pritchard (a study of the indebtedness of Oliver Wendell Holmes to Horace); "Literary Interests of a Roman Magistrate: Quintus Tullius Cicero," J. Stinchcomb; "Xenophon's Portrait of a Young Wife," L. R. Shero; "The Suitors' Competition in Archery," A. D. Fraser (an attempt to determine the nature of the feat in archery performed by Odysseus, described in *Odyssey*, xxi. Professor Fraser argues that the axes used were of the type now known as "spectacles axe." He explains the apertures in this type of axe as thong-holes, with the help of which, by means of thongs, axe-head and handle were joined); "Menander and Terence," L. A. Post; "Apollonius Called the Rhodian," M. Hadas; "Lucan 7.1-6," H. C. Nutting; "Socrates and the Printing Press: Benjamin Franklin and the Classics," R. M. Gummere; "The Social Revolution in Third-Century Sparta," M. Hadas.

In *Transactions and Proceedings of the American Philological Association*, lxii, which contains the papers read before the Association at its meeting of December, 1931, the following articles appeared: "Two Notes on the Legend of Orpheus," I. M. Linforth; "The Indo-European Dative and Locative," E. H. Sturtevant; "On the Cnossian Custom of Snatching Money from Lenders," E. S. McCartney; "New Inscriptions from Olynthus and Environs," D. M. Robinson; "Notes on the Early Life of Nero," R. M. Geer; "The Overtrustful Editors of Chariton," W. E. Blake; "Stylistic Qualities of the Apostrophe to Nature as a Dramatic Device," A. P. Wagener; "The Significance of Statues in Precious Metals in Emperor Worship," K. Scott; "Suspense in Ancient Epic—An Explanation of *Aeneid* iii," G. E. Duckworth; "The Conspiracy of Agrippina," R. S. Rogers; "The Use of *Forem* and *Essem*," Winnie D. Lowrance; "Vergil's Catalogue of the Latin Forces," Blanche Brotherton; "The 'Vis' of Menander," L. A. Post.

In England the more accessible depositories of the results of classical study are *The Year's Work in Classical Studies* (see the second paragraph of this article), *The Classical Quarterly*, and *The Classical Review*. The articles in *The Classical Review* are very numerous, and are in consequence very short. Their combined value, however, is great. From *The Classical Quarterly*, xxvi, we mention "Virgil's Birthplace Revisited," E. K. Rand; "The Legal Term of Caesar's Governorship in Gaul," F. E. Adcock; "Prose-Rhythm and Prose-Metre," H. D. Broadhead; "Aeschylus, *Agamemnon* 1227-30," A. Y. Campbell; "Aristotle, *Physics* 250 A 9-19 and 266 A 12-24," F. M. Cornford; "Embryological Analogues in Pre-Socratic Cosmogony," H. C. Baldry; "Antony's Legions," W. W. Tarn; "Stesichoros and the Rhadine-Fragment," H. J. Rose; "The 'Simile of Light' in Aristophanes' *Birds*," J. F. Higham; "A Mediaeval Excerptor of the Elder Pliny," D. J. Campbell; "Disticha De Mensibus," A. E. Housman; "The *Antiqua Legio* of Vegetius," H. M. D. Parker; "Diminutives in Augustan Poetry," A. S. F. Gow; "Plato and 'Imitation,'" J. Tate; "Sulla's New Senators in 81 B.C.," H. Hill; "Iliupersides," W. F. J. Knight; "Aristoxenus and the Intervals of Greek Music," R. P. Winnington-Ingram; "Vergil, Probus, and Pietole Again," R. S. Conway.

There remains only space enough to mention a very few of the more important books that have come to the writer's attention. Since it is, in general, clear from its title to which field of classical philology each book belongs, the books are listed in the alphabetical order of their authors' names.

Atkinson, B. F. C., *The Greek Language*; Benz, E., *Marius Victorinus und die Entwicklung der Aberländischen Willens-Metaphysik*; Buchan, J., *Julius Caesar*; Collingwood, R. G., *Roman Britain*; Cooper, L., *The Rhetoric of Aristotle, An Expanded Translation*, etc.; De Ferrari, R. J., and Campbell, H. M., *A Concordance of Prudentius*; Dobson, J. F., *Ancient Education and its Meaning to Us*; Enk, P. J., *Plauti Mercator* (an edition, with prolegomena, critical and explanatory notes); Ferguson, W. S., *The Treasurers of Athena*; Frank, T., *Aspects of Social Behavior in Ancient Rome*;

Gardiner, Alan H., *The Theory of Speech and Language*; Glanville, T. R., *Greek Byways*; Graff, W. L., *Language and Languages*; Haight, Eliza-

beth H., *Romance in the Latin Elegiac Poets*; Harward, J., *The Platonic Epistles, Translated, with Introduction and Notes*; Jenkins, E. B., *Index Verborum Terentianus*; Jolowicz, H. F., *Historical Introduction to the Study of Roman Law*; Jones, L. W., *The Script of Cologne from Hildebald to Hermann*; Kent, R. G., *The Sounds of Latin*; Knight, W. F. J., *Vergil's Troy: Essays on the Second Book of the Aeneid*;

Labriolle, Pierre de, *Les Satires de Juvenal, Etude et Analyse*; Laistner, M. L. W., *Greek History*; Macurdy, Grace H., *Hellenistic Queens*; Meritt, B. D., *Athenian Financial Documents of the Fifth Century*; Muller, H. F., and Taylor, Pauline, *A Chrestomathy of Vulgar Latin*; Nilsson, M. P., *The Mycenaean Origin of Greek Mythology*; Norwood, G., *Plautus and Terence*; Ridgeway, Sir W., *The Early Age of Greece* (2 vols.); Robinson, C. A., Jr., *The Ephemerides of Alexander's Expedition*;

Shaw, T. E. ('Lawrence of Arabia'), *The Odyssey of Homer Newly Translated Into English Prose*; Sinclair, T. A., *Hesiod, Works and Days, Edited*; Ullman, B. L., *Ancient Writing and Its Influence*; Westermann, W. L., and Keyes, C. W., *Tax Lists and Transportation Lists from Theadelphia*; Wilamowitz-Moellendorf, U. von, *Die Glaube der Hellenen*; Wright, F. A., *A History of Later Greek Literature From the Death of Alexander in 323 B.C. to the Death of Justinian in 565 A.D.*

**PHILOLOGY, MODERN.** It was, of course, to be expected that the study of philology would feel the effects of the present world-wide economic depression, and, if conditions in this field of research were similar to those that have obtained in the past, no other complaints should be forthcoming except the usual regrets of noting that the progress of various undertakings had been retarded. Learned reviews may come and go, and it is quite possible that it might be advantageous to have some disappear in order to make way for others better adapted to the present state of research, and more receptive to new ideas and to the modern attitude toward the many problems that have intrigued scholars of the past. Furthermore, many reviews can easily make up for lost time when economic conditions improve. Finally, a brief respite in productive research might enable scholars to survey the results achieved during the past quarter of a century, to analyze and classify them with care, and to lay the foundations for constructive work in the future.

But present conditions, as stated above, are very different from those that scholars have heretofore been obliged to face. Modern inventions, such as the radio, talking cinema, etc., are breaking down linguistic frontiers on all sides, and are hastening the trend as never before toward a universal language. Revivals of nationalistic feeling may check the movement here and there for brief periods of time, but there is no doubt that in the end most languages will disappear in the maelstrom of internationalism.

Minor languages will, of course, be the first to be sacrificed to this Moloch, and it is at the very moment when trained scholars are urgently needed to study them, so long as some vestiges are left, that the economic depression renders it impossible either to prepare the men or to find funds for this purpose. Individualistic attempts along these lines seem, therefore, foredoomed to failure. The sole hope that remains is for gov-

ernments or collectivistic organizations to set a group of scholars at work to investigate these minor languages from every possible point of view. One of the most striking examples of such collectivism in scholarship—which, it may be noted, is merely a revival of the mediæval guild spirit—may be found in the recent work on the Tristan legend, issued under the auspices of the Soviet Government. This is the *Tristan i Isol'da*, which is subtitled as a Collective Study by the Section for Semantics, Myth, and Folklore of the Academy of Science, Leningrad, under the Editorship of N. Y. Marr (Leningrad). It consists of a series of 12 essays by different specialists, who seek to relate the Celtic Isolde, or Yseult, motif with woman-worship in the Ancient East as manifested by the cult of Ishtar and similar goddesses. The brilliant concluding essay by I. G. Frank-Kamenetskii explains the purpose and results of the new methods introduced by these Russian scholars. The following sentence gives the gist of their theory: "In so far as every process, in the final reckoning, is conditioned by the development of the means of production and the productive relationship, so the paleontology of a plot—both semantic and morphological—reveals its sociological genesis as one of the basic elements of poetic creation. . . ." Whether we agree with these conclusions or not, it must be admitted that these Russian scholars have erected about their theories fortifications of data that appear at first sight almost impregnable.

An important new development in America in the field of general linguistics was the establishment by President F. B. Robinson of the College of the City of New York of the Language Institute, which held its first session at the City College from June 30 to August 11. In 1928 the Linguistic Society of America created at Yale University the Linguistic Institute, of which the second session was held at the same university in 1929. At the end of the last mentioned year, the Institute was transferred to the City College where it held its third and fourth sessions in 1930 and 1931. But since for financial reasons the Linguistic Society felt it inadvisable to go on with the Linguistic Institute in 1932, the City College continued with the work under the name of The Language Institute, and even expanded it somewhat through the introduction of courses with literary as well as linguistic interest. It is hoped that the Linguistic Society may be able to continue in 1933 its original admirable plans. Following is the list of the Faculty of the Language Institute including the courses offered in 1932 (where no institution is mentioned after the title of the teacher, the City College should be understood): Charles U. Clark, Ph.D., Professor of Languages, Director; C. N. Brown, Ph.D., Associate Professor of Classical Languages: Elementary Greek for Linguists, Grammar of the Homeric Poems, and Modern Greek; E. Cross, Ph.D., Instructor in Romance Languages: Romance Linguistics; Geo. O. Curme, LL.D., Emeritus Professor of German, Northwestern University: History of the English Language, English Syntax, and Syntactical Problems; M. B. Emeneau, Ph.D., Research Assistant in Sanskrit, Yale University: Elementary Sanskrit, Introduction to the Veda, and Pali; J. L. Gerig, Ph.D., Litt. D., Professor of Celtic, Columbia University: Old and Middle Irish; J. H. G. Grattan, Ph.D., Professor of English Language and Philology,

University of Liverpool: Old English, Middle English, and Varieties (Regional, Social, and Vocational) of Spoken English; W. Leopold, Ph.D., Associate Professor of German, Northwestern University: Introduction to Linguistic Science, Psychology of Language, and German Etymology; A. Mirambel, D. ès L., Professeur de Grec Moderne à l'Ecole Nationale des Langues et Administrateur de la Société de Linguistique, Paris: L'Idée de Purisme dans la Langue savante et dans la Langue populaire, Langue et Civilisation, and Rapports de la Syntaxe avec la Phonétique et la Morphologie; O. Müller, Ph.D., Associate Professor of Romance Languages: Introduction of Vulgar Latin, Old French, and Linguistic Geography of France; J. J. Obermann, Ph.D., Professor of Semitic Languages, Jewish Institute of Religion, New York: Elementary and Advanced Hebrew, Arabic, and Syriac; B. J. Olli, Ph.D., Instructor in German: Old Norse, Elementary Russian, and Comparative Grammar of Baltic and Slavonic; C. Pharr, Ph.D., Head of the Department of Classics, Vanderbilt University: Early Latin, Oscan and Umbrian, Latin Linguistics for High School Teachers; E. C. Roedder, Ph.D., Professor of German Language and Literature: History of the German Language, Gothic, and German Dialectology; and H. J. Russell, M.A., Assistant Professor of Romance Languages, Miami University: American Phonetics for Foreigners, Physiological Phonetics, and Spanish Phonetics.

France—a country where linguistic problems are taken most seriously—was just recovering from the effects of the Glözel exposures—which revealed how bellicose peace-loving archaeologists may become under irritation—when the French Academy issued its now celebrated *Grammaire* of the French language, and lo! a new and more bitter war broke out, whose effects may endure for many years. While the Grammar was announced as one of the aims of the Academy shortly after it was founded in 1634, no serious attempt to complete it was made until a few years ago, when an editorial committee consisting of Abel Hermant, novelist and author of a popular grammar of spoken French, Paul Valéry, France's leading poet, and Joseph Bédier, the great medievalist, was appointed for that purpose. Notwithstanding the high esteem in which especially the last two members of the committee are held, there is no doubt that if their small volume of 254 pages had appeared under ordinary circumstances it would have received scarcely more than passing attention. But the fact that, while it was already in galley proof, the Grammar had been under steady discussion and revision by all of the Forty Immortals, and that these weekly discussions were shrouded in the greatest mystery, aroused the interest of the French public to almost fever heat. In fact, no better publicity of the press-agent variety could be imagined! Within a short time after its appearance on April 6, several million copies of the Grammar were sold! The unusual modesty of the authors—for they opened their work by stating that "grammar is the art of speaking and writing correctly," and "we can only record present usages"—made an excellent impression—so much so in fact that the adversaries of the Academy were at first discomfited. But in spite of the extraordinary precautions taken by the Academy to avoid mistakes, they forgot one all-important fact, i.e. that there is

only one good grammarian—a really remarkable one, to be exact—in all France, Ferdinand Brunot of the Sorbonne, and, of course, they failed to consult him, doubtless because he is not a member of the Academy. It required just one month—for the preface is dated May 26—for M. Brunot to publish his *Observations sur la Grammaire de l'Académie Française*, a volume of 127 pp., or almost half the size of that of the Academy. These observations, placed side by side with the quotations from the Grammar which provoked them, are of a truly devastating character, all the more enhanced by the fact that M. Brunot is a kindly, and not a captious, critic. If an American college student should be guilty of having committed some of these errors, a Frenchman would be horrified, and would take keen pleasure in citing them as an indication of the general backwardness of our culture. "What is M. Brunot's final conclusion?" may be asked. We can only quote the words of the distinguished savant (p. 127): "Ces vices, qui sont fondamentaux, ne permettent pas d'espérer que l'œuvre puisse être améliorée par des retouches. Un des Académiciens me demandait, il y a quelques jours, ce qu'il faudrait pour que la Grammaire soit bonne. Je n'ai pu lui répondre que ceci: Il faudrait en faire une autre, suivant une autre méthode." *Sic transit gloria* of the Academicians who, for three centuries have held that they, and they alone, are the true arbiters of correct usage in so far as written and spoken French are concerned—"les greffiers de l'usage," as an Academician of the 17th century, Vaugelas, entitled himself. And now, alas! the Grammar of the Forty Immortals is the subject of gibes and parodies which the French love so much. To mention only one, we have Baudry de Saunier's *Gaietés et Tristesses de la Grammaire de l'Académie Française*, of which more than 10,000 copies were sold within a short time after its appearance. And in order to rehabilitate himself in the good graces of the French public Abel Hermant issues a sort of reply called *Ainsi Parla Monsieur Lancelot (Le Bon Usage du Français)* in which he strikes a Papini pose and castigates all and sundry.

It may not be out of place to note here that a new section of M. Brunot's stupendous work, *Histoire de la langue française des origines à 1900*, was issued during the year. It is Part VI, Volume II, Part A, and is entitled: *A. Français: La langue post-classique*. There is no doubt that this great work will go down in history as one of the monumental contributions of our time. During the summer there appeared also a new and revised edition of the same author's abridgment of the above grammar, *Précis de grammaire historique de la langue française*, prepared with the collaboration of Charles Bruneau.

Recent publications of the Linguistic Society of America include the following (all published at Philadelphia): Maurice Bloomfield and Franklin Edgerton, *Vedic Variants II, Phonetics*, a second volume (the first of which treated *The Verb*) in a series, which aims to study and evaluate from all possible viewpoints the variations in the numerous repeated verses and formulæ of the Veda, as revealed in Bloomfield's monumental *Vedic Concordance*; and numbers 9 to 12 of the Language Dissertations, which are: G. S. Lane, *Words for Clothing in the Principal Indo-European Languages*; H. F. Standerwick, *Etymological Studies in the Greek Dialect Inscriptions*; A. L. Rice, *Gothic Prepositional*



*Compounds*; and Grace S. Hopkins, *Indo-European Deiwos and Related Words*.

Before taking up the bibliographical surveys of the different aspects and branches of Indo-European philology, a word may be said regarding the study of languages in the United States. It is generally believed that, as a consequence of the economic depression, registration of students in those subjects has declined considerably. While this may hold true for the ancient and Oriental languages, it is certainly not the case with the modern languages. The study of the English language and philology is not only holding its own in most of our colleges and universities, but in some places registration shows even an upward trend. As for the modern foreign languages, the example of New York may be cited for it serves as a good standard of measurement for the greater part of our country. Thus, "a survey of enrollments," says the October-December (1932) issue of the *Romanic Review* (New York), "in fourteen colleges and universities in greater New York, made recently by J. L. Beha of the city high schools, reveals that the number of students of French and German far exceed those of Italian, Spanish, Greek or Latin. Enrollments in French for the semester ending last June totaled 14,742, an increase of 234 over 1931, and in German 10,257, an increase of 255. While enrollments in Spanish also increased slightly in 1932, those in Italian fell off 125 and in Latin 422. In the seven-year period from 1925, the study of Greek has steadily declined." This report was prepared for the guidance of high school authorities in preparing students for college courses. These proportions likewise hold true for students in the high schools of New York, as may be seen in the following statistics of registration issued by the Board of Education on November 10 for the current year: French, with a total enrollment of 107,007, shows an increase of 7682 or 7.7 per cent greater than in 1931; Spanish, 40,756, or an increase of 3.2 per cent; German, 23,496, or an increase of 20 per cent; and Italian, 6153, or an increase of 19.3 per cent. The Board further points out that the study of German rose 200 per cent in five years in the high schools. That these figures are characteristic of the country in general may be seen in the enrollments in modern foreign languages at Lincoln Memorial University, Harrogate, Tenn., an institution attended by mountaineers of the Appalachian region, who are far removed from contacts with Europe. "Out of a total enrollment of 386 L.M.U. students in the fall of 1932," says the Middlesboro, Ky., *Three States* of October 27, "372 are taking courses in the Department of Foreign Languages." "Who can claim now," adds the same journal, "that mountaineers do not take any interest in the study of modern tongues?" Regarding methods of teaching foreign languages, it may be noted that Simone France upholds instruction of the spoken language, in an article entitled "Is Classroom French Worth the Effort?", published during the year in *The Parents' Magazine*. The late Thos. J. McCormack, however, presented very forcible arguments in behalf of the study of literature and philology in a splendid address on "Some Reflections on the Learning of Modern Foreign Languages," given before the University of Illinois High School Conference.

GENERAL. Prof. Alan Gardiner's *The Theory of Speech and Language* (New York) attempts to

give an account of the mechanism of speech. With a wealth of explanation and illustration the author shows how to distinguish between language and speech, between sentence and word, and between form and function. On the other hand, Prof. Willem L. Graff's *Language and Languages: An Introduction to Linguistics* (ib.) is divided into two parts, the first of which, entitled "Constituents and Mechanism," deals with the phonetic element in language, meaning, units of signification, accentuation, and contrasts of logical and linguistic categories; and the second part, headed "Drift and Diversification," discusses phonetic and linguistic change and their causes, semantic changes, principles of language classification including both the Indo-European and non Indo-European languages, and a glossary and bibliography. B. L. Ullman's *Ancient Writing and Its Influence* (ib.) presents a history of the alphabet along with the development of writing. A very valuable contribution to the history of paleography is to be found in Prof. L. W. Jones' *The Script of Cologne from Hildebrand to Hermann*, containing 100 plates (Cambridge, Mass.), which was issued by the Medieval Academy of America. This volume forms a pendant to Prof. E. K. Rand's *Survey of the Manuscripts of Tours*, which was published by the Academy in 1929, and which examines the production of another great medieval calligraphic scriptorium—in fact, Tours and Cologne may well be called the two great book-centres of medieval times. Professor Jones supplies the history of the production of the Cologne scriptorium during more than a century (ca. 791–923) and traces the development of the script from the wildly cursive Merovingian to the regular Caroline minuscule, which then became the standard form of writing—just as the Roman type is to-day among printers—throughout Europe for more than four centuries. In fact, the first type adopted by printers in the Latin countries in the 15th and 16th centuries was modeled largely in accordance with the forms used in this script. Another interesting fact revealed by Professor Jones is that Alcuin, the Anglo-Irish scholar who was invited to the continent in 782 by Charlemagne for the purpose of inaugurating the *École du Palais* (from which, we may note, our modern universities developed) and who was later to become Bishop of Tours, sent at least one book to Cologne in order to have it copied there. This great Irish scholar forms, therefore, the connecting link between two of the most important medieval scriptoria or publishing centres. Furthermore, since Professor Jones notes the presence of at least one Irish scribe at Cologne, and since we know also that some of the best work that emanated from Monte Cassino, a third great scriptorium located near Naples, was the work of Irish scribes, we are now enabled to give more credit to these early wandering Celts for the powerful influence they exerted both upon pedagogy through the development of the universities and upon culture in general through their learning and skill in writing. One is now permitted to wonder whether the influence of these Irish scholars may not also be found in the development of the Romance tongues. For example, one of the intriguing problems of Romance philology, which scholars have thus far been unable to explain, is the change from the Latin pitch accent to the stress accent of vulgar Latin, as a consequence of which all unaccented

syllables tended to disappear in the later Romance tongues. We know, in the first place, that the Latin used by scholars of the continent from the fifth century on was taught to them by learned missionaries sent from Ireland and doubtless, therefore, reflected to some extent—just as English, French and Italian pronunciations of Latin differ to-day—their pronunciation of the classic tongue, and also that the stress accent is one of the characteristic features of Old and Middle Irish. This, then, is a problem for future scholars to settle. We may content ourselves by merely offering it as a possible solution at present.

Contributions to mythology include the Index (vol. xiii) of *The Mythology of All Races* (Boston), edited by Florence R. Gray and J. A. MacCulloch; and *Myths and Legends of the World* (New York, 3 vols.), being the new additions to this series, which are those of the Australian aboriginals by W. R. Smith, those of Japan by F. H. Davis, and those of the North American Indians by Lewis Spence. Frederick Anderson continued his edition of the late Prof. George Hemphill's *Mediterranean Studies: IV Etruscan: V Venetic and Venetic Inscriptions* (Stanford University, Calif.), consisting of his readings of these inscriptions—which, it may be added, are not generally accepted by scholars. Martha W. Beckwith's *Folklore in America* (Poughkeepsie, N. Y.), a volume issued by the recently created Folklore Foundation of Vassar College, discusses its scope and method. W. W. Strickland's *How Foreign Words Are Welcomed and Transfigured* (New York) is a study in word derivation. Archibald Lyall's new phrase book (London) is unique in that it deals with 25 languages.

Other works include Marv W. MacNair, *A List of American Doctoral Dissertations Printed in 1930* (Library of Congress, Washington, D. C.), containing alphabetical lists of Ph.D. theses, with classified lists and subject index; E. A. Kirkpatrick, *The Sciences of Man in the Making* (New York), an outline of the various sciences dealing with man and his development, such as anthropology, economics, psychology, etc.; the eighth and final volume of "The Corridors of Time" series consisting of H. Peake and H. J. Fleure, *The Horse and the Sword* (New Haven, Conn.), which relates the story of man from his emergence in the dim past to about 800 B.C.; G. Heard, *The Emergence of Man* (New York), a history of the early stages of human progress emphasizing man's spiritual development; W. Heape, *Emigration, Migration and Nomadism* (London), a valuable contribution to anthropological and philological research; Dr. O. C. Ellis, *History of Fire and Flame* (ib.), containing much recondite ancient and medieval lore; R. Thurnwald, *Economics in Primitive Communities* (New York), a study of primitive economic life in all parts of the world, but with special emphasis on the African tribes; K. Saunders, *The Heritage of Asia* (ib.), a study of the cultures of India, Japan, China, and Korea; W. L. Nida, *Inventions and Discoveries of Ancient Times* (Chicago), Book V of "The Story of Man" series, describing the development of civilization from the Copper Age to the fall of the Roman Empire; H. E. Burton, *The Discovery of the Ancient World* (Cambridge, Mass.), a study of the expansion of geographical knowledge from the time of the ancient Egyptians to the second century

A.D.; J. N. L. Baker, *A History of Geographical Discovery and Exploration* (Boston), a survey from the earliest times to the present; C. J. S. Thompson, *Poisons and Poisoners* (New York), a history of toxicology beginning with the earliest times; H. W. Haggard, *The Lame, the Halt, and the Blind* (ib.), a study of the progress of medicine and its influence on civilization; J. T. Addison, *Life Beyond Death in the Beliefs of Mankind* (Boston), a review beginning with primitive ages; J. A. MacCulloch, *Medieval Faith and Fable* (ib.), a study of the characteristic beliefs of the Middle Ages; G. P. Baker, *Charlemagne and the United States of Europe* (New York), a biography including an account of the formation of the medieval European State; C. Dawson, *The Making of Europe* (ib.), a study of the birth and development of European culture and social organization from the fourth to the eleventh centuries; *The Cambridge Medieval History* (vol. vii, Cambridge, Eng.), a symposium dealing mainly with the fourteenth century, planned by the late J. B. Bury and edited by the late J. R. Tanner, C. W. Previté-Orton and Z. N. Brooke; J. W. Thompson, *An Economic and Social History of Europe in the Later Middle Ages, 1300-1530* (New York), a continuation of *An Economic and Social History of the Middle Ages*; C. H. McIlwain, *The Growth of Political Thought in the West* (ib.), a survey extending from the fifth century B.C. in Greece to the end of the Middle Ages; M. B. Barr, *Studies in Social and Legal Theories* (Philadelphia), a presentation of the development of legal theories through early and medieval philosophical history; Philip Gosse, *The History of Piracy* (London and New York), a study of the conditions responsible for piracy, its various rises and declines; M. Magre, *Magicians, Seers and Mystics* (New York), a translation from the French of an account of the diffusion of Oriental mysticism through the Albigenses, Rosicrucianism, etc.; M. von Boehn, *Dolls and Puppets* (Philadelphia), a translation from the German of a history of dolls and puppets from prehistoric days to modern times; S. McKechnie, *Popular Entertainments Through the Ages* (New York), a narrative of the rise of minstrels, fairs, pantomime, etc.; E. C. May, *The Circus: From Rome to Ringling* (ib.), a history beginning with Pompeii; T. Komisarjevsky, *The Costume of the Theatre* (ib.), the story of theatrical costume from the earliest times; M. von Boehn, *Modes and Manners* (vol. i, Philadelphia), a translation from the German of the first volume of a series of four, describing fashions and social manners from the decline of the ancient world to the Renaissance; F. M. Kelly and R. Schwabe, *A Short History of Costume and Armour, 1066-1800* (New York), with stress on England; *Boutell's Heraldry* (ib.), revised by V. Wheeler-Holohan; J. C. Myers, *Wrestling from Antiquity to Date* (St. Louis, Mo.), a history of the sport, with an analysis of its various aspects; M. D. Whitman, *Tennis: Origins and Mysteries* (New York), a history of the game, with a historical bibliography by R. W. Henderson; F. P. Chambers, *The History of Taste* (ib.), outlining the major revolutions of taste and criticism, beginning with the Middle Ages and with special emphasis on taste in England; Ethel Peyser and Marion Bauer, *Music Through the Ages* (ib.), containing the salient points in its history; Phyllis Ackerman, *Tapstry, the Mirror of Civi-*

lization (*ib.*), profusely illustrated; E. Corti, *A History of Smoking* (*ib.*); P. Bloomfield, *Imaginary Worlds* (London), an account of Utopias from Plato to Aldous Huxley; E. Thompson Seton, *Famous Animal Stories* (New York), an anthology extending from ancient myth and fable to modern accounts; G. M. Richards, *The Fairy Dictionary* (*ib.*), covering many nations; G. H. Gerould, *The Ballad of Tradition* (*ib.*), a study of the origin and development of ballad literature, with selections from American ballads; Ann H. Swenson, *Proverbs and Proverbial Expressions* (Florence, Italy), a dictionary of proverbs in English, French, and Italian; A. Taylor, *The Proverb* (Cambridge, Mass.), an investigation of its origin, history, and style; W. P. Jones, *The Pastourelle* (*ib.*), researches into the origins and traditions of a lyric type that has been cultivated in France, England, and America from the pre-Renaissance to the present day; and Roberta F. Brinkley, *Arthurian Legend in the Seventeenth Century* (Baltimore), being No. 3 of the Johns Hopkins monographs in literary history.

AFRICAN. Exploration and archaeological investigations in Africa—which are throwing much light on the languages spoken there both in ancient and modern times—were continued actively during the year notwithstanding the economic depression. Consequently within the next few years we may expect great progress to be made in the study of the comparative philology of the African languages as well as of the cultures which these languages represent. Important works devoted to this domain of research include the following: R. L. Moodie, *Roentgenologic Studies of Egyptian and Peruvian Mummies* (Chicago), a study of pathological conditions as revealed in ancient mummies by roentgenograms, issued by the Field Museum of Natural History; A. W. Shorter, *An Introduction to Egyptian Religion* (New York), an account covering the eighteenth dynasty; *Ten Coptic Legal Texts* (*ib.*), copies of the texts of the seventh and eighth centuries, A.D., with translations and notes, published by the Metropolitan Museum of Art; Jeanne d'Ucel, *Berber Art* (Norman, Okla.), an introduction, discussing North African crafts and designs; James Baikie, *Egyptian Antiquities in the Nile Valley* (New York), a descriptive handbook; H. G. E. White, *The Monasteries of the Wadi 'N Natrun, Part II: The History of the Monasteries of Nitria and of Scetis* (*ib.*), a history of these Egyptian monasteries from the Roman period (315–451 A.D.) to the nineteenth century, published by the Metropolitan Museum of Art; R. S. Rattray, *The Tribes of the Ashanti Hinterland* (*ib.*, 2 vols.), a sociological investigation of the inhabitants of the Northern Territories of the Gold Coast, including a linguistic survey with a chapter by D. Westermann; E. R. Hardy, Jr., *The Large Estates of Byzantine Egypt* (*ib.*), a study of social conditions in Egypt in the sixth century, A.D., and their significance in developments of the medieval period; Col. H. M. Hole, *Black Majesty* (London), tracing the careers of three African rulers—Khamia, Lobengula, and Lewanika—who strove in various ways to meet the civilization they found gradually encompassing them; and Dorothea Fairbridge, *Historic Farms of South Africa* (New York), a study of agricultural conditions in South Africa during the seventeenth and eighteenth centuries.

Since the legendary home of the Gypsies is Africa, we may be permitted to include studies on them here, especially in view of the fact that their language now consists of borrowings from many languages and cannot be definitely identified with any one group of languages. These studies include: J. Sampsoneste, *Romane Gilla* (New York), consisting of poems in Romany, with English translations; Helen C. Crew, *The Showl with the Silver Bells* (*ib.*), the story of a Gypsy clan in England in Shakespeare's time; and Irving Brown, *Romany Road* (*ib.*), adventures among the Gypsies related by an authority on the subject.

CHINA AND JAPAN. The Sino-Japanese conflict in Manchuria and elsewhere has let loose a veritable avalanche of works, both neutral and partisan, which attempt to clarify the cultural and political conditions that obtain in both countries. Whereas present political animosities are of more interest to the student of foreign affairs, cultural, historical, and literary works fall within the domain of philology in the broad sense of the word, since they enable one to arrive at a better understanding of the attitude of mind and customs which have been mainly contributory to the development of the modern Chinese and Japanese languages. Among such works are *Asiatic Mythologies* (New York), by J. Hackin and others, which contains a detailed description and explanation of the mythologies of the greater nations of Asia; *The Vision of Asia* (London), by L. Cranmer-Byng, editor of the "Wisdom of the East" series, which compares the ideals of the West with the ancient Chinese view of life; G. K. Zipf, *Selected Studies of the Principle of Relative Frequency in Language* (Cambridge, Mass.), consisting of the results of an investigation undertaken to determine whether or not the modern vernacular of Peiping agrees with Indo-European tongues in substantiating the principle of relative frequency; R. D. Jameson, *Three Lectures on Chinese Folklore* (Peiping, China), a study of comparative folklore and its problems as illustrated by Chinese examples; L. S. Hsu, *The Political Philosophy of Confucianism* (New York), an interpretation of the social and political ideas of the great philosopher as well as of his forerunners and his early disciples; *The Wisdom of Confucius* (Boston), a collection of the ethical sayings of the master and his disciples, edited by M. M. Dawson, one of America's outstanding authorities on Confucianism; J. K. Shryock, *The Origin and Development of the State Cult of Confucius* (New York), an investigation of Confucianism as a school of sociological and philosophic thought; *Mencius* (*ib.*), a translation of the sayings of the Chinese philosopher made by L. A. Lyall; Nancy L. Swann, *Pan Chao: The Foremost Woman Scholar of China* (*ib.*), a biography of a scholar of the first century A.D., with translations of some of her work; G. F. Hudson, *Europe and China* (London), a scholarly historical survey of the influences of Europe's Hellenic culture upon China and those of China's civilization upon Europe; M. A. Roland-Cabaton, *Index de la Bibliotheca indosinica de Henri Cordier* (Paris), a publication of the École Française d'Extrême Orient; *Chinese Art* (New York), selected articles from the new 14th edition of the *Encyclopædia Britannica*; C. H. Peake, *Nationalism and Education in Modern China* (*ib.*), an account of the relations of nationalism with the changing

educational system from 1860 to 1929; Admiral Ts'ai Ting-Kan, *Chinese Poems in English Rhyme* (Chicago), a University of Chicago publication containing poems from the T'ang dynasty reproduced in the Chinese text with English translation; E. D. Harvey, *The Mind of China* (New Haven, Conn.), an effort at clarification; E. T. Williams, *China, Yesterday and Today* (New York), a fifth edition, revised; C. A. Clark, *Religions of Old Korea* (ib.), a series of lectures, originally delivered at Princeton University; O. Lattimore, *Manchuria, Cradle of Conflict* (ib.), a study of the movements of peoples and the conflict of cultures on the northeastern frontiers of China; P. T. Etherton and H. R. Tiltman, *Manchuria: The Cockpit of Asia* (ib.), an analysis of the underlying causes of the present crisis; F. H. Davis, *Myths and Legends of Japan* (ib.), a survey; G. B. Sansom, *Japan: A Short Cultural History* (ib.), a history from the earliest times emphasizing the significance of the economic, religious and social institutions of Japan; *The Western Influences in Modern Japan* (Chicago), a series of papers on cultural relations, by I. Nitobe and others; Lady Murasaki, *The Lady of the Boat* (Boston), A. Waley's translation of the fifth part of *The Tale of Genji*, by a famous Japanese woman of the 10th century; B. H. Chamberlain, *Translation of Ko-Ji-Ki* (Kobe, Japan), a second edition; and W. Axling, *Kagawa* (N. Y.), a biography of the Japanese religious leader.

INDO-IRANIAN AND TIBETAN. India's steady hold on the attention of the educated public of Europe and America continued during the year without any indication of decline. Of course, many explanations may be given for what otherwise might appear a most perplexing problem. In the first place, if Greece developed the methods of philosophical thought, India remains as the creator of its content. Linguistically speaking, India has also had the good fortune of having been interpreted to the West by a large group of extraordinarily gifted scholars. Finally that mysterious country is the storehouse of a great variety of customs, religions, cultural conflicts, and artistic tendencies—all of which render it most fascinating to the modern mind. The student of India's philology cannot, therefore, neglect all these factors, for the languages of India represent different stages or tendencies in the course of its history, and the study of semantics, so vitally important to an understanding of Hindu philosophy, is perforce inherently bound up in all of them. A work revealing the great progress that has been made in recent years, especially in Sanskrit semantics, is the *Dictionnaire sanscrit-français*, edited by N. Stehoupak, L. Nitti, and L. Renou, of which Parts I, II, and III appeared (Paris).

Other important contributions include: S. V. Venkateswara, *Indian Culture Through the Ages* (vol. ii, N. Y.), a history dealing with public life, political institutions and development of thought in India; *The Song of the Lord* (ib.), a new translation of the great epic poem *Bhagavad-gita*, with introduction and notes, by E. J. Thomas; *Self-Realization of Noble Wisdom* (Thetford, Vt.), a version of a Buddhist scripture, based upon Professor Suzuki's translation of the *Lankavatara Sutra*, edited by D. Goddard; L. B. Coxe, *The Seventh Ogre* (Cortland, N. Y.), an adaptation of an East Indian folktale; D. G. Mukerji, *The Master Monkey* (N. Y.), contain-

ing the legendary adventures of the baboon, who is the god of Hindu athletics; *The Oxford Book of Bengali Verse* (Oxford, Eng.), printed in the vernacular; Sir George MacMunn, *The Religions and Hidden Cults of India* (N. Y.), studies in the nature and history of Indian religions; J. Abbott, *The Keys of Power* (ib.), researches in the beliefs and ritual of India; R. Otto, *Mysticism, East and West* (ib.), a comparative analysis of its nature; H. P. Blavatsky, *The Key to Theosophy* (ib.), a reprint of the original edition of 1889; *A Buddhist Bible* (Thetford, Vt.), a translation, with interpretation, of the favorite scriptures of the Zen sect, containing also a brief history of early Zen Buddhism, edited by D. Goddard; L. Binyon, *Akbar* (N. Y.), a short biography of the last of the Moguls (1542-1605), who reigned as Emperor of India from 1556 to his death; H. Lamb, *Nur Mahal* (ib.), the story of a Persian woman who became the uncrowned head of the Mogul empire at the height of its glory; G. S. Ghurye, *Caste and Race in India* (ib.), a history of the institution of caste; L. S. S. O'Malley, *Indian Caste Customs* (ib.), an account of the caste system, with its customs and tendencies; Frieda Hauswirth, *Purdah: The Status of Indian Women* (ib.), a study of the condition of women in India from the Vedic period to the present day; Sir John Marriott, *The English in India* (Oxford, Eng.), a record which sets contemporary problems in their historical perspective; the Maharaja of Burdwan, *The Indian Horizon* (London), present-day India as viewed by a Moslem prince; and Dr. R. G. Shani, *Shakespeare Through Eastern Eyes* (ib.), an investigation offering striking contrasts between the mind of the Occident and that of the Orient.

Tibet is represented by the following studies: C. Bell, *The Religion of Tibet* (N. Y.), a history of Buddhism in Tibet; Alexandra David-Neel, *Magic and Mystery in Tibet* (ib.), a record of the author's experiences among the Lamas of Tibet; and D. MacDonald, *Twenty Years in Tibet* (Philadelphia), a story of personal experiences in the forbidden lands.

On Persian we have the splendid contribution of Prof. A. V. Williams Jackson, *Researches in Manichaeism* (N. Y.). The volume consists of thirteen studies devoted to Manichaeism, the first and most important of the two schismatic movements in Zoroastrianism (the other, Mazdakism, coming much later), which arose early in the third century A.D. The revival of interest in this religion is due to the discovery, in the Oasis of Turfan in Eastern Turkistan, from 1902 to 1907, of many fragments of Mani's long-lost Bible, written in Middle Persian (Pahlavi), Soghdian, Old Turkish, and Chinese. Professor Jackson studies the Pahlavi fragments and adds thereto various monographs interpreting the text.

ARCHAEOLOGY, ANTHROPOLOGY, AND BIBLIOGRAPHY. A few works dealing with these subjects, which have special interest for the student of philology, may be noted here.\* Thus, R. G. Collingwood, *Roman Britain* (N. Y.), consisting of an expansion of an archaeological study first published in 1923; D. H. Lawrence, *Etruscan Places* (ib.), a series of essays on Etruscan archaeology, art, etc.; Franz Boas, *Anthropology and Modern*

\* For studies relating especially to American archaeology and anthropology, the reader is referred to the subsection entitled South American, under the heading of SPANISH.

*Life* (ib.), a revised edition; A. B. Lewis, *Ethnology of Melanesia* (Chicago), a publication issued by the Field Museum of Natural History; R. F. Fortune, *Sorcerers of Dobu* (N. Y.), an account of the influences of sorcery upon the lives of the members of a Melanesian tribe; and J. H. Driberg, *At Home with the Savage* (ib.), a presentation of the general aspects of anthropology for the non-technical reader.

A very important contribution was made to bibliography in *The Cambridge Bibliography of English Literature* (Cambridge, Eng.), which is announced as a complete recension and amplification of the bibliographies accompanying *The Cambridge History of English Literature*. Other useful works are: H. L. Johnson, *Gutenberg and the Book of Books* (N. Y.), a historical monograph, with bibliographical notes, reproductions of specimen pages, and a listing of known copies of the Gutenberg Bible; *Robert Granjon: Sixteenth-Century Type Founder and Printer* (Brooklyn, N. Y.), an account of the life and work of one of the greatest figures in early printing in France, issued by the Mergenthaler Linotype Co.; B. H. Streeter, *The Chained Library* (N. Y.), a survey of four centuries in the development of the English library; C. R. Gillett, *Burned Books* (2 vols., ib.), a study of the censorship of literature in England from the 16th to the 19th century; W. B. Hunt and E. C. Hunt, *Fifty Alphabets* (Milwaukee, Wis.), a record of fifty styles of lettering, with explanatory notes; *The Harkness Collection in the Library of Congress* (Washington, D. C.), a calendar of Spanish MSS. concerning Peru, 1531-1651, presented by Edward S. Harkness in 1929 to the Congressional Library; C. Janin, *Essai sur la Bibliographie contemporaine de 1900 à 1928* (2 vols., Paris); R. Mahé *Bibliographie des Livres de Luze* (3 vols., ib.); P. Neveux and E. Dacier, *Les Richesses des Bibliothèques provinciales de France* (ib.), issued by the Bibliothèque Nationale and sold at the prohibitive price of \$80; B. M. Fullerton, *Selective Bibliography of American Literature, 1775-1900* (N. Y.), a guide to outstanding literary achievements; W. M. Randall, *The College Library* (Chicago), a descriptive account of the libraries in four-year liberal arts colleges in the United States, issued by the American Library Association; *Index to the Publications of the Bibliographical Society of America, 1899-1931* (ib.), including an index of the publications of the Bibliographical Society of Chicago; *The Papers of the Bibliographical Society of America* (ib.), consisting of parts 1 and 2 of volume 26 for 1932; and E. Lewin, *A New Bibliography of Canada and Its Provinces, The West Indies and the Colonial History of America* (London), issued by the Royal Empire Society.

CELTIC. It may well be said that Western European archaeology, with the exception, of course, of Greece and Rome, is basically Celtic. This statement is explained by the fact that, probably, considerably more than a thousand years before the beginning of the Christian era, the Celts began to migrate from their primitive home which Camille Jullian locates along the northern coasts of Germany and the western coasts of Denmark. About the 5th century B.C. the so-called Celtic Empire embraced almost all the territory between the Dniester River in Russia, on the banks of which the Celts constructed their easternmost city, Carrodunum, and the shores of Portugal in the west, and between the northern coasts of Scotland and

the very gates of Rome itself—for the modern Sinigaglia in Italy reveals their presence that far south. Consequently, archæologists, working in various parts of this vast territory, are continually uncovering evidence of a Celtic character. The discoveries made by them since the beginning of the 20th century have so completely revolutionized our knowledge of the primitive Gaulish language that in 1920 the late Georges Dottin was able to issue a volume of some 360 pages entitled *La Langue Gauloise*. If such a work had been attempted in 1880 it would not have been longer than some 15 or 20 pages; while if it were rewritten to-day, it would probably be twice its present length. And now that the work of archæological exploration is being transformed into a splendidly organized system, such as is evidenced by the Harvard University Expedition to Ireland during the past summer, we may expect even greater results and a more rapid development of the study of Celtic philology in the near future. It is not surprising, therefore, that such a large number of scholars of Central Europe are "seized with the Celtic madness" and are now trying to coördinate and interpret, both archæologically and linguistically, the vast amount of data furnished by these excavations. A masterly work of this kind is the late Henri Hubert's *Les Celtes et l'Expansion celtique jusqu'à l'Époque de la Tène* (Paris). After analyzing the already highly developed civilization of the Celts previous to the epoch marked by the archæological discoveries made at Tène, Switzerland—for the early Greeks and Romans spoke of them already as "des barbares élus"—the author discusses the Celtic language in three brilliant chapters, and then explains the cultural significance of the archæological discoveries. The conclusions to which he is forced bear out the suggestion made above regarding the origin of French in our discussion of Professor Jones's *Script of Cologne*, for he states (p. 19) succinctly: "Mais le français est du latin prononcé par des Celtes et mis au service d'esprits celtiques." But he goes even farther and makes a revolutionary pronouncement, which completely upsets a cherished traditional legend of the French that they are the cultural descendants of ancient Greece in modern times, when he says: "Bref, la civilisation des Celtes est au fond de la nôtre, comme la nation que commençaient à former les Celtes de Gaule est au fond de notre nation" (pp. 19-20). This great work will mark, no doubt, an important milestone in our course toward the reconstruction of the Gaulish language and a re-evaluation of the vast influence of the early Celts upon the modern cultures of Europe.

In America, the American Irish Historical Society, which has come to the fore in recent years as a worthy rival of our various Scandinavian historical societies, continued its splendid work. Unfortunately few Americans of non-Irish extraction are aware of the fact that this Society is now one of the most important historical societies in America, that it owns extensive and well-endowed quarters, which house a valuable historical collection made up principally of donations from Dr. J. T. Nagle, W. C. Durant, J. I. C. Clarke, J. D. Crimmins, and Dr. Thos. A. Emmet, that it publishes an annual volume of *Proceedings*, a quarterly *Recorder*, besides many special papers and works, and that it boasts of a membership of nearly 5000 persons. Our fellow-citizens of Irish descent deserve, therefore, com-

mendation for the steady encouragement they have given this worthy organization during the past three trying years.

Contributions to the Irish branch of Celtic philology include S. MacCall, *And So Began the Irish Nation* (N. Y.), a history of the origin and development of Ireland from prehistoric times to the Christian era; Canon J. R. Ardill, *Saint Patrick* (London), a biography that attempts to prove that Ireland's famous saint lived in the second century, and not in the fifth; Dr. A. Mahr, *Christian Art in Ancient Ireland* (2 vols., Dublin), a valuable work issued by the Publications Office of the Irish Free State; E. Wenhams, *Domestic Silver of Great Britain and Ireland* (N. Y.), a survey of silverwork from 500 A.D. to the 19th century; M. L. Sjoestedt, *Phonétique d'un Parler irlandais de Kerry* (Paris), the fourth volume of the "Collection de Documents Linguistiques" series; *A Treasury of Irish Poetry* (ib.), edited by S. A. Brooke and T. W. Rolleston, a revised and enlarged collection; A. Deering, *Sir Samuel Ferguson, Poet and Antiquarian* (Philadelphia), a biographical and critical study, issued by the University of Pennsylvania; R. Flower, *Poems and Translations* (N. Y.), a collection of poems including translations from the Irish; W. A. Adams, *Ireland and Irish Emigration to the New World from 1815 to the Famine* (New Haven, Conn.), a history of Irish emigration to America and its influence upon our culture; and the Rev. J. J. Williams, *The "Black Irish" of Jamaica* (N. Y.), a study of the origins of Irish surnames among the Negroes of Jamaica.

Scottish and Welsh are represented by W. A. Craigie, *A Dictionary of the Older Scottish Tongue* (parts i and ii, Chicago), a dictionary of words in use from the 12th century to the end of the 17th, going as far as the word Berising; J. Baikie, *Things Seen in the Scottish Highlands* (N. Y.), a description of noteworthy sites; Prof. G. M. Trevelyan, *Ramillies and the Union with Scotland* (London), a history of the period of Queen Anne; and H. V. Morton, *In Search of Wales* (ib.), called by Lloyd George the best travel book on Wales that he has ever read.

GERMANIC. That Germany is losing her leadership in philology was attributed in our survey of last year (1931), on the one hand, to her unsettled political and financial conditions, which render publication difficult, and, on the other, to the large following among the younger generation, that has been won over by the brilliant, though unsound, linguistic theories proposed by Karl Vossler and his school. This condition was aggravated during the year 1932, with the result that some of the oldest philological reviews are going through a veritable struggle for existence. Finally, the opportunities offered to students in Germany by the study of pure philology are far from being as attractive as in the pre-War days.

Max von Boehn's *Modes and Manners* (vol. i, Philadelphia), translated by Joan Joshua, gives an unattractive, as well as unsympathetic, picture of German life from the decline of the ancient world to the Renaissance. An important linguistic fact, however, brought out by him is that whereas the Germanic dialects during this period were understood only by a few thousand persons, Latin, the language of the Church, was understood by millions of inhabitants of the Western Empire, especially around the Mediterranean. The Germans readily learned Latin "be-

cause," he adds, "they experienced no sensation of loss in renouncing their mother tongue."

Other contributions to the study of Germanic philology include H. Hirt, *Handbuch des Urgermanischen* (Heidelberg), of which the first part issued is sub-titled *Laut- und Akzentlehre*; V. Grönbech, *The Culture of the Teutons* (2 vols., Copenhagen); G. Stumpel, *Name und Nationalität der Germanen* (Leipzig), consisting of a short reexamination of the observations of Poseidonios, Cæsar and Tacitus; W. Wissmann, *Nomina postverbalia in den altgermanischen Sprachen nebst einer Voruntersuchung über deverbative o-Verba* (part i, Göttingen); M. Gottschald, *Deutsche Namenkunde: Unsere Familiennamen nach ihrer Entstehung und Bedeutung* (Munich); K. Bohn, *Untersuchungen zu Personennamen der Werdener Urbare (etwa bis 1150)* (Greifswald, 1931); H. Brinkmann, *Sprachwandel und Sprachbewegungen in althochdeutschen Zeit* (Jena, 1931); J. Mansion, *Althochdeutsches Lesebuch für Anfänger* (2d ed., Heidelberg); E. Hermann, *Lautgesetz und Analogie* (Berlin, 1931); K. Luick, *Deutsche Lautlehre* (3d ed., Leipzig); H. Röhl and F. Norman, *Wörterbuch zur deutschen Literatur* (ib., 1931); A. Schirmer, *Beiträge zur nordthüringischen Dialektgeographie* (Marburg), being the 26th Heft in the "Deutsche Dialektgeographie" Series; E. Kuntze, *Studien zur Mundart der Stadt Saarbrücken (Lautlehre)* (ib.), being Heft 31 of the same series; E. Rosendahl, *Niedersächsische Literaturgeschichte* (Leipzig); G. Ehrismann, *Geschichte der deutschen Literatur bis zum Ausgang des Mittelalters* (Munich), a second edition of the first volume; W. Rose, *Men, Myths and Movements in German Literature* (N. Y.); *Germany: A Companion to German Studies* (ib.), a symposium on German history and culture, edited by J. Bithell; Goethe, *Faust* (parts i and ii, ib.), translated by G. M. Pries as a contribution to the Goethe centenary; and K. Wichmann, *Pocket Dictionary of the German and English Languages* (ib.).

The small Scandinavian countries have been almost alone, during the past few years, in upholding the highest standards of philological research, if one may be permitted to judge from the large proportion—considering the small number of their universities—and high quality of the studies devoted to their language and literature that have recently appeared. In fact, it seems as if Germany is passing the torch of philology on to her smaller neighbors. Thus, among the numerous works devoted to this field we may note the following as most important: T. Knudsen and A. Sommervelt, *Norsk Riksmåls-Ordbok* (Oslo), of which the fourth fasciculus appeared; E. A. Kock and R. Meissner, *Skaldisches Lesebuch* (Halle, 1931), of which the second part was issued; H. R. Holand, *The Kensington Stone* (Ephraim, Wis.), a study of the evidences of Norwegian exploration in pre-Columbian America, which the London *Times* considered as "undeniably impressive and deserving of serious consideration"; Snorre Sturlason, *Heimskringla: or the Lives of the Norse Kings* (N. Y.), edited by E. Monsen and translated into English with the assistance of A. H. Smith; *Hrafnkels Saga Freysgota* (Cambridge, Mass.), edited by F. S. Cawley; H. Koht, *The Old Norse Sagas* (London), a publication of the American-Scandinavian Foundation; F. R. Sterrett, *Years of Achievement* (Philadelphia), an account of

Norse immigrants in Minnesota in the '60's; *Norwegian-American Studies and Papers* (vol. vi; Northfield, Minn.), a publication of the Norwegian-American Historical Association, devoted to the early days of Norwegian immigrants in America; G. M. Stephenson, *The Religious Aspects of Swedish Immigration* (Minneapolis), an account of the community and religious life of the Swedish colonists in America, issued by the University of Minnesota; Christina S. von H. Bogoslovsky, *The Educational Crisis in Sweden* (N. Y.), a survey of present educational problems in Sweden, published by Columbia University; C. Holland, *Denmark* (ib.); and *Education in Denmark* (ib.), edited by A. Boje, E. J. Borup and H. Ruetebeck, containing a detailed study of the educational system of modern Denmark.

SLAVIC. A question that often presents itself to one's mind is: Why is Russian—the language of more than 165,000,000 people—so little studied in the United States? The answer thereto may be found in the following reasons: First, until the advent of the Soviet Republic, there was no standardized language in Russia, but, on the contrary, a number of dialects of which the most important were Great Britain, White Russian, and Little Russian; second, the great difficulty in learning the Russian alphabet and grammar as well as in distinguishing the various *nuances* in the pronunciation of Russian words; third, that Russian scholarly productions were heretofore published mainly in French and German; and, finally, a general lack of interest in Russian literature, with the exception of a few outstanding authors of the 19th and 20th centuries, most of whose works were accessible in translations either into English, French, or German. As the Soviet Government is now beginning to direct the collective efforts of scholars toward the study of the languages, history, literature, folklore and customs of the Slavic people, we may soon expect the development of a real Slavic scholarship on this side of the Atlantic.

Balto-Slavic was represented by R. Exblom, *Zur Entstehung und Entwicklung der slavobaltischen und der nordischen Akzentarten* (Leipzig, 1931). Other studies include H. von Eckardt, *Russia* (N. Y.), a history translated from the German; D. S. Mirsky, *Russia* (ib.), a social and cultural history, edited by E. G. Seligman; N. K. Chadwick, *Russian Heroic Poetry* (ib.), translations, accompanied by introduction and explanatory notes, of selected poems from the 10th to the 19th centuries; G. T. Robinson, *Rural Russia under the Old Régime* (ib.), a study of the landlord-peasant life; K. Bercovici, *The Incredible Balkans* (ib.), a history of the Balkan countries and their influence upon the rest of Europe; M. Haiman, *Poland and the American Revolutionary War* (Chicago), a memorial account of the Polish officers who fought under Washington; R. J. Kerner, *Bohemia in the Eighteenth Century* (N. Y.), a political, economic, and social history, with emphasis upon the reign of Leopold II, 1790-92; and *Yugoslav Popular Ballads* (Cambridge, Eng.), an anthology selected by Dr. D. Subotic, Reader in Serbo-Croat at the University of London.

ENGLISH. It has been pointed out in these columns during the past few years that English is rapidly becoming the world's international language. But this rôle, however enviable it may appear, involves certain responsibilities, among which clarity of pronunciation may be cited.

This quality, however, is now largely lacking, especially among the British English, not even excluding their actors and actresses, with the result that we are becoming more and more incomprehensible to foreigners. The explanation for this unpleasant fact must be attributed to the violent stress given by the English to the accented syllables of words, rendering it necessary either to slur or to drop entirely the unaccented syllables, particularly those in close proximity to the accented ones. If you ask almost any Britisher where this disagreeable pronunciation arose, he will reply at once: Oxford. And heretofore, we may add, Oxford has been somewhat proud of having thus influenced the course of English speech, notwithstanding the protests of purists. Within the past year or two, however, these protests have been multiplied, with the consequence that the galled jade is now wincing, for Oxford declines to recognize its child. Thus, a loyal Oxonian, Dr. R. W. Chapman of the Oxford University Press now issuing various dictionaries, upholds "standard English" in his *Oxford English* (Oxford), and even defends it against attacks—which, be it added, are supposed to emanate from America—directed against "a certain debased, effete, and inaudible form of speech" that, according to him, Americans—the British critics are passed over in silence—suppose to be cultivated particularly at Oxford. "That's that!"—if colloquial American is not out of place in discussing so sacred a subject. (See *The Atlantic Monthly* Vol. 147, No. 2, pp. 145-151.)

Among the contributions to Anglo-Saxon we may note J. R. C. Hall, *Concise Anglo-Saxon Dictionary* (Cambridge, Eng., 1931), which appears in a third edition; F. Holthausen, *Altenglisches etymologisches Wörterbuch* (Heidelberg), of which the first Lieferung was issued; R. Girvan, *Angelsaksisch Handboek* (Haarlem, 1931); J. Hoops, *Beowulfstudien* (Heidelberg); *Beowulf* (N. Y.), translated into English verse by W. E. Leonard; and *The Mercell Book* (ib.), edited by Prof. G. P. Krapp and published in "The Anglo-Saxon Poetic Records" series.

Old and Middle English are represented by S. O. Andrew, *The Old English Alliterative Measure* (London, 1931); R. W. Chambers and M. Daunt, *The Book of London English, 1384-1425* (Oxford, 1931); G. R. Owst, *Literature and Pulpit in Medieval England* (Cambridge, Eng.), which reveals the debt of early English literature to the medieval homilists; Lucie Delarue-Mardrus, *William the Conqueror* (N. Y.), an account of his life (1028-87), with particular emphasis on his psychology, translated from the French; *English Lyrics of the XIIIth Century* (ib.), an anthology, edited by Prof. Carleton Brown; Sister Mary Byrne, *The Tradition of the Nun in Medieval England* (Washington, D. C.), a doctoral dissertation presented at the Catholic University; Dorothy M. Stuart, *Men and Women of Plantagenet England* (ib.), a survey of life in the 13th and 14th centuries; G. K. Chesterton, *Chaucer* (ib.), a biographical and critical study; Germaine Dempster, *Dramatic Irony in Chaucer* (Stanford University, Calif.), being No. 3 of vol. iv of the Stanford University Series of Language and Literature; G. G. Fox, *The Medieval Sciences in the Works of John Gower* (Princeton, N. J.), a Princeton University doctoral dissertation on the medieval poet (1325-1408); Alice Beardwood, *Alien Merchants in England* (Cambridge, Mass.), a study of their legal and eco-



monic condition, published by the Medieval Academy of America; and H. D. Sedgwick, *The Life of Edward the Black Prince, 1330-1375* (Indianapolis, Ind.), a biographical account by the author of *Henry of Navarre*.

Works relating to the Renaissance include E. K. Chambers, *The Oxford Book of Sixteenth Century Verse* (N. Y.), an anthology; E. B. Reed, *Christmas Carols Printed in the Sixteenth Century* (Cambridge, Mass.), a facsimile reproduction of all the known collections printed during the period; Prof. Edwin Greenlaw, *Studies in Spenser's Historical Allegory* (Baltimore), a posthumous collection of four papers; C. B. Millican, *Spenser and the Table Round* (Cambridge, Mass.), a study of Spenser's use of the Arthurian Legend; *The Michigan Facsimile Series* (Ann Arbor), consisting of John Ghesel's *The Rule of Health* (Oxford, 1631), Richard Hodges' *A Special Help to Orthographie* (London, 1643), and *The Art of Limning* (London, 1573); and Christopher Goodman, *How Superior Powers Ought to be Obeyed* (N. Y.), a facsimile of the Protestant treatise of 1558, issued by the Columbia University Press for the Facsimile Texts Society.

The year 1932 saw the issue of new editions of the following dictionaries: Funk & Wagnalls *New Standard Dictionary* and *The Practical Standard Dictionary*, edited by Frank H. Vizetelly (N. Y.); Francis Grose, *A Classical Dictionary of the Vulgar Tongue* (N. Y.), a new edition of a well known 18th century work, edited with a biographical and critical essay by Eric Partridge; Prof. H. C. Wyld, *The Universal Dictionary of the English language* (London), whose novel features are the use of two systems of indicating the pronunciation, originated by Dr. Isaac K. Funk in his *New Standard Dictionary*—one for ordinary readers, and the other for students of phonetics—and the attention given to the history of words and their semantics; W. Ripman, *A Pocket Dictionary of English Rhymes* (N. Y.); and C. O. S. Mawson, *The Dictionary Companion* (Garden City, N. Y.). In the field of encyclopedias a new departure was indicated by the publication in 25 volumes of Funk & Wagnalls *New Standard Encyclopedia*, ed. by Vizetelly (N. Y.).

Contributions to the study of grammar, syntax, and style include Frank H. Vizetelly, *How to Use English* (N. Y.), a guide to correct speech and writing; O. Jespersen, *A Modern English Grammar on Historical Principles* (Heidelberg), of which part iv, syntax 3, was issued; E. Krusinska, *Handbook of Present Day English* (3 vols. 5th ed.; Groningen), of which part ii, English Accidence and Syntax, 1, 2, 3, was published; M. H. Wesen, *Words Confused and Misused* (N. Y.), containing distinctions in the use of words; Emma L. Rice, *Handbook of Better Speech* (Kingsport, Tenn.), a reference book; *The Newgate Garland* (London), an anthology of Victorian thieves' songs and canting ballads, edited by W. L. Hanchant; *Dialect Notes* (vol. vi, parts 3 and 4, New Haven, Conn.), edited by M. L. Hanley, and containing the late R. H. Thornton's *An American Glossary*, and Prof. E. E. Hale, Jr., *Geographical Terms in the Far West*; *Folk-Say IV: The Land is Ours* (Norman, Okla.), the fourth annual volume of regional prose and verse; *Southwestern Lore* (Dallas, Tex.), no. ix of the Publications of the Texas Folk-Lore Society, edited by J. F. Dobie; F. Applegate, *Native Tales from New Mexico* (N. Y.);

and C. W. Park, *English Applied in Technical Writing* (ib.), a revised edition.

A few general works may be mentioned in concluding this section: Hilaire Belloc, *A History of England* (N. Y.), of which the present volume (iv), deals with "The Transformation of England, 1525-1612"; Prof. D. Bush, *Mythology and the Renaissance Tradition in English Poetry* (Minneapolis, Minn.), tracing the uses of mythology in English non-dramatic poetry from the Middle Ages to the Restoration; B. Brawley, *History of the English Hymn* (N. Y.), a literary, rather than musical, study; L. B. Salomon, *The Devil Take Her* (Philadelphia), a study of the rebellious lover in English poetry; Dr. P. A. Robin, *Animal Lore in English Literature* (London), including facsimiles from early MSS.; H. F. Watson, *The Sailor in English Fiction and Drama* (ib.); *Essays and Studies by Members of the English Association* (Oxford), containing contributions by Dr. R. W. Chapman, Prof. W. L. Renwick, and others; C. Oman, *The Coinage of England* (N. Y.), its history from 400 A.D.; N. Lloyd, *A History of the English House* (ib.), beginning with the Norman Conquest; and C. R. Fay, *The Corn Laws and Social England* (Cambridge, Eng.), a timely monograph.

ROMANCE, GENERAL. *Todd Memorial Volumes* (2 vols., N. Y.), edited by J. D. Fitz-Gerald and Pauline Taylor, contain a collection of philological and literary studies in honor of the late Henry Alfred Todd, Professor of Romance Philology at Columbia University, contributed by some 40 of his colleagues, friends, and former pupils. The third edition of W. Meyer-Lübke, *Romanisches etymologisches Wörterbuch* (Heidelberg) has now gone through its sixth Lieferung. *A Chrestomathy of Vulgar Latin* (Boston), edited by H. F. Muller and Pauline Taylor, is not only a handy selection of texts illustrative of the transformation of Latin into Romance, but contains a further development of Professor Muller's interesting theory of the sudden change from Latin into French. H. Kahane, *Bezeichnungen der Kinnbacke im Galloromanischen* (Jena) is an interesting analysis of all the words relating to the mouth and throat that are to be found in the early Romance languages.

FRENCH. Old French language and literature are studied in K. Voretzsch *Einführung in das Studium der altfranzösischen Sprache* (8th ed., Halle); A. Hilka, *Franz. Philologiestudienplan und Lektürekanon* (Göttingen, 1931); Schwan-Behrens, *Grammatik des Altfranzösischen* (4th ed., Leipzig); H. Omont, *Fabliaux, Dits et Contes en Vers du XIII<sup>e</sup> Siècle* (Paris), a reprint of the most ancient and important corpus of the poetry of the medieval jongleurs, written down at that time; R. Bossuat, *Histoire de la Littérature française* (ib.), of which vol. i deals with the Middle Ages; *Perlesvaus: Le Haut Livre du Graal* (vol. i; Chicago), edited by W. A. Nitze and T. A. Jenkins, a valuable edition of a 13th century French Grail romance found in the Hatton MS. of Oxford, with variants from the Welsh text, and a glossary; E. Philpot, *Trois Farces du Recueil de Londres* (Rennes), a very important and useful selection of farces; C. B. Lewis, *Classical Mythology and Arthurian Romance* (London), supplying the sources of the greatest of medieval poets, Chrestien de Troyes; Jouham de la Chapele de Blois, *Le Conte dou Barril* (New Haven, Conn.), a critical edition of a 13th century poem by R. C. Bates; M. Pelan, *L'Influence*

du "Brut" de Wace sur les Romanciers de l'Époque (Paris); *Gligois* (Cambridge, Mass.), a French Arthurian romance of the 13th century, edited, with an introduction, by C. H. Livingston; and the following excellent publications of the Institute of French Studies (N. Y.), viz., G. L. Trager, *The Use of the Latin Demonstratives as the Source of the Romance Article*, dealing especially with *Ille* and *Ipse*, up to 600 A.D.; V. L. Dedek-Héry, *The Life of Saint Alexis*, an edition of an Old French poem of the 11th century, with an introduction and a special glossary; *The "Elucidation," A Prologue to the "Conte del Graal,"* edited by A. W. Thompson; and H. L. Humphreys, *A Study of Case Reduction in the Old French Pronoun*, a very valuable contribution, supplying us with carefully prepared statistics drawn from a number of works. The Institute—which, it may be said, is a non-commercial organization—deserves warmest congratulations on its extraordinary activity during these years of depression.

Contributions to the later periods of French literature and philology include E. Garnett, *The Trial of Jeanne d'Arc* (N. Y.); Sister Mary Townner, *La Vision-Christine* (Washington, D. C.), an edition of one of the best prose works of Christine de Pisan, issued by the Catholic University; Rachel A. Taylor, *Renaissance France* (London), a survey; Jehanne d'Orliac, *François I: Prince of the Renaissance* (Philadelphia), a biography, translated from the French; E. Huguet, *Dictionnaire de la Langue française du XVII<sup>e</sup> Siècle* (Paris), of which the 17th and 18th parts of vol. ii were issued; A. B. Gibson, *The Philosophy of Descartes* (N. Y.), a study of Descartes in relation to the philosophical background of his times; P. Chesnel, *History of Cavalier de La Salle* (ib.), a translation from the French of a biography based largely on the explorer's letters and reports; G. Bonno, *Lettres inédites de Suard à Wilkes* (Berkeley, Calif.), a work issued by the University of California; J. H. Pillionel, *Les Graminées* (Cambridge, Mass.); and the following additional studies issued by the Institute of French Studies (N. Y.): Boileau, Racine, Furetière, etc., *Chapelain Décoiffé, a Battle of Parodies*, edited by G. L. van Roosbroeck; Saint-Evremond, *La Comédie des Académistes*, the text of the MS. of 1638, published with an introduction by G. L. van Roosbroeck; A. Iacuzzi, *The European Vogue of Favart*, a study in the diffusion of the "Opéra Comique"; G. L. van Roosbroeck, *Persian Letters before Montesquieu*, a very important contribution to the investigation of a widespread satirical and critical movement of the 18th century; and G. M. Spring, *The Vitalism of Count de Gobineau*.

Dictionaries and special studies include O. Bloch and W. von Wartburg, *Dictionnaire étymologique de la langue française* (Paris), of which the first of the two volumes was published; *Dictionnaire de l'Académie française* (to be in 2 vols., of 4 parts each; ib.), of which part 3 of vol. i (*Des-Fro*) appeared; *Larousse du XX<sup>e</sup> Siècle* (ib.), a six-volume encyclopedic dictionary of which vol. v was issued; J. Guiraud, *Dictionnaire français-anglais* (ib.), unsatisfactory from the English point of view; *Follett's Classic French Dictionary* (Chicago), revised by A. J. Provost, a compact as well as complete dictionary for students; *English-French Comprehensive Technical Dictionary of the Automobile and Allied Industries* (N. Y.), compiled by L. L. Sell,

the first of a series of bilingual dictionaries of the automobile industry; E. Chautard, *La Vie étrange de l'Argot* (Paris); A. van Gennep, *Le Folklore du Dauphiné* (2 vols., Paris); and C. Orsel, *Le Verbe français* (ib.).

A few general works may suffice to close this section: C. Seignobos, *The Evolution of the French People* (N. Y.), a history, translated from the French by Catherine A. Phillips; G. Lanson and P. Tuffrau, *Manuel d'Histoire de la Littérature française* (Boston), a revised edition of a textbook; J. Barzun, *The French Race* (N. Y.), a study of the theories of its origins and the resultant social and political implications, previous to the French Revolution; R. E. Curtius, *The Civilization of France* (ib.), a survey, translated from the German; H. Ormsby, *France: A Regional and Economic Geography* (ib.); and R. K. Gooch, *Regionalism in France* (ib.), a study of the movement toward decentralization in France, undertaken for the University of Virginia Institute for Research in the Social Sciences.

ITALIAN. Philological studies in Italy during the year consisted principally of bibliographical and dialectal studies. Among them we may mention *Navigatio Sancti Brendani, An Old Italian Version* (London), the 10th volume of the Publications of the Philological Society, edited by E. G. R. Waters; B. Apollonio, *Grammatica del dialetto ampezzano* (Trento, 1931); L. A. Ondis, *Phonology of the Cilentan Dialect* (N. Y.), another excellent publication of the Institute of French Studies; R. Barabesi, *Bibliografia della provincia di Grosseto* (Siena, 1931); A. Barolo, *Folklore monferrino* (Turin, 1931); S. Debenedetti, *Testi antichi siciliani* (ib.); and G. Fragale, *Saggio di Toponomastica siciliana* (Naples, 1931).

Other works include D. H. Lawrence, *Etruscan Places* (N. Y.), being a reconstruction of Etruscan civilization; *Love Rimes of Petrarch* (Ithaca, N. Y.), translated by Morris Bishop; *The Memoirs of Benvenuto Cellini* (N. Y.), translated by R. H. H. Cust; F. C. Church, *The Italian Reformers, 1534-1564* (ib.), a study of the religious controversies of that period; J. S. Kenard, *The Italian Theatre* (2 vols., ib.), a history of the Italian theatre from its beginnings to the present day; *The Golden Book of Italian Poetry* (ib.), an anthology extending from St. Francis of Assisi to the present day, edited by the late Lauro De Bosis; A. Castiglioni, *Italian Medicine* (ib.), being vol. vi of the *Clio Medica* series of the history of medicine; H. R. Marraro, *American Opinion on the Unification of Italy, 1846-1861* (ib.), an account of the reaction in America toward Italy's struggle for nationalism; and N. Spinelli, *Dizionario italiano-inglese e inglese-italiano* (Turin, 1931), of which the second—and incidentally, the weaker—part, consisting of 2145 pp. was issued.

CATALAN, PORTUGUESE, PROVENÇAL AND ROMANIAN. The intellectual activity displayed by the Catalans in the year or two of their newly acquired liberty is fully as great as their renowned commercial activity. Among the numerous works dealing with their language and literature which have been issued recently the following are noteworthy: A. Griera, *Gramàtica històrica del Català antio* (Barcelona, 1931); *Diccionari enciclopèdic de la Llengua catalana* (ib.), which has now passed its seventh fasciculus; and F. de B. Moll, *Estudi fonètic y lexicol*

*del Dialecte de Ciutadella* (Palma de Mallorca, 1931).

The ancient University of Coimbra, Alma Mater of Camões and other leading poets and writers, appears now to be the centre of the intellectual life of Portugal, and the brilliant Prof. J. da Providencia Costa is its prophet. *Bíblos*, the splendid review issued by the University under the editorship of the above-mentioned scholar, now ranks among the best in Europe. Other studies coming from Coimbra include V. Taborda, *Alto Trás-os Montes* (Coimbra), a geographical and cultural study; L. S. Machado, *Expedições normandas no ocidente da Hispânia*; etc.

Contributions to Provençal included two most valuable works: First, Frédéric Mistral's splendid *Lou Trésor dóu Felibrigue ou Dictionnaire provençal français embrassant les divers dialectes de la langue d'oc moderne* (2 vols. of 2400 pp., Paris), which may be called the Bible of the modern Félibres; and *Bertran von Born, Lieder* (Halle), edited by C. Appel, an edition of the verse of one of the greatest poets of ancient Provence.

In Rumanian we have C. U. Clark's *United Rumania* (N. Y.), a splendid survey based upon the author's *Greater Rumania*; T. W. Riker, *The Making of Roumania* (ib.), a study of Rumanian nationalism from 1856 to 1866; and J. S. Roucek, *Contemporary Roumania and Her Problems* (Stanford University, Calif.), another study of nationalism.

**SPANISH AND HISPANIC AMERICAN.** The Hispanic Society of America, which through the high quality of its work outstrips all other Spanish organizations the world over, issued two beautiful volumes, viz., G. E. Bonsor, *The Archaeological Sketch-Book of the Roman Necropolis at Carmona* (N. Y., 1931); and the same author's *The Archaeological Expedition Along the Guadalquivir* (ib.). The University of California published the following two interesting studies. L. O. Wright, *The -ra Verb Form in Spain* (Berkeley); and H. Corbató, *Los Misterios del Corpus de Valencia* (ib.), a historical and philological study of these 15th century Mystery plays.

Other works include A. de Pagés y J. Pérez de Hervás, *Diccionario de la Lengua castellana* (5 vols., Barcelona); F. R. Décano, *Filosofía del Verbo* (2d ed., Madrid, 1931); L. Beses, *Diccionario de argot español* (Barcelona, 1931); J. García Sorano, *Vocabulario del Dialecto murciano* (Madrid); H. O. Lyte, *Spanish Literature and Spain in Some of the Leading German Magazines of the Second Half of the Eighteenth Century* (Madison, Wis.), being No. 32 in the University of Wisconsin Studies in Language and Literature; F. Callcott, *When Spain Was Young* (N. Y.), stories of the great Spanish heroes of the period from 700 to 1000 A.D.; and C. R. Post, *A History of Spanish Painting* (Cambridge, Mass.), of which this fourth volume is devoted to the Hispano-Flemish period.

South America is represented by A. Malaret, *Diccionario de Americanismos* (2d ed., San Juan, P. R., 1931), which is reviewed at length in the *Romanic Review* (N. Y., July-Sept., pp. 261-3); W. S. Robertson, *History of the Latin-American Nations* (N. Y.), a second, revised edition; P. A. Means, *The Fall of the Inca Empire and the Spanish Rule in Peru: 1530-1780* (ib.); F. Shay, *Incredible Pizarro* (ib.), a biography; A. E. Elliott, *Paraguay* (ib.), a publication of Teachers College (Columbia University) dealing with cul-

tural, social, and educational conditions; E. Braga and K. G. Gubb, *The Republic of Brazil* (ib.), a survey of the religious situation; Dr. Price-Mars, *Black Gods* (ib.), an account of Haiti by a Haitian; Pura Belpre, *Perez and Martina* (ib.), an English version of an old Puerto Rican folk tale; E. H. Thompson, *People of the Serpent* (Boston), the life and adventures of an archaeologist in Yucatan; F. E. Kelly, *Pedro de Alvarado, Conquistador* (Princeton, N. J.), a biography of a lieutenant of Cortez in Central America; and W. Spratling, *Little Mexico* (N. Y.), descriptions of the daily life of Mexico and its people.

**PHONETICS AND INTERNATIONAL LANGUAGE.** General works include C. E. Parmenter and S. N. Treviño, *A Technique for the Analysis of Pitch in Connected Discourse*, published in the *Archives Néerlandaises de Phonétique Expérimentale* (Leyden, vii), and the same authors' *Vowel Positions as Shown by X-Ray* (Chicago), an arraignment of Prof. G. O. Russell's theories, reprinted from the *Quarterly Journal of Speech*. In English phonetics we have Daniel Jones, *Outline of English Phonetics* (3d ed., N. Y.); G. E. Fuhrken, *Standard English Speech* (Cambridge, Eng.), a compendium of English phonetics for French students; and C. Winkler, *Abnormal Speech* (N. Y.), a study of its cause, prevention, and treatment. French is represented by the excellent work of Prof. J. L. Barker, *French Phonetic Manual* (Salt Lake City, Utah), which is as effective in teaching correct pronunciation to beginners as in teaching how to overcome the bad accent that has once been acquired; Lilius E. Armstrong, *The Phonetics of French* (London), a very practical handbook; Gaudefroy-Demonbynes, *Manuel de phonétique française* (Paris); and H. Kellenberger, *The Influence of Accentuation on French Word Order* (Princeton, N. J.), a very scholarly contribution to the Elliott Monographs series. Professor T. Navarro Tomás has inaugurated in the Centro de Estudios Históricos of Madrid an Archivo de la Palabra, containing records of all famous Spanish scholars and writers.

Of the dozen or more international languages now cultivated in various parts of the world, Interlingua seems to be the only one making steady progress. Hence, the *Key to and Primer of Interlingua* (N. Y.) is most welcome. Mention should also be made of the Rev. E. P. Foster's *English-Ro Dictionary* (Waverly, W. Va.), consisting of English words translated into this proposed world language.

**PHILOSOPHY.** During the year 1932 the centennial of Goethe and the tri-centennial of Spinoza drew much attention to these two philosophical minds so deeply related to one another. Among the books that appeared in celebration of Spinoza and his philosophy are those of A. Wolfson, F. Kettner, A. Vlodemans, and Lewis Browne. The Goethe celebration was, if anything, more widespread and ardent, though the great poet did not receive the praise from philosophers and scientists which would have pleased him most. The world wide depression affected to a noticeable degree the temper of philosophy, and a renewed interest was shown in social and economic ethics, and a new curiosity as to the dénouement of society, man, and the universe. Naturally the startling developments in physical science have added zest to the latter interest.

The most important event in the history of

Ethics for 1932 was undoubtedly the translation of Nicolai Hartmann's *Ethik* which has been called "the greatest work of its kind in modern times." Following closely the basic principles of Max Scheler's *Die Formalismus in der Ethik und die Materiale Wertethik*, Hartmann endeavors to combine the rich insight of Nietzsche into a realm of objective values with the Kantian insistence upon the *a priori*. The ancient precursor of this method, of course, is Aristotle, and its great modern exponent, Scheler. Ethics under this new leadership is at once material, as opposed to formal, objective, *a priori*, and personal. The third volume which in some respects is the most original sets out to prove that freedom is not negative, but positive. Mere indeterminism, such as that of Epicurus, is not freedom, but distressing accident, and neither responsibility nor imputability can be established by it. Each level of existence is completely determined either by its own laws or by those of lower levels. Thus personality is determined by consciousness, consciousness by organic life, organic life by the causal structure of nature (mechanism) and the causal structure of nature by mathematical order, while mathematical order is determined by the ontologically primal and basic relations. But this determination of the higher level by the lower is only partial. So far as the higher level is governed by its material it is completely determined by the lower level, but with respect to form or pattern it has its own laws, laws which are not contrary, but supplementary to the laws of the lower level. Thus, as Hartmann says, the higher level in its distinctive character is never determined by the lower. Organic life could not determine the peculiar nature of consciousness, nor could mathematical structure determine the idiosyncrasies of the organic. Each higher stratum is therefore free as compared with the lower. This is the real nature of freedom. It is the "plus" which a higher pattern adds to the elements on which it is built, elements which are necessary but not sufficient to its existence. Thus freedom is excluded from the indeterminist's world, since higher structures and purposes can only be realized by means of causal completeness of the lower structures. But it would also be excluded from a world completely determined by mechanical causes, or completely determined by teleology. Both factors must work together if freedom, and hence morality, is to be realized. Hartmann's sound discussion approaches at times Wundt's conception of "creative synthesis," the doctrines of the creative evolutionists, and the principles of the *Gestalt* psychologists, but also, of course, goes much beyond them.

Both Hartmann and Scheler have learned a great deal from Aristotle, but at crucial points they sometimes reject his authority. Thus, according to Aristotle, a thing is good if it realizes its definition completely. So, if a man is completely rational, he is good, for virtue, as Kant would say, is binding upon the will of every rational being. This optimistic principle is rejected by Scheler and Hartmann, who insist that "what ought to be" and "what is" are independent categories, and that axiological and ontological principles are distinct. Thus, as Hartmann would say, the self is not determined by moral principles, but by itself, in the sense explained above.

The same point was discussed this year at a symposium of the Aristotelian Society on "Is Goodness a Quality?" H. W. B. Joseph in crit-

icizing G. E. Moore's doctrine that the adjective "good" is indefinable says: "What is peculiar about good is that, if you could define the good or what has goodness (which Moore says can be defined), you would thereby define its good or goodness (which he says is indefinable). That holds for any subject which is good . . . It is true of the goodness of a poem, which is really identical with the poem. . . . If the poet in turn is good, his goodness is identical with him, as this spiritual being . . ." Professor Moore replies that if a poem is identical with its goodness, then "good" could not be applied in the same sense to different poems, and to say that "This poem is good" will be the same as to say that "This poem is this poem." Professor Moore allows his opponents' contention another interpretation. By "This is good" Mr. Joseph may mean "This experience is identical with the special complex of characters which justifies us in saying that it is worth having for its own sake." But this, he says, is also wrong for I can imagine another experience having exactly the same complex of characters, which would be contrary to definition. Mr. Joseph, in his reply, does not meet this particular argument, but strengthens his position by allusions to Aristotle's doctrine that "good" is profoundly diversified in different goods, i.e. different good things. He reiterates his contention (which Professor Moore held to be self contradictory) that the nature of what is good may be distinguishable from, and yet one with, its goodness. At any rate, he says, it is no worse than asserting that a class is both one and many. Prof. A. E. Taylor agrees with Professor Moore that the goodness of the poet or poem is not identical with the poet or poem. Nor is the goodness of either "identical with the complex of characters on the strength of which we call poet or poem good of its kind." What makes the tragedy a tragedy at all is that it "means to be" something which it may conceivably not succeed in being. So far as it succeeds in realizing the typical structure which it "means to be" it is a good tragedy. Since all things are good only in so far as they realize their type or definition, and since none of them does, none of them is identical with its own goodness. But (it seems clear) this is what Mr. Joseph really meant, through he expressed it badly. Professor Taylor does not really agree with Professor Moore but with Mr. Joseph. The controversy between Professor Moore and his two opponents is the conflict of Cambridge, with its background of Realism and Logical Atomism, and Oxford with its Aristotelian and Idealistic prepossessions.

Another contribution to Ethics this year, Oswald Spengler's *Der Mensch und die Technik*, is distinguished by its practical and world-historic emphasis. The technique of modern man, according to Spengler, is a derivative of his will to power, and an analogue to the teeth and claws of the beast of prey. Corresponding to the basic division of beasts of prey and herbivorous animals, there are two ethics and two kinds of men, those who are born to lead and command, and those who are born to follow and obey. For just as some men are born poets, some are born to rule. Following Nietzsche (and in opposition to his master, Schopenhauer), Spengler allows no importance to curiosity as an independent motive to the development of science, though it is clear that theoretical science often develops before technical advantages are discerned by the will

to power. Spengler's argumentative power, detached as it is in this book from his historical erudition, appears rather weak. The beast of prey has no insatiable craving for power, but only a modest desire for a good meal. Thus, that man is a beast of prey, does not imply an insatiable craving on his part. At times Spengler's argument seems to be that the will to power, and the striving of civilized man are both insatiable and that, therefore, they are the same. The logical blunder here suggests that he has forgotten that curiosity and other passions may be as insatiable as the power-passion. No doubt, when the large work of which this book is only an excerpt, appears, it will be explained—how the one beast of prey is able to evolve so many contrasting cultures.

Charles A. Campbell's new book with the paradoxical title *Scepticism and Construction* reaffirms Bradley's destructive arguments against "appearances" and defends his "super-rational Absolute." The main argument is that reason remains unsatisfied until it finds an ultimate ground to mediate the difference of two terms. But such a ground is unobtainable since, if we find a ground *G* between the terms *X* and *Y* we must also find another ground or reason relating *G* with *X* and with *Y*, and so on *ad infinitum*, to the Absolute which is beyond the contradictions of finite reason. This argument was answered, of course, long ago by Bertrand Russell and by Josiah Royce, who pointed out that an infinite regress need not be a vicious regress. The idealist clings to it, however, in spite of all. When the Realist says some terms, *X* and *Y*, can be related without a ground or reason, the Idealist says no. Herewith they distinguish themselves. Thought and Reality cannot agree, Mr. Campbell continues, because there is a difference in kind which renders them incommensurable. And here he falls into the ancient fallacy of skeptics. He cannot know reality because he knows that reality is different in kind from knowledge. Moreover, why should he think that Thought and Reality must be of the same kind if Thought is to be true? To agree with Reality, Thought need not be identical with it, nor of the same kind. Having proved, as he thinks, that ultimate knowledge is impossible, he proceeds to vindicate a modest phenomenal truth and to construct an Ethics and a philosophy of religion which do not at all bear out his contention that skepticism is an aid to philosophical development. Thus, he decides that the moral value of an act cannot depend upon the particular content willed because this is determined by external factors—time, place, and education, while the degree of "energy-will" expended in carrying out the act, since it depends upon the person himself, will be the one deciding factor. Thus a man will be good who carried out his acts with great energy, no matter how cruel, stupid, or selfish those acts may be. This voluntarism of Mr. Campbell, together with his doctrine that "desire for good is desire of one's own good," brings him very close to Nietzsche and Spengler (as discussed above), a company he would not relish. But Scheler and Hartmann, who disprove Ethical voluntarism and the traditional British egoism, and fix their attention on the objective realm of values, reject such doctrines as Mr. Campbell's with fervor.

A book that will prove helpful to students of British philosophy is John Laird's *Hume's Phi-*

*losophy of Human Nature*, a careful commentary and interpretation of all the works of the greatest English philosopher, especially in relation to his philosophical milieu and immediate sources. With regard to the famous doctrine of Causality, Laird's comments are especially sharp and cogent. Thus he shows clearly that, though Hume denies the validity of general rules, he himself makes use of them throughout with only an occasional misgiving, and he hints that the argument by which Hume supports his contention that cause is neither necessary nor uniform assumes, at times, the falsity of this contention. On the other hand he sees nothing wrong with Hume's doctrine that causal necessity cannot be perceived. It would seem, however, that Hume accepts the objective reality of succession because it is perceived *visually*, but denies the objectivity of causal necessity because it is perceived by the kinesthetic sense, the testimony of which he allows (quite arbitrarily), only a subjective validity. Laird's commentary, at any rate, shows the pitfalls and doubtful glory of the skeptic's career. In the writer's account of Hume's theory of the passions we find again a sympathetic understanding of the philosopher in his historical setting. Hutcheson and Mandeville, we learn, had much influence on Hume at this point while Descartes' famous theory of the passions, in which the contrast of mind and body played such a central part, could not well be assimilated to Hume's account. According to Laird, Hume's insistence on the disinterestedness of sympathy was original and important, and when we consider the British tradition in which Hume wrote, this appears to be true. At the same time he calls our attention to the fact that Hume fails to make a proper distinction between pride and vanity though he criticizes Rochefoucauld for identifying the two. Throughout the book Laird has balanced his judgments so well that the polemics of T. H. Greene and the exaggerated commendation of others are corrected equally, and the philosopher displayed in his true colors.

Grieg's new edition of Hume's letters, his entertaining biography, and Laing's book on the philosopher serve to supplement the work of Laird, and to commemorate in one year both the life and works of the great skeptic.

Another philosophical biography appearing this year, Houston Peterson's *Huxley, Prophet of Science*, demonstrates conclusively that the "Bull dog of Darwin," despite his immense prestige, did not achieve philosophical distinction, though his influence on "morality," by withdrawing its theological support, was doubtless greater than that of ethical thinkers who did.

In his *Philosophy of Descartes*, Boyce Gibson argues that Descartes' mission was to bring about a reconciliation between the church and the new science of Galileo and Kepler. "Descartes' only interest" was not his physics; he also saw the crucial importance of metaphysics as a support of science, and he was sincerely desirous of restricting his doctrines to the approval of the Mother Church. Thus while Descartes, by proving the world from the existence of God, instead of proving God from the nature of the world, seemed to make God a means and the physical world an end, and theology merely ancillary to physics, such was not his intent. Though Professor Gibson accords some truth to M. Gilson's contention that Descartes allowed the exigencies of his physics to dictate his philosophical con-

clusions, he insists that Descartes is anyhow the crucible in which scientific and Christian doctrines were first brought together. Descartes' reticence and caution, his rejection of the Copernican hypothesis, and in general his anxious conformity to the Church, which has been ascribed to timidity or even moral cowardice, is explained by Professor Gibson as a consequence of his ruling passion for tranquillity, for peace and security with which to carry on his studies. In his discussion of the Ontological argument Professor Gibson remarks that Descartes had probably not read St. Anselm, and that his major premise, "I can think of a being than whom no greater exists," was highly ambiguous but that the minor premise which states that God's essence and existence are inseparable was admissible and very important. For him it seems to imply that if *anything* exists God must, for the notion of a finite being is only reached by whittling down the original notion of an infinite being. If that which is limited exists, that which is unlimited must exist. But such a limited being does exist. The self has already been proved, at least in Descartes' opinion. This variation of the argument was expressed in a letter of Descartes to Clerselier.

Our understanding of Medieval philosophy has been enlarged during the past year by the publication of a number of books. J. G. Sike's volume on Peter Abailard (Pierre Abélard) throws light on many controversial questions in the life and works of this most interesting scholastic. The popular notion that Abailard was "a martyr to Rationalism in an age which was notorious for its obscurantist thought" is rejected by modern authorities. His confidence in reason and in the power of logic in theology was even inferior to that of some of his more orthodox opponents. He allowed, to be sure, more importance to reason in relation to faith than did a voluntarist like St. Bernard, who believed that the death of the martyrs was itself a sufficient proof of the Christian dogmas. Against such doctrines Abailard argued that blind faith is of little value without understanding of what is believed, and that mere belief in the existence of God, since it is shared by devils, cannot be very meritorious. The "secrets of God," on the other hand, are not to be reached by reason. Concerning the vexed question as to Abailard's exact views on "universals," Sikes has something to contribute. Evidently the philosopher had little respect for the Nominalist theories put forward by Roscelin. Abailard's persistent attacks on various types of realism may have suggested, however, what in fact is untrue, that he rejected every form of realism. Thus when he denies that the universal "man" can be predicated universally, he is not denying that "man" is a universal, but only a certain realistic theory that "man" is a collection of individual men in so far as they are men. These cannot be predicated, the philosopher is maintaining, because they are individuals. Abailard's preoccupation with Grammar, with words, and with the process of abstraction by which we form conceptions may also have suggested the false conclusion that he denied "universals." But it is clear that he held them to be objectively real, at least in the mind of God.

An enthusiastic account of the life and thought of St. Thomas, *The Angelic Doctor*, by the eloquent Jacques Maritain, perhaps the most popular exponent of scholastic philosophy at the pres-

ent time, though it adds little to our knowledge of the subject, is, at any rate, a forceful and entertaining book.

Dr. Julius Kraft in his volume *Von Husserl zu Heidegger* has given a compact and vigorous criticism of the phenomenologists. The development from Husserl, the founder of phenomenology, to Heidegger, the latest member of the school, has been, according to Kraft, a great decline, comparable to the descent from Aristotle to St. Thomas, from Plato to Plotinus, from Kant to Hegel (or from Cæsar to Nero, we may add). Kraft first directs his attack against Husserl's super-principle that phenomenology, the science of sciences, must be intuitive, but he fails to answer Husserl's argument that the final premises of knowledge cannot be proved and hence must be intuited, if there is to be any knowledge at all, and thus his first attack fails. He also joins Scheler, who though a phenomenologist is opposed to Husserl at this point, in an attack upon the "phenomenological reduction." The exclusion of existential propositions from philosophical consideration will not give us any new knowledge that we did not possess in the "natural" outlook on the world. Kraft also opposes the phenomenological idealism of Husserl, which, he hints, has really nothing better to support it than Berkeley's discredited argument. He also rejects the claim of phenomenology that it can vindicate all knowledge. If it vindicates all knowledge, there would have to be a science to vindicate it, and so on *ad infinitum*. Husserl, however, has answered this argument, and shown how phenomenological knowledge can vindicate itself. Kraft's criticism of Husserl's and Pfänder's attempt to subordinate logic to phenomenology seems to have greater justification. For phenomenological propositions do presuppose logical ones. Phenomenology must therefore be taken as propædæutic to logic, not as logically prior to logic. Kraft pays high tribute to the genius of Max Scheler but dismisses his ethical personalism, his epistemological animism and mysticism. For Heidegger he has little respect. His philological, psychological, religious ontology, according to Kraft, approaches madness, and reaches its natural conclusion in the concept "Nothing" to which, in Heidegger's mythology, we are driven by "Care." A race of men will at last arise, Kraft remembers a prophetic saying of Nietzsche, who will reverence non-being and be ready to sacrifice even God for Nothing.

A criticism of phenomenology was rendered this year also by Ryle, Hodges, and Acton in the Aristotelian Society (London), but the appraisal and counter-arguments, though sharp and lucid, are too brief and piece-meal to match the complexity and subtlety of the school they are concerned with. The symposium of the English philosophers, however, shows us the contrast between the cautious, critical, empiricist English and the bolder, systematic, rationalistic Germans they are criticizing.

Unfortunately, none of these critics of phenomenology was able to profit by Husserl's last book, the long expected *Méditations Cartésiennes*, which was published too late to be considered. In this compact volume Husserl exhibits the relation between the phenomenological doctrine of "reduction" and the Cartesian method of systematic doubt. In agreement with Descartes he insists upon the priority and superior certainty

of subjective knowledge. The intuition of those essences which make possible all knowledge and existence is naturally prior to all other knowledge. To know that propositions are valid we must each examine them privately, and validate them in intuition, but final substantiation of these propositions will require a critique of the process of validation itself. Such a critique Husserl has supplied. This book, of course, carries on the work of the *Ideen* and *Formale und Transcendentale Logik*. It deepens the foundation of phenomenology and defines again the programme of the school.

Logic, like phenomenology, has flourished. Last year Eaton of Harvard and Stebbing of London University both published comprehensive works on logic, and each of them included an introduction to symbolic logic. The publication in 1932 of Lewis and Langford's *Symbolic Logic*, an extended work covering the history, technique, varieties, and recent developments of symbolic logic, marks the growing interest in the subject. The historical section allows Leibnitz and Boole chief credit as founders of symbolic logic, and traces the cross-influence and repercussion of the English, Italian, and German developments, all of which played their part in the formation of Whitehead and Russell's *Principia Mathematica*. Lewis contrasts "material" systems such as those of Boole, Peano, and Russell with "strict" systems such as those of McCall and himself, and states the advantages of the latter. Thus, for example, the *Principia* of Whitehead and Russell asserts that a false proposition implies all propositions and a true proposition is implied by all propositions, but these peculiar theorems do not occur in Lewis's system. A particularly interesting chapter devoted to Truth-Value Systems gives an account of the recent work of Lukasiewicz and Tarski. In his *A Review of Symbolic Logic* (now out of print) Lewis maintained that it would be possible to develop unusual systems, i.e. systems in which one such fundamental principle as the Law of Contradiction or the Law of Excluded Middle would not apply. Now he is able to make good his claim in the system of Lukasiewicz, which is consistent, according to Lewis, though in it the Law of Excluded Middle does not hold. Instead of dividing propositions into two, and only two classes, true and false, Lukasiewicz adds another class of *doubtful* propositions, and thus creates a 3-value logic which shows the most interesting contrasts to the ordinary 2-value systems. Naturally this work will have great importance in philosophy, mathematics, and science in general. The theory of the infinite and the theory of change will be affected, and such mathematicians as Brower, and such philosophers as Whitehead and Dewey, will have new ground to stand on. Langford, who writes the latter half of the book, is not always in perfect agreement with Lewis. Thus the logical realism of the former is in contradiction, it would seem, to the nominalism or conceptualism of the latter. Langford's chapter on *The Logical Paradoxes* takes up a number of problems which have come to life, or which glow again with a new insistence, in the wake of modern logic. The criticism of the theory of types and the various doctrines of the meaning of false propositions are sifted and balanced skillfully, so that the technical, logistic work is provided with some metaphysical and epistemological support.

Scott Buchanan's *Symbolic Distance* is concerned with the analysis and reduction of fictions such as appear throughout the whole range of scientific discourse. Fictions had been a great problem for the authors of *Principia Mathematica*. For them mathematics, the most certain of the sciences was concerned almost exclusively with fictions. Buchanan makes a new start. Borrowing from the forgotten work of Bentham, he decides that fictions come about by the ordinary expansion of primitive symbols, or "phraseoplerosis" as Bentham calls it. His conclusions are gained by an analysis of the part played by matrices and analogies in the structure and formation of language.

Logic, metaphysics, epistemology, and ethics are all represented in Clifford Barrett's edition of essays entitled *Contemporary Idealism in America*. Among the contributors are well-known American philosophers such as George Herbert Palmer, William Earnest Hocking, Charles M. Bakewell, Wilbur M. Urban, G. Watts Cunningham, and the English philosopher, R. F. Hoernle, and their idealisms range from individualistic to absolutistic. This volume constitutes the third American symposium representing a school of philosophers. First came the volume of the six new realists, then the polemical broadside of the seven critical realists, and now the idealists, undismayed by the hostility of the two schools of realists, but rather gaining strength by their mutual enmity, have created a school, though scarcely a programme, of their own.

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**PHONETICS.** See PHILOLOGY, MODERN.

**PHOSPHATE ROCK.** The domestic phosphate rock industry continued the downward trend which began in 1931, but the proportionate declines in mine production and shipments were not as great as in 1931; also, stocks on hand at the end of 1932 did not show as large a relative



gain as the year before. Continued curtailment in mine production indicated the efforts of producers to keep production more nearly balanced with consumption. The average value per ton of phosphate rock shipped in 1932 (\$3.24) dropped 42 cents, compared with 1931, although quoted prices in trade journals were practically the same as those for 1931. Figures compiled by the U. S. Bureau of Mines showed a decrease of about 34 per cent in mine production, compared with 1931. Shipments of phosphate rock in 1932 showed decreases of about 33 per cent in quantity and 41 per cent in value, while total stocks increased about 25 per cent. Decreases of 53 per cent in quantity and 57 per cent in value of imports of phosphate rock for consumption in the United States were recorded, and figures for exports of phosphate rock from the United States indicated decreases of about 36 per cent in quantity and 35 per cent in value, compared with 1931. The quantity of phosphate rock mined in the United States in 1932 was approximately 1,711,050 long tons, compared with 2,577,535 tons in 1931. Total shipments of phosphate rock in 1932 were about 1,700,800 long tons, valued at \$5,504,996, compared with 2,534,959 long tons, valued at \$9,288,485 in 1931. Florida furnished 1,483,435 tons and shipped 1,486,573 tons valued at \$4,652,275, or an average price of \$3.13 a ton. Tennessee produced 182,200 tons and shipped 168,026 tons valued at \$673,636 or an average price of \$3.99 a ton.

Total imports of crude phosphate rock, for consumption in the United States in 1932, were 6350 long tons, valued at \$69,879, compared with 13,496 long tons, valued at \$162,517 in 1931. As in 1931, the total quantity imported into the United States in 1932 came from two countries only—French Oceania and the United Kingdom. French Oceania supplied 6300 tons destined for Maryland, and 50 tons, valued at \$138, went to Hawaii.

**PHOSPHATES.** See FERTILIZERS.

**PHOTO-ELECTRIC RECORDER.** See ELECTRICAL INDUSTRIES.

**PHOTOGRAPHY.** A survey of the progress in various branches of photography during the year brings to light several noteworthy advances. The movie patron, for example, was able to listen to improved sound and to observe pictures of better quality than heretofore. This came about partly because the studio technician had placed at his disposal devices that permitted superior recording and photographic emulsions that possessed improved properties, and because the reproducing apparatus in theatres was improved.

The amateur for whom photography was popularized was encouraged to use cameras of compact design which were capable of taking many more pictures on shorter lengths of film. If his interests were inclined toward the small ciné camera, he had many cameras and projectors from which to choose to make his pictures obtainable at prices which made this form of recreation increasingly attractive.

Photography was also finding greater application in diverse fields of endeavor. Obliterated manuscripts were made readable, old Roman, Celtic, and Saxon landmarks defined, the shadow of the moon during a total eclipse photographed, rapid motion analyzed, and regions of the spectrum heretofore photographically inaccessible were studied with comparative ease.

In fact, there was no field of photographic work which had not benefited from the improved emulsions that have been made available during the past two years.

**APPLICATIONS OF PHOTOGRAPHY.** At the Tenth Olympic Games (q.v.) held in Los Angeles during the summer, more than 43,000 feet of motion picture films were exposed by one photographer of the different Olympic events (*American Cinematographer*, 13: September, 1932, p. 36), and many thousands of feet and rolls of film were exposed by news cameramen and spectators. A new camera was used on this occasion which not only photographed the finish of each track event but also the runner's time, correct to  $\frac{1}{100}$  second. (Fig. 1.) (*Prof. Eng.* 4: June, 1932, p. 20.)

A total eclipse of the sun occurred on Aug. 31, 1932, and attracted many thousands of persons because totality occurred in Quebec and several of the New England States. Astronomers had an opportunity to use many of the improved photographic plates, and while ground expeditions were busily exposing their plates, several aerial expeditions were training their cameras on the spectacle from many thousands of feet above the clouds. Captain Stevens and Lieutenant McAllister, for example, succeeded in recording, for the first time, the onrushing panorama of the moon's shadow, a great oval 100 by 55 miles in area. (Fig. 2.) (*Nat'l Geog. Mag.* 62: Nov. 1932, p. 581.) Earlier in the year while flying at an altitude of 23,000 feet near Salinas, Calif., Captain Stevens successfully photographed Mt. Shasta, 331.2 miles distant, which was entirely invisible. This picture is the longest distance yet photographed and the result was obtained on an infra-red sensitive film.

An interesting use of aerial photography had been made for several years by O. G. S. Crawford, of the British Ordnance Survey, who had been photographing old boundary lines and other archeological markings in various parts of England. Surface inequalities produce shadows, rocks, and bare soil show characteristic tone contrasts, and differences in soil composition are revealed by tone variations in vegetation. By photographing these areas in early morning or late afternoon, and preferably during the months of the summer, the best results have been achieved. A certain number of previously unknown early bronze age camp sites were reported by him at an international meeting held in London in August. (*Brit. J. Phot.* 79: Aug. 12, 1932, p. 481.)

A novel application of infra-red plates was that made by Bendikson who used them to reveal expurgated passages from old Latin manuscripts which were entirely opaque when photographed by visible light (*Library J.* 57: Oct. 1, 1932, p. 789), while at the other side of the spectrum, the luminescence given off by certain inks when exposed to ultraviolet radiation was photographed by Lieutenant-Colonel Mansfield in connection with a study of forged documents. (*Illustrated Catalog—Roy. Phot. Soc.* 77th Annual Exhibition p. 18.)

Strong retrenchment was practiced by the professional motion picture industry and although the number of feature pictures was not reduced greatly, economies were effected in all departments. The year witnessed further important refinements in the quality of sound motion pictures and it was expected to be only a matter of time until these would be incorporated in



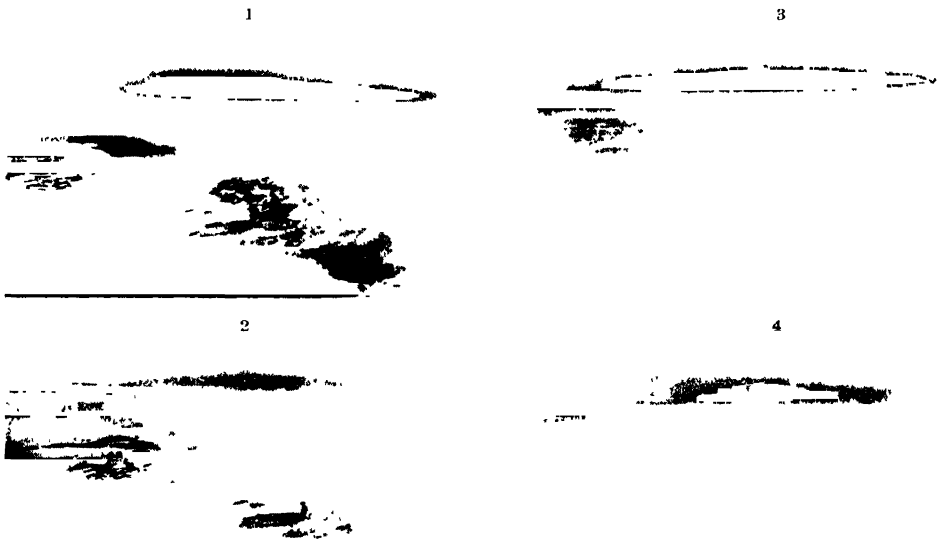
*Photographed by Dr Elmer L Pennock of Harrison, New York at Higgins Beach, Maine*  
 "CORONA" "DIAMOND RING"

VIEWS OF THE ECLIPSE OF THE SUN  
 (Aug 31, 1932)



*Copyright, Wide World*

THE TOTAL ECLIPSE OF THE SUN  
 As Seen from a New England Roadside in the Path of Totality



*Copyright, National Geographic Society*

**Fig. 2**

SHADOW OF MOON ON CLOUDS DURING TOTAL ECLIPSE OF SUN

Photographs taken at 5-second Intervals (1, 2, 3, 4) by Capt A W Stevens, at an Altitude of 27,000 Feet

**PHOTOGRAPHY**



Fig. 1

*Reproduced by courtesy Electrical Research Products, Inc., N. Y.*

PHOTOGRAPH MADE WITH KIRBY TWO EYED CAMERA

Record shows runner's time to 100th second as well as finish of race



Fig. 3

*Reproduced by courtesy Eastman Kodak Company, Rochester, N. Y.*

AMATEUR MOTION PICTURE EQUIPMENT

many theatres. Most theatre loudspeakers had a range of 60 to 5000 cycles. With the new devices, frequencies of 40 to 10,000 cycles per second could be recorded and about 60 to 10,000 cycles reproduced. Much greater volume could also be recorded and reproduced without distortion. (*Epiogram* 4: June, 1932, p. 1; *Mot. Pict. Proj.* 5: June, 1932, p. 14; *J. Soc. Mot. Pict., Eng.*, 19: Nov., 1932, p. 401.) Variable width sound records having a double edged symmetrical track instead of the single edge previously used resulted in almost complete elimination of ground noise. (*Internat. Proj.* 3: Nov. 1932, p. 26.)

The faster film emulsions, announced in 1931, came into practically universal use, both for exterior as well as interior photography and their development had become a routine matter by the laboratories. Efforts were being continued to standardize practices within the motion picture industry, one of the most notable being the final establishment of an aperture size for sound cameras and projectors.

Special process photography came into greater use in conjunction with feature pictures during recent years. Developments were directed last year toward the perfection of the projection process, wherein the background was projected on a large translucent screen before which the foreground action was staged. (*Amer. Cinemat.* 12: Jan., 1932, p. 11; *ibid.* 13: July, 1932, p. 15; and Oct., 1932, p. 11.) Almost any location could thereby be introduced without the necessity either of transporting the players to the actual scene or of building the scene on the set. This method was replacing, for many types of work, the more complicated differential lighting schemes as well as the use of backgrounds painted on glass.

The use of color in feature pictures was very much restricted over former years but several very effective "shorts" by a three-color subtractive process were released during the latter part of the year. The method was reported to be a modification of the two-color imbibition process developed by Technicolor. The patent literature also indicated much work on improved lenticular film processes.

The portrait, commercial, and news photographers were able to select a wide range of photographic materials both of improved orthochromatic and panchromatic sensitivity, as a result of the introduction of several additional emulsions.

F. E. Ives, a well-known inventor of color processes, announced an amateur process which, although incomplete from the standpoint of true color, was claimed to yield very pleasing results. It consisted essentially of superimposing a dye transparency on a blue toned bromide print. (*Camera*, Phila., 45: 1932, p. 17.) A tri-pack color roll film was also made available which had to be returned to the manufacturer for processing. (*Commercial Phot.* 7: Feb., 1932, p. 198.)

An analysis of several types of rapid movement was accomplished by Edgerton who succeeded in adapting a stroboscope as the exposing device for a continuously moving motion picture film. (*Electronics* 4: July, 1932, p. 220.)

The first sound-on-16 mm.-film projectors were marketed during the year. One system consisted of a small "edition" of the regular 35 mm. film and had the sound track located between the perforations and the picture area; another dis-

pensed with perforations along one side and located the sound track in that space: still another introduced the track on a bias between the perforations and the picture. (*Mot. Pict. Herald* 106: Jan., 23, 1932, p. 20; *J. Soc. Mot. Pict. Eng.* 19: September, 1932, pp. 219 and 237; also *Home Movies* 1: July, 1932, p. 68.)

Since the commercial introduction of amateur motion pictures in 1923, a film 16 mm. wide (about  $\frac{1}{4}$  in.) has been used extensively. This contains 40 pictures to each foot of film and a reel of 400 feet requires about 15 minutes to project, comparable with 1000 feet of 35 mm. (silent) film. A new system announced in August (*Movie Makers* 7: August, 1932, p. 350) uses 16 mm. film in the camera but makes two rows of pictures, each being about one-quarter the size of those made previously on 16 mm. film. After development, the film is split down the middle and spliced end to end. Two hundred feet of this film which is 8 mm. wide is equivalent to 400 feet of 16 mm. or 1000 feet of 35 mm. film. The process thus reduces further the cost of amateur "movies" and makes available a very compact camera, and projector. (Fig. 3.)

An emulsion of high speed was made available for Kodak color users which made possible exposures under less favorable lighting than were possible heretofore and, in addition, gave a further improvement in color quality. (*Movie Makers* 7: April, 1932, p. 158.) Another lenticular color process known as Agfacolor, and using 16 mm. film, was introduced commercially (*Amat. Phot. and Cinemat.* 74: Sept. 21, 1932, p. 274). A two-color additive process, utilizing filters in a rotating sector wheel before both the camera and projector lens, and having a novel pull-down mechanism, was announced under the name, Morgana process. (*Filmo Topics* 8: June-July, 1932, p. 4.)

Motion pictures on film 16 mm. wide were finding greater use in schools, libraries, and for general recording purposes. The visual education department of the Philadelphia Public Schools, for example, had over two million feet of film available. (*Amer. Cinemat.* 13: May, 1932, p. 46.) The University of Chicago was preparing an extensive programme of short supplementary lectures by authorities in different branches of science to be made on 16 mm. films. This is believed to represent the first use of sound-on-16-mm. film for educational work. The great value of this medium for copying books, manuscripts, and even newspapers was stressed by Henry who reported that the 1931 catalogue of the *Société des Editions sur Films des Bibliothèques Nationales de France* contained many thousands of pages of rare manuscripts and prints. (*Library J.* 57: Mar. 1, 1932, p. 215.) All details of the largest building project ever conducted under a single management, the Rockefeller Center in New York, were being recorded on 16 mm. films. (*Movie Makers* 7: October, 1932, p. 432.)

Improvements were made in the sensitiveness of fluorescent screens and in the quality of sensitive materials for X-ray photography.

As a result of a marked trend in the last three years, four-color work was commonly supplied in offset printing. Dry lithography was being introduced into non-printing offices and plants in the form of small offset presses, the process being known as "Drylith." The Howey photo-electric engraving machine announced in 1931 was in

actual use on several newspapers. Three-color reproductions were also produced with the aid of this apparatus. (*Photo-Engravers Bull.* 22: November, 1932, p. 141.) A comprehensive treatise on the theory of lithographic printing containing an excellent bibliography was published by Tritton (*J. Soc. Chem. Ind.* 51: September 2, 1932, p. 299 et seq.).

**PHYSICAL MEASUREMENTS.** According to the May, 1932, report of the Progress Committee of the Society of Motion Picture Engineers, "... sensitometric methods of control so long followed in sound processing work, are now slowly but surely finding application in the work of developing the picture negative." (*J. Soc. Mot. Pict. Eng.* 19: August, 1932, p. 117.) Each year additional attempts are made to eliminate uncertain and laborious "trial and error" methods in photographic practice. An instrument for precise photographic photometry was described by Jones and McFarlane, which permits very accurate measurement of filter factors, photographic reflection, and transmission of colored materials, and the photographic intensity of light sources (*J. Soc. Mot. Pict. Eng.* 19: October, 1932, p. 361.)

Reflection densities of photographic papers were claimed to be measured easily and without eye fatigue by means of a sensitive electrical instrument embodying a photo-cell. (*Phot. J.* 72: February and March, 1932, pp. 57 and 344.) Lees described an unusual form of recording microphotometer. (*J. Sci. Instr.* 8: September, 1931, p. 273.) A scatter method of measuring the graininess of a photographic silver deposit was stated by Threadgold to give results closely in agreement with visual examination. (*Phot. J.* 72: August, 1932, p. 348.)

Qualitative measurement of spectral sensitivity of a photographic material has been made for many years with the aid of an instrument known as a wedge spectrograph. All absorbing wedges, however, possess a small amount of spectral selectivity. To overcome this objection and increase the precision of this type of instrument, Miller designed a spectrograph which does not require an absorbing wedge. (*Rev. Sci. Instr.* 3: January, 1932, p. 30.)

As a means of effecting further improvements in tone quality of photographically recorded sound, Sandvik and Hall investigated the harmonic content of variable density sound records and found the conditions of exposure and development giving minimum harmonic content. (*J. Soc. Mot. Pict. Eng.* 19: October, 1932, p. 346.)

**MANUFACTURE OF SENSITIZED MATERIALS.** Several classes of panchromatic materials were made available for the user of photographic films and plates, so that a selection could be made on the basis of high sensitivity in different spectral regions, blue, green, or red, depending on the requirements which needed to be satisfied. For certain of the highly red sensitive types it was found necessary to introduce new light filters of a yellow-green color which absorbed in the red and reduced the exposure in this region. (*Studio Light* 24: March-April, 1932, p. 15; *Kinotechnik* 14: Mar. 1, 1932, p. 90.)

Significant progress was noted by the spectroscopist and the astronomer using improved emulsions made available in 1931. (See **NEW INTERNATIONAL YEAR BOOK—1931**, p. 656.) Many of these materials were used for recording the solar

eclipse in August, and others for stellar spectra in conjunction with the great telescopes at the observatories throughout the world. (*Public. Astron. Soc. Pacific* 44: August, 1932, p. 269; *ibid.*, October, 1932, p. 323.) Of especial significance were the distinct improvements noted in the sensitizing of emulsions to infra-red. (*J. Opt. Soc. Amer.* 22: April, 1932, p. 204; also *Phot. J.* 72: August, 1932, p. 334.)

A new sensitizing dye, Xenocyanine, made possible plates having a broad sensitizing band from 8000 to 12,000 Å, making it possible to record spectral lines many times fainter than those which could be recorded on materials heretofore available for the interval 9000 to 10,000 Å. Infra-red arc spectra of 50 elements were observed with these plates by Meggers and Kiess, who reported on finding many new lines. (*Bur. Stand. J. Research* 9: September, 1932, p. 309.)

Fuchs discussed the newer dyes belonging to the cyanine classes and also published data on the stabilization of photographic emulsions. (*Phot. Ind.* 35: June 8, 1932, p. 578; *ibid.*, Aug. 24, 1932, p. 843.)

Until last year most amateur roll films were supplied in 6-, 10-, and 12-exposure lengths. During the year, the 6-exposure length was replaced largely by 8-exposure rolls at no increase in cost to the user over that of the 6-exposure rolls. Orthochromatic films and plates were improved further in sensitiveness and quality for the amateur, the commercial and the press photographer.

Information on analysis of emulsions was presented by Carroll and Hubbard in two papers. (*Bur. Stand. J. Research* 8: April, 1932, p. 481; *ibid.*, June, 1932, p. 711.)

Methods for increasing the sensitiveness of wet collodion and of bichromated gelatins were described respectively by Wilkinson (*Process Engraver's Monthly* 39: February, 1932, p. 33), and by Lobel and DuBois (*Bull. soc. franc. phot.* (3) 19: March, 1932, p. 57).

The Soviet film industry was reported to have two raw film plants in operation which were turning out 60,000 meters of film daily. (*Bull. Mot. Pict. Div.*, U. S. Dept. Comm., Apr. 6, 1932, p. 1.)

**NEW APPARATUS.** The trend for smaller cameras continued to grow but these cameras did not seem to meet with the same enthusiastic reception in America as on the European continent. (*Phot. Ind.* 30: Aug. 3, 1932, p. 769.) Several cameras were added to an already growing list which permitted 16 exposures on 8-exposure lengths of film, each picture being about one-half size those normally made on such film. Several types using 35 mm. film were proving popular although the box camera and the folding pocket type continued in greatest use. An innovation was the introduction of reflex cameras of small design using "vest pocket" and other small films. (*Brit. J. Phot.* 79: Jan. 15, 1932, p. 38; *Amer. Phot.* 26: December, 1932, p. 735.)

Aerial cameras were also being lightened considerably in their design as it was recognized that the majority of commercial aerial photographs could be made easily with hand held cameras. (*Photo-Era* 68: March, 1932, p. 160.)

An "evidence camera" which recorded a miniature set-up of a traffic accident, the names of the witnesses, and the affidavit of a witness was claimed to represent a valuable adjunct in the settlement of accident cases.

In the motion picture field, camera housings or blimps were considered necessary on most all cameras for sound photography, even with further improvements in silencing camera mechanisms. The housing made the sound cameras appear almost as bulky as some of the camera types of 1905 to 1910. One camera utilized an evacuated housing for which certain claims were advanced. (*Internat. Phot.* 3: November, 1931, p. 27.) Cranes and booms have been used for several years to swing the camera toward or away from the centre of action on a motion picture set. In such work, it is necessary to have a means of varying the focus throughout the movement of the boom. By using a lens having a new optical design, these "zoom" effects may be accomplished from a stationary camera and without the use of a crane. With this lens the objective is always in focus while varying the magnification. (*Amer. Cinemat.* 13: June, 1932, p. 16.)

Adjuncts to the making of sound motion pictures consisted of the following: several types of cranes or booms which permitted the camera to be moved quickly and smoothly several feet above the floor level; perambulator or movable tripods of intricate mechanical design; portable sound recording units; and such special equipment as a distortion-factor meter, reverberation meters, synchronous interlocks, etc.

It had been common practice for several years to record negative sound records along one edge of a separate film from that which is used for the picture, except in news work where the sound was recorded on the same film as the picture. In order to economize on film consumption, most studios last year adopted a practice of recording sound along both edges of a separate film from the one used for the picture record. After processing, the film is split into two 17.5 mm. strips, broken into scenes, and printed as a positive along two edges of 35 mm. film, and again developed and split into two 17.5 mm. strips for editing with the picture positive. (*Amer. Cinemat.* 13: October, 1932, p. 22.)

A useful camera set-up for motion photomicrography was described by Loveland (*J. Opt. Soc. Amer.* 22: March, 1932, p. 161).

An elaborate exposure meter containing two photoelectric cells of the photronic type and having a dial which reads directly in the exposure units required was marketed for the ciné amateur. (*Popular Sci. Monthly* 121: November, 1932, p. 22.) A compact exposure meter of the extinction type was introduced as an attachment for the Leica camera. (*Brit. J. Phot.* 79: June 24, 1932, p. 388.) A comprehensive review of various designs of exposure meters was published by Pledge. (*Phot. J.* 72: May, 1932, p. 206.) Film editing machines taking either sound-on-film, or picture and sound on separate films were in use, one type having a non-intermittent film driving movement (*Kine Weekly* 183: May 12, 1932, p. 57).

Incandescent lamps were improved both for amateur as well as professional work. An over-volted model gave very satisfactory illumination for the amateur users (*Movie Makers* 7: April, 1932, p. 168), and a radical change in design which eliminated the usual metal base was introduced for large studio lamps. (*Amer. Cinemat.* 13: July, 1932, p. 25.)

Several new models of amateur ciné cameras and projectors were introduced. (*Phot. Korr.* 68: February, 1932, p. 34; *Technique Cinemat.*

3: March, 1932, p. 155; *Phot. J.* 72: January, 1932, p. 41; *Amer. Cinemat.* 3: August, 1932, p. 11.)

THE PHOTOGRAPHIC PROCESS. For the development of the smaller films containing 8 to 16 exposures, fine grain negative developers continued to be recommended by various individuals although the merits of many of the formulas were questionable. An increasing tendency prevailed for the development to a comparatively low degree of contrast of motion picture, portrait, commercial, and some amateur negatives. Better quality prints with decreased graininess were claimed.

Details for the making of negative duplicates from originals were published by Crabtree and Schwingel. (*J. Soc. Mot. Pict. Eng.* 19: July, 1932, p. 891). Carroll and Hubbard described the mechanism of hypersensitization. (*J. Soc. Mot. Pict. Eng.* 18: May, 1932, p. 600.)

PHOTOGRAPHIC THEORY. From the behavior of plates on physical development, which have silver layers of less than unimolecular thickness, Reinders and Hamburger concluded that the lower limit of developability "lies in an average thickness of 0.001 to 0.005 atom of silver, three silver atoms constituting the smallest developable aggregate." (*Z. wiss. Phot.* 31: 1932, p. 32.) Schwartz and Urbach considered the latent image as a photoelectrically discharged grain surface. (*Z. wiss. Phot.* 31: 1932, p. 77.)

A colorimetric method for the determination of small quantities of silver has been worked out by Jelley based on the reduction of ammoniacal solutions of sodium hydrosulphite in the presence of gelatin to form clear yellow silver solutions of a reproducible shade. (*J. Soc. Chem. Ind.* 51: 1932, p. 191.)

Bullock has shown under definite conditions that there is a spontaneous growth of the latent image which continues for a time after the exposure has been ended, and he contends that the effect doubtless enters as an error into most scientific applications of photography. (*Sci. ind. phot.* 3: 2d Series, June-July, 1932, p. 201.)

Hilsch and Pohl showed in 1930 that light absorption with the alkaline halides is directly attributable to the energy required to transfer an electron from anion to the cation. As pointed out by Sheppard and Vanselow (*Z. wiss. Phot.* 30: March, 1932, p. 272), for the silver halides, this involves the lattice energy of the crystals and the ionization potentials of the elements. In the case of the silver halides the observed absorption does not correspond with that calculated on this basis. The absorption extends further into the long wavelengths than would be predicted, by an amount increasing progressively from silver chloride to silver iodide. (*Bericht VIII Internat. Kongress Phot.* Barth, Leipzig, 1931, p. 13.)

Both in regard to color sensitized and non-color sensitized emulsions, attention was being devoted increasingly to the adsorption of different ingredients by the silver halide. Experimental evidence was advanced to show that acid dyes are adsorbed to silver bromide only in the presence of silver ions, and basic sensitizing dyes mainly in an alkaline medium and with excess of bromide ion. Quantitatively it was found that the adsorption of the dye and of gelatin approached a mono-molecular layer about the grain. (*J. Physical Chem.* 36: January, 1932, p. 174.) These results were confirmed by Carroll

and Hubbard who showed further that differences exist between individual dyes which may be explained on the hypothesis that spectral sensitization depends on adsorption of the dye by the oppositely charged ion of the silver lattice. (*Bur. Stand. J. of Research* 9: October, 1932, p. 529.)

**BIBLIOGRAPHY.** General reviews of photographic progress are published annually by the Society of Chemical Industry (London), and *British Journal of Photography* (London). The *Jahrbuch für Photographie*, edited by J. M. Eder (Vienna), also provides a valuable summary of progress but, unfortunately, conditions have made regular publication impossible. Several annuals issue a yearly review of new apparatus, namely *Cinematographic Annual* (Hollywood), *Deutscher Kamera Almanac* (Berlin), *Photofreund Jahrbuch* (Berlin), *British Journal Almanac* (London).

During 1932, *Photo Era* (Wolfboro, N. H.) was absorbed by *American Photography* (Boston), and *Bioscope* (London) was incorporated with *Kinematograph Weekly* (London). Two new British publications appeared, namely *Home Movies* (London), and *Photography* (London). The first issues of a quarterly, *The Journal of the Biological Photographic Association* (Baltimore), appeared during the latter part of the year.

The more notable books of the year were: *Bericht über den VIII Internationalen Kongress für Wissenschaftliche und Angewandte Photographie*, Dresden, 1931 (Barth, Leipzig); L. Hacker, *Cinematic Design* (Amer. Photo. Pub. Co., Boston); B. B. Hampton, *A History of the Movies* (Covici Friede, N. Y.); B. Brown, *Talking Pictures*, (Pitman & Sons, London); G. F. Jones, *Sound Film Reproduction* (Blackie & Sons, London); J. R. Cameron and J. A. Dubray, *Cinematography and Talks* (Cameron Pub. Co., Woodmont, Conn.); *The Film in National Life*, (Allen & Unwin, London); M. Hesse and C. Amedée-Mannheim, *La Photographie* (Colin, Paris); A. von Bariss, *Wie fotografiere ich in Farben* (Bechhold, Frankfurt); H. Schwartz, *Trans. from German by H. E. Fraenkel, David Octavius Hill* (Harrap & Co., London); W. J. Smith, E. L. Turner, and C. D. Hallam, *Photoengraving in Relief* (Pitman & Sons, London); K. Gnoth, *Die modernen Reproduktions- und Kopierverfahren im Dienste des Offsetdruckes*, (Gnoth, Leipzig); O. Gruber, *Photogrammetry*, Trans. by G. T. McCaw and F. A. Cazalet (Amer. Photo. Pub. Co., Boston); H. Luscher, *Stereophotography* (Union Deutsche Verlags, Berlin); A. C. Hardy and F. H. Perrin, *The Principles of Optics* (McGraw-Hill Book Co., New York); P. Fleury, *Étalons Photométriques* (Éditions de la Revue d'Optique, Paris); J. J. Rorimer, *Ultraviolet Rays and Their Use in the Examination of Works of Art* (Metropolitan Museum of Art, N. Y.); H. C. Pillsbury, *U. S. Army X-ray Manual* (Hoebner, N. Y.).

A partial list of the handbooks and annuals appearing during the year is as follows: *Ausführliches Handbuch der Photographie*, edited by J. M. Eder, W. Knappe (Halle)—volumes appearing during 1932 were: vol. i, pt. 1, *Geschichte der Photographie*, and vol. iii, pt. 3, *Sensibilisierung und Desensibilisierung*; *Handbuch der wissenschaftlichen und Angewandten Photographie*, edited by A. Hay, 9 vols., Springer (Vienna)—volumes appearing during 1932 were:

vol. i, *Das Photographische Objectiv*; vol. vi, *Die theoretischen Grundlagen der Photographische Prozesse* (edited by W. Meidinger); vol. vi, pt. 1, *Wissenschaftliche Anwendungen der Photographie*; *Jahrbuch für Photographie, Kinematographie, und Reproduktionsverfahren für die Jahre 1928-1929*, vol. 31, pt. 1, edited by J. M. Eder, W. Knappe (Halle); *American Annual of Photography*, American Photographic Publishing Co. (Boston); *Photofreund Jahrbuch 1932-1933*, Photokino Verlags (Berlin); *British Journal Almanac*, Greenwood (London); *Deutsche Kamera Almanac*, Berlin; *Soviet Photo Almanac*, Moscow; *American Cinematographic Annual*, Hollywood; *Kinematograph Yearbook*, London; *Penrose's Annual*, London; *Klimschs Jahrbuch*, Frankfurt a. Main.

**PHOTOPLAYS.** See MOTION PICTURES.

**PHYSICAL ANTHROPOLOGY.** See ANTHROPOLOGY.

**PHYSICS.** The year 1932 was marked by intensive work in atomic physics. The order of accuracy and the volume are notable. At the same time, never was speculation more active among truly great physicists. Cosmic rays, the discovery of the neutron, transmutation, the principle of uncertainty, the expanding universe and its physical destiny, the accelerated proton as a laboratory tool for disrupting or building up atomic nuclei, the production of gamma rays, the physics of the weather and of plant growth—are typical subjects engaging the thought and experimental activity of physicists. A sense of impending discoveries of great importance pervades the literature as the technique of transmutation is being mastered and becoming an every-day procedure in many laboratories. The rise of the electron tube, with its countless uses, raises the expectation that nuclear physics may be of comparable fruitfulness.

At Leningrad a notable conference on the structure of matter was held. Dirac gave an analysis of atomic structure in terms of neutrons and protons and how these accord with the principle of conservation of energy. The latter is held in spite of electron emission from radioactive bodies which seems at variance with the conservation of energy. The modern theories of the structure of matter already show noteworthy practical applications—the deformation of the slip planes in structural metals is studied by X-ray crystal lattice analysis. The control of the properties of alloys is in sight as evidenced by the production of some 1600 kinds of alloy steel.

The rise of metals in quantity production is illustrated by the production of 10 pounds of indium, a very rare metal of atomic number 49, which is now available for research purposes. The rare element of atomic number 75, rhenium, has been produced in quantity sufficient for exhibit purposes and experimentation. Transparent steel is now available for use in scientific instruments. Dow found it practical to replace copper as a conductor in an electrochemical plant, using a 4-inch iron pipe filled with sodium. This conducted three times as much current as copper per unit weight at 4000 amperes.

Pettit correlated the ultra-violet variability of sunlight with the sunspot curves since June, 1924, except the year ending June, 1929. The problem of ultra-violet dosage is of much interest. Knudson cured rickets in a patient in three weeks by radiating one-fourth of a square inch for 20 minutes daily, or one square inch



for five minutes daily. Bowden and Snow report that ultra-violet will change carrot yellow pigment into vitamin A and foresee a new industry—the production of this important vitamin wholesale. The effective wave length is 2650 angstroms and the mother substance is carotene.

Using special photographic emulsions devised by the Research Laboratory of the Eastman Kodak Company, the Bureau of Standards extended spectroscopy to 1200 millimicrons, opening up frequencies far beyond the limits of vision where the main features of the spectrum of some of the elements lie. In a study of carbon arc fluorescence of formaldehyde, Herzberg and Franz found two frequencies in the ground state, 1713 and 1023, respectively, which are also given by the Raman Spectrum: 1713 is doubtless the C-O vibration; 1023, the H transverse vibration.

Bhagavantam presents (*Indian Journal of Research*) a complete study of the Raman spectrum of hydrogen. The intensity of the unchanged lines were in disagreement with the theoretical values of the Raman lines. Bhagavantam and Raman found that the disagreement vanishes if we assume that the photon rotates with angular

$$\text{momentum } \pm \frac{h}{2\pi}.$$

If an atom of hydrogen unites with an atom of oxygen, a certain unit quantity of energy is set free as radiation. To ionize a radium atom involves a million times this quantity of energy and the ionization involved in cosmic rays requires several hundred million volts. Millikan and others attribute such rays to the synthesis of the heavy elements out of hydrogen and helium. Millikan and Anderson described the latter's experiment showing that the cosmic rays are absorbed by the nucleus. Tracks in a field of 17,000 gauss indicate positive particles mostly. In 17 per cent of the cases the nuclei were broken up, ejecting positive and negative particles.

Taylor compared X-ray ionization standards of the Bureau of Standards with those of England, Germany, and France, showing an agreement within a half per cent. No change was detected from disturbance during transportation. Lauritsen's million-volt tube gives X-rays equal to 20 roentgens at 70 centimeters, the medical equivalent of 2 kilograms of pure radium which would cost at present prices \$20,000,000. See RADIUM.

*Cosmic rays* were central in interest for physics. Dirac suggests the combination of a positive and negative pole as fundamental entities and the simplest system for creating cosmic rays of a billion volts. Cosmic ray research advanced on a wide geographic front. Compton reported a 16 per cent increase at latitude 45, and 23 per cent at 9000 feet, near the north magnetic pole. Mott-Smith and Howell "find the intensity of cosmic rays at 25,000 feet to be 21 times that at sea level and that it is still increasing rapidly. At that level an inch of lead will stop 40 per cent of the rays." Compton used an electrometer to measure the electric current produced in a chamber containing argon gas when cosmic rays penetrate it. Since March, 1932, he has taken and received observations from many parts of the western hemisphere. His conclusions controvert the wave or photon theory of cosmic rays held by Millikan and support the charged particle hypothesis of cosmic rays. Neutrons would not be affected by lines of magnetic force. If of local origin they would diminish as observed

at higher and higher atmospheric levels. Compton holds that electrons shot from the sun cause the aurora and are cosmic rays.

*Radio* (q.v.) was an active field—radio beacons for aviation, radio communication systems for the aviator, entertainment, news, political addresses, instruction, systems for keeping in touch with polar expeditions, storm detectors, blind landing systems—all these and the fundamentals of frequency control with high precision and the adaptation of the most suitable wave length to the transmission conditions of the atmosphere, form a field of experiment and trial of unusual importance. The Bureau of Standards eclipse expedition did not confirm the supposed rain of neutrons, but rather supported the view that the ultra-violet of sunlight is responsible for the ionized layer. The Bureau of Standards three new laboratories and transmission stations at Beltsville, Maryland, are to be devoted to a continuous transmission of signals of scheduled frequencies most useful in industrial alternating current power circuits and useful ranges of kilocycles for radio transmission. An accuracy of within a part in 5,000,000 is being regularly attained in its transmissions. Its three new receiving laboratories at Meadows, Maryland, are to record continuously and automatically the height of the ionized layer.

*Television* (q.v.) advanced in laboratory developments of devices and methods. Applications of radio physics are found in the radio storm detector in power plants to warn of thunder storms within a hundred miles so that the plants may prepare for heavier loads on lighting circuits. In studies of nerve impulses, Bronk found their speed ranges from 3 to 300 feet per second and that they are electrical, with frequencies of a few to more than 100 per second.

"Noise," undesired sound, engaged the attention of physicists. Graphic recorders, noise meters, and the measurement of noise types in typical environs are of notable interest. One recording sound meter functions with a maximum intensity one-half billion times the minimum sound. Another is used to study the entire acoustic spectrum intensively. The Bureau of Standards has developed a very effective apparatus, entirely free from the personal equation. The "campaign against noise" in America and abroad aims to prevent noise making and reduce its transmission by sound-absorbing construction or materials. The extraordinary success in making an eight cylinder explosion motor completely silent even above 2000 r.p.m. is a notable achievement.

*Electronic Music.* Of increasing interest and significance is the arrival of electronic music. Great organs of unsurpassed tonal beauty are now available, which have not a single pipe, reed, or stop—only radio tubes and electric wires. Electronic music marks the beginning of a new art and a new industry, the physical actuators and controls of which will afford great scope for physical research.

*Sound.* The physics of sound has many and varied applications, but the merest mention must suffice. Sound-absorbing materials were submitted in considerable number to the Bureau of Standards, and the industry for their production has grown 400 per cent in the present depression period. Telephony involves research affecting the clarity of transmitted speech. Inglis, Gray, and Jenkins devised an artificial voice and ear as a

standard source and receptor of unvarying high quality. Graphs of the living voice and of the standard source match with astonishing perfection. The standard voice duplicates the uttered sound as modified by nearby objects so that the least modification of the transmission system gives with great fidelity the exact effect of such modification upon the listener.

In talking motion pictures such fidelity of sound, music, and speech is called for. The high-frequency components are the field which is at present active. Studies of the pitch and loudness show that tinkling keys have the highest frequency that man can detect by the ear and the lowest rumble of a grand organ the lowest. The sound of artillery fire is the loudest endurable sound and that of rustling leaves the faintest of audible sounds, in the energy ratio of 100 million million to 1.

By X-rays Bragg analyzed *space lattices of crystals* of complex forms of silicates. Anderson found that real pearls show a hexagonal lattice and detected culture pearls by their 4-fold symmetry. Joffe pointed out that crystals offer smaller electrical resistance the more perfect their lattice. Theile, in a study of the temperature, plasticity, and tensile strength of rock-salt crystals, found that distortion and strengthening were aided by heat, and at 600° the strengthening was 1000 times that of the stress when plasticity began. The breaking strength was then within a tenth of the theoretical lattice strength. Rexer tempered solid rock salt, producing notable changes, e.g. in phosphorescence and alkalinity. Frankel discussed the measurable rigidity of liquids under high frequency mechanical vibration. Sounder found new regularities connecting the elements, their isotopes and their abundance, as well as their structure and other properties. In a study of Fe-Al alloys, Bradley and Jay correlated crystal structure and percentage composition and heat treatment. Anderson interprets crystal growth in Group II metals (Be to Hg) in terms of atom-by-atom accretion. The force of an impacting atom varies as the number of neighboring lattice atoms. He derives the related deposition energy for eleven typical positions of different crystal structure. Goetz and Zwicky open a new field—"freezing the atoms"—in crystal structure to within 1.5° C. of absolute zero. The freezing serves the same purpose that dyes serve in the selective staining of biological specimens for microscopic study. Goetz has pointed out some astonishing possibilities for metallurgy.

Finch used a variable condenser and cathode-ray oscillograph to study high-speed rotations of an easily deformable shell at 30,000 r.p.m. Reltón found that such experimental work aids mathematical analysis, confirming assumptions and disclosing unsuspected factors. The use of motion pictures in scientific research is growing. Motion picture machines capable of handling 80,000 exposures per second have been produced and the conditions under which 3,000,000 pictures per second can be handled have been formulated. Edgerton and Germeshausen with exposures of a half-millionth of a second and light equal to 40,000 fifty-watt lamps studied the detail motions of familiar phenomena, the wink of an eye, the tee-off of a golf ball, the fall of a drop of milk on a milk surface. The research programme of the McMath-Hulbert Observatory

extended the use of motion pictures to variable star cycles, motions of sunspots, the activities of solar phenomena, and cometary changes and movements.

Most significant was the new programme of instruction in fundamental physics by the use of motion pictures, by the University of Chicago. The first two films, "Reduction and Oxidation," and "Molecular Structure," viewed by the writer of this article, are believed to offer great promise of interesting films destined to accelerate a grasp of the principles of fundamental physics by the student.

*Computing Machines.* Mechanization has spread to the details of scientific computing. The monumental task of computing the 1400 harmonic terms in the moon's motions was set to electric machine tabulation and automatic computation at one-fourth the cost and 10 times the speed. The Bush computing machine has already solved some thousand complex equations, notably in atomic physics. The accuracy of automatic computing machines appears in a year's work of one machine which performed operations involving 30,000,000 numbers without error. A great variety of computing work is now possible with commercial machines adapted to specific uses.

The research development of *photo cells* was toward the voltaic type. The applications continue to multiply. The photo cell proved to be a better egg candler than the human eye. One new cell responds to one-quintillionth ampere. The Weston photo cell and that of Westinghouse work as a relay directly from the cell to the machinery to be controlled, without any other source of current. Fricke and also Coblenz use the photoelectric cell to measure the ultra-violet intensity of sunlight. In Fricke's device, electrons in being emitted from the cathode absorb the ultra-violet and neutralize a definite known potential.

*Controlled environment* (indoor climate) continued to be an active field for applied physics. Abbot published results on the lethal effect of ultra-violet, the bending of plants toward light, dependence of wheat growth on the radiation intensity and amount of carbonic acid available, the transparency of chemicals to rays, and optimum conditions for plant growth. In many laboratories related experiments are in progress which show the unexpected importance of control of the physical conditions and the astonishing response of plant life to new conditions. Rose seeds at 41° germinated in 140 days as against five years or more under usual conditions. Potatoes from seeds exposed to ethylene chlorhydrin grew 2 feet high and bore tubers before untreated stock was above ground. Holly berries growing usually in five years arrived, in a controlled environment, within 10 months at the Boyce Thompson Institute for plant research.

*Mass Spectrograph.* Tungsten helide will be recalled as perhaps the first molecule involving any atom of the inert group VIII as disclosed by the mass spectrograph. Weil and Fraunhofer in a new achievement caused the combination of krypton with chlorine forming krypton-chloride, a dark red substance. Clearly the elements of group VIII of the atomic table can no longer be regarded as strictly inert. Smythe and Mat-tauch devised a non-magnetic mass spectrograph. An alternating electric field at right angles to the paths of the particles eliminates all but the de-

sired velocities. The ratio of  $O^{16}$  to  $O^{18}$  exceeds 600.

Blekney found that ions ( $H^1H^1H^1$ ) of mass 3 and ( $H^1H^2$ ) all of mass 3 are formed at a frequency proportional to the pressure. Commercial hydrogen shows a ratio of  $H^2$  to  $H^1$  molecules, one in thirty thousand, and for the sample prepared by Urey, Brickwedde, and Murphy it was one in one thousand. Bainbridge finds the mass of  $H^2$  to be 2.01353 plus or minus .000064 by mass spectrographic methods, using 14 spectra, comparing the mass of ( $H^1H^2H^3$ ) with He, the masses of helium, hydrogen, and the electron being accepted as the 4.00216, 1.00778, and 0.00055 on the  $O^{16}$  equals 16 basis. If the  $H^2$  nucleus is formed by a proton and a neutron of mass 1.0067, the binding energy will be under a million electron volts.

Washburn and Urey found a source of the newly discovered hydrogen atom of mass 2. In the industrial production of oxygen and hydrogen by electrolysis, the hydrogen mass 2 occurs more plentifully in the residual waters. Lawrence is able with his new machine to produce hydrogen molecule ions, consisting of two protons united by an electron. He whirls protons in magnetic fields using one of the largest electromagnets in the world.

As the basis for atomic weights R. Mecke rejected hydrogen and suggested helium 4,000 which seems to have no isotopes. Nuclear structure is not well enough known to permit a more fundamental principle to be applied.

Dirac held that the radiation field and the atom are energy systems comprising the energy of the atom, the energy of the electro-magnetic waves (the field), and the energy of coupling of atom and field.

MacMillan interpreted the red shift in nebular spectra as a Doppler phenomenon. A small leakage of a photon's energy may reduce the quantum and thus lengthen the wave. One per cent loss in 17,600,000 years would suffice to give the effect of nebular recession. Flint outlined a 5-dimensional theory of gravitation and quantum mechanics, deducing a smallest detectable length and a smallest detectable time interval for a moving particle, and thus generalized the uncertainty principle of Heisenberg. Heisenberg admitted that observational verification of every scientific concept is an impossible ideal, mitigating somewhat his extreme interpretation of the principle of indeterminism (the denial of causality).

**Atom Disruption.** Thirteen years ago this reviewer of physics recorded the first artificial disruption of the atom when Rutherford knocked a hydrogen atom out of a nitrogen atom. To-day "atom smashing" is a daily technic of research laboratories. The use of high-speed particles in physical research gains ground each year as shown by the enlarging group of workers in this field. The million volt mark has been passed. The use involves (1) the production of high-speed electrons, (2) the acceleration of light ions, and (3) the Wideroe method, in which the ions are accelerated on passing through the common axis of a series of tubes connected alternately to a high-frequency oscillator. Webster found that alpha particles (helium nuclei) impinging on light elements Li, Be, B, F, Na, Mg, and Al produce gamma rays while on H, C, N, Ni, Cu, and Sn they do not. A half quantum per million alpha

particles is produced for Mg and thirty quanta for Be.

Penetrating rays from beryllium under impact of alpha rays could pass through an inch of lead in reaching one-half its energy value. Joliot and his wife found that ionization increased when a film containing hydrogen was interposed between the window and the beryllium target due to protons moving  $3 \times 10^9$  cm. per second. The Joliot's suggested that the radiation from beryllium was photons from the hydrogen of quantum energy  $5 \times 10^7$  electron volts and Compton scattering like that of gamma rays. Chadwick held Be rays to be neutrons of unit mass and zero charge. If a  $Be^9$  nucleus receives an alpha particle, it becomes a  $C^{12}$  nucleus, expelling a neutron. From the experimental velocities  $3 \times 10^9$  cm. per second and measurements of the recoiled tracks produced by the radiation from Be, the mass computed by Chadwick was found to be that of hydrogen.

Cockcroft and Walton used 300 kv protons to bombard the light elements. Beginning at 120 kv, lithium gives off 8 cm. range electrons in air, the number increasing with potential as observed by zinc sulphide screen. Rutherford stated that the scintillations were due to alpha particles, but that a proton may unite with a lithium nucleus (mass 7) forming a nucleus of mass 8. Supposing the latter unstable, it may form 2 alpha particles, each of mass 4, and each involving a potential drop of 8000 kv although produced by proton impact of about 100 kv. Boron showed 4 cm. range particles produced by protons of 135 kv. Carbon gave about the same at 150 kv, and fluorine 2.8 cm. at 200 kv. Lawrence used 700,000 electron volts to accelerate protons, successfully disintegrating the lithium atom into two alpha particles. The protons combined with the lithium nuclei.

**The Neutron.** Element of atomic number zero, called the neutron, was predicted by many who felt that the K-orbit implied a lower energy level in which the K-electron came into contact with the proton dissipating its potential energy, representing a collapse of the hydrogen atom. The neutron has already opened up a field of research of great interest. Since its charge is zero at ordinary distances, it can pass through matter without deflection except by direct hit. Dee reported that a neutron striking an electron should give it a speed of  $6.6 \times 10^9$  cm. per second, and a recoil as high as 3.4 mm. Heisenberg announced his conclusion that radioactivity consisted of bursting neutrons in unstable nuclei formed of protons and neutrons. Langer stated that cosmic rays may originate when two magnetic poles unite, forming a neutron. Dirac suggested that the two magnetic poles (positive and negative) may exist separately.

Feather reports on elastic and inelastic collisions between neutrons and nitrogen nuclei. Recoil tracks 3.5 mm. accord with the neutron concept. Twelve of 32 paired disintegration tracks appeared to be cases of neutron capture explainable by assuming the expulsion of an alpha particle forming a new nucleus of Boron (mass 11). Wilson has just received the Duddell Medal for inventing the Wilson-Cloud chamber—a key device in current search for the neutron.

De Broglie believes neutrons in nuclei are waves which interfere and their absorption is of a different type. Ellis predicted a new form of energy in the nucleus awaiting discovery. Using

a neutron and a proton, Bartlett has built up the chemical table as far as oxygen at this point, adding successively a neutron, a neutron, a proton, and a proton until he reaches the iron group, predicting cobalt isotope 57, manganese 53, and vanadium 49. Delbruck suggested that protons and neutrons have as charges common multiples of  $e$ , or zero, and that they may have as high as six charges. He regards cosmic rays as particles of atomic weight 1, picking up compensating electrons in the atmosphere.

**Electrons and Protons.** Interest was aroused among physicists by Einstein's extension of his unified field theory to the interior of electrons and protons, a domain which had hitherto resisted rationalization. Duane derived the mass of the electron by means of a single experiment, obtaining  $m_0 = 9.054 \times 10^{-28}$  g. Some 60 papers deal with Langmuir's electron temperature research and related problems. It will be recalled that Langmuir found electron speed in gas discharges to have a Maxwellian distribution.  $T$  is thus due to their kinetic energy. In a vacuum maintained above stirred liquid helium, Keeson has produced a temperature of  $-272.3^\circ \text{C.}$ , an advance of  $0.1^\circ$  nearer absolute zero ( $-273.1^\circ \text{C.}$ ).

Eddington's eighth paper, which he announced as rigorous, develops from the identity of the electric charges and their interchangeability certain conclusions. He derives the inverse square law between electrons, Pauli's principle that two like parts of a system must differ in behavior, and computes the electronic charge from the velocity of light and the quantum of action. He now needs but four separate constants to enable him to describe known phenomena.

A new journal, the *Journal of Chemical Physics*, was to begin publication, January, 1933. It is published by the American Institute of Physics, Incorporated. Its scope is to be the border land between physics and chemistry. The four founder societies of the Institute comprise The American Physical Society, The Optical Society of America, The Acoustical Society of America, and The American Society of Rheology. The Institute represents a membership of 5000. The purpose is to foster cooperative relations among physicists—the science of physics on the one hand and the arts and industries on the other. It is empowered to administer grants and endowments.

**Symbols.** A notable advance in the use of standard symbols is now made possible by a new work giving the letter and graphical symbols and abbreviations for 13 specialized subjects, chiefly in applied physics, which have been adopted as American Standards. The new work is a nation-wide attempt to standardize the symbols and abbreviations in terms of which science and technics record their data.

The value of mathematics in physics is so great that the appearance of 40 new periodicals in this field since 1926 is most gratifying, apropos of Eddington's interesting comment "Nowadays we do not encourage the engineer to make the world for us out of his material, but we turn to the mathematician."

Eddington's radio talks brought the American public samples of the speculative daring of modern physicists. He dated cosmic rays to the time before the expansion of our universe began and estimates that most of them have traveled several times around the universe. He estimated that the universe doubles its diameter in 1,300,000,000 years at its present rate. On the relativ-

ity theory he suggested that the expanding universe may really be the shrinking atom which would give the same result to human observation. In Tolman's mathematical formulation the universe expands to a maximum in finite time, then shrinks to zero in finite time, but (from his equation) does not pass through zero. De Sitter joined Einstein in a revised theory that space may not be curved and that it may be Euclidian 3-dimensional space after all.

Irving Langmuir received the Nobel Prize for his work in pure science, particularly chemistry. He stated: "My primary interest has been in pure science in the borderland of chemistry and physics, and it is this fundamental work that the Nobel Prize recognizes. . . . We are now at a stage where we have a greater prospect of discovering new leads, new relationships, new laws, than we have had at any time in the past. We are at a really exciting stage in physics."

**BIBLIOGRAPHY.** The publication of many works in physics have made the year 1932 notable. The following may serve as examples of the rich literature of the year in the field of physics: Soddy's *Interpretation of the Atom*; Debye's *Structure of Molecules*; Castelfranchi's *Recent Advances in Atomic Physics*; Allen's *Electrons and Waves*; Hughes' *Photoelectric Phenomena*; Johnson's *Modern Physics*; Malisoff's *Meet the Sciences*; Lindeman's *The Physical Significance of the Quantum Theory*.

**PHYTOPATHOLOGY.** See BOTANY.

**PIANISTS.** See MUSIC.

**PICCARD, PROF. AUGUSTE** See AERONAUTICS.

**PIERS.** See BRIDGES; FOUNDATIONS.

**PIFFL, FREDERICK, CARDINAL.** An Austrian prelate of the Roman Catholic Church, died in Vienna, Apr. 20, 1932. He was born in Landskron, Bohemia, Oct. 15, 1864. After serving his novitiate in the historic monastery of Klosterneuburg he was ordained a priest in 1888 and was assigned to pastoral work in the industrial districts of Floridsdorf and Heiligenstadt. A year later he was recalled to Klosterneuburg as professor of moral theology at the theological institute, and in 1907 was elected provost. Francis Joseph nominated him to the archbishopric of Vienna in 1913, and the following year Pope Benedict XV created him a cardinal. He was a keen patron of sacred music, which he did much to foster at the Vienna Academy of Music.

**PIGS.** See LIVESTOCK.

**PINE CANYON DAM.** See DAMS.

**PISTOL SHOOTING.** See SHOOTING.

**PITT, PERCY.** A British conductor and composer, died in Hampstead, Nov. 23, 1932. Born in London, Jan. 4, 1870, he studied under Reinecke and Jadassohn at the Leipzig Conservatory and under Rheinberger at the Akademie der Tonkunst in Munich. In 1895 he was appointed chorusmaster for the Mottl concerts; in 1896, organist at the Queen's Hall orchestra concerts, and in 1902, *maestro-al-piano* at the Royal Opera, Covent Garden. The Covent Garden Grand Opera Syndicate appointed him its musical director in 1907. He was conductor for the Beecham Opera Company during 1915-18 and artistic director to the British National Opera Company during 1920-24. In 1922 he became first musical director of the British Broadcasting Company, and two years later resumed the post of musical director to the Covent Garden Syndicate. His works include a symphony in G minor (composed for and

first heard at the Birmingham Festival in October, 1906); *Le Sang des Crépuscules*, symphonic prelude; *Anactoria*, symphonic poem for viola and orchestra; *Ballade*, for violin and orchestra; concerto for clarinet and orchestra; *Cinderella*; *Dance Rhythms*; *Fêtes galantes* (after Verlaine); *Coronation March*, *Serenade*, *English Rhapsody* (on folk songs), and *Oriental Rhapsody*, all for orchestra; *Sakura*, ballet-pantomime; *Hohenlinden*, ballad for male chorus and orchestra; overture to *The Taming of the Shrew*; and incidental music to Stephen Phillips's *Paolo and Francesca*, Alfred Austin's *Flodden Field*, and Shakespeare's *King Richard II*.

**PITTSBURGH, BRIDGES AT** See **BRIDGES**.

**PITTSBURGH, UNIVERSITY OF.** A nonsectarian institution of higher education for men and women, comprising 17 schools and divisions, in Pittsburgh, Pa., founded in 1787. The total autumn enrollment for 1932 was 10,490, distributed as follows: College, 1970; engineering, 526; mines, 90; business administration, 615; education, 726; Johnstown Junior College, 431; Erie Centre, 377; Uniontown Centre, 181; graduate school, 1443; downtown division, 2172; medicine, 264; law, 359; pharmacy, 163; dentistry, 237; retail training, 10; extension division, 926. The 1932 summer session enrollment was 3399. There were 921 members on the faculty for the year ending June 30, 1932. The amount of endowment was \$2,150,958, and the income from endowment during 1931-32 was \$95,789. There were 150,638 volumes in the library. Chancellor: John G. Bowman, LL.D.

**PITUITARY GLANDS, NEW HORMONE FROM.** See **CHEMISTRY**.

**PLANETS.** See **ASTRONOMY**.

**PLANT FOOD.** See **FERTILIZERS**.

**PLANT PHYSIOLOGY.** See **BOTANY**.

**PLANT QUARANTINES.** See **HORTICULTURE**.

**PLATINUM.** The platinum refiners of the United States in 1931 purchased 446 ounces of crude placer platinum of domestic origin and 34,933 ounces of foreign crude platinum, as compared with 797 ounces of domestic crude platinum, and 44,765 ounces of foreign crude platinum purchased in 1930, according to the U. S. Bureau of Mines. Domestic materials purchased in 1931 included 67 ounces from Alaska, 353 ounces from California, and 26 ounces from Oregon. Purchases of foreign crude platinum in 1931 included 22 ounces from Canada, 28,611 ounces from Colombia, 1 ounce from Russia, and 5299 ounces from South Africa. Refined platinum metals recovered in 1931 from crude platinum, from ore and concentrates, and from gold and copper refining amounted to 36,205 ounces, of which 8393 ounces was reported to have come from domestic materials.

The uses of platinum and its allied metals are many and varied. The most widely used metal of the group is platinum, which constituted 76,990 ounces (nearly 65 per cent) of the total platinum metals sold by domestic refiners in 1931. The principal consumer of platinum was the jewelry industry. Second in magnitude as a consumer of platinum in 1931 was the chemical industry, where the metal is used chiefly for catalyzers in the manufacture of sulphuric, acetic, and nitric acids, for stills for sulphuric acid, for anodes for electrochemical processes, and as chemical ware in the form of crucibles, dishes, and other laboratory equipment. Third as a consumer ranked

the dental industry, where platinum is used chiefly in posts and pins for artificial teeth. The electrical industry was the fourth largest consumer, the metal being used chiefly in contact points, in telephone and telegraph apparatus, and in magneto contacts.

Next to platinum, palladium is the most extensively used of the metals of the platinum group; it constituted 37,923 ounces (nearly 32 per cent) of the total platinum metals sold by domestic refiners in 1931. It is by far the cheapest metal of the platinum group, especially volume for volume, and tends more and more to replace other metals. The largest consumer of palladium in 1931 was the electrical industry, which purchased 22,028 ounces from domestic refiners, compared with 9569 ounces in 1930. The next largest quantity of palladium is used in the dental industry, where the metal is alloyed with gold and platinum for use in artificial teeth. Much smaller quantities of palladium are used in jewelry and still smaller quantities in chemical ware.

The uses of iridium are few compared with those of platinum and palladium, but it ranks third among the platinum group as regards total consumption; in 1931 sales of iridium amounted to 3259 ounces (2.7 per cent) of the total sales of platinum metals. It is employed chiefly as a hardener for platinum, principally in jewelry which uses a 10 per cent iridium alloy and in the electrical industries where an alloy containing 15 per cent or more is used.

The consumption of the other platinum metals—osmium, rhodium, and ruthenium—is quite small, amounting to only 0.86 per cent of the total for the group in 1931.

**PLAYGROUND AND RECREATIONAL ASSOCIATION OF AMERICA.** See **NATIONAL RECREATION ASSOCIATION**.

**PLAYS.** See **THEATRE**; **FRENCH LITERATURE**; **LITERATURE, ENGLISH AND AMERICAN**; **ITALIAN LITERATURE, ETC.**

**PLUMER, HERBERT CHARLES ONSLOW PLUMER, FIRST VISCOUNT, OF MESSINES AND OF BILTON.** A British field marshal, died in London, July 16, 1932. Born in Torquay Mar. 13, 1857, he attended Eton and Sandhurst and entered the army in 1876. In 1884 he went to Egypt where, as a captain in the York and Lancaster Regiment, he was employed in the Red Sea littoral, and took part in the actions at El Teb and Tamai in the Sudan campaign. The following year he was appointed to the Staff College at Camberley. On his promotion to the rank of major in 1893 he was sent to South Africa where during the Matabele and Mashona native rising in 1896 he raised and commanded a corps of mounted rifles. During 1897-99 he was again in England as garrison instructor at Aldershot. He then returned to South Africa, and on the outbreak of the Boer War assumed the command of the Rhodesian frontier force which was engaged for months in a gallant attempt to relieve Mafeking from the north. He remained in South Africa until 1902, being successively promoted to brigadier general and major general. During 1902-03 he commanded the 4th Brigade, 1st Army Corps, and during 1903-04 the 10th Division and 19th Brigade, 4th Army Corps. In 1904 he was made quartermaster-general to the force and third military member of the Army Council. The following year he was sent to Ireland where until 1909 he commanded the 5th Division, being promoted

to lieutenant general. He was in charge of the Northern Command from 1911 to 1914. In January, 1915, he was made commander of the 5th Army Corps, consisting of the 27th and 28th Divisions, which held the southern end of the Ypres salient and bore the brunt of the German gas attack in April. In May, 1915, he assumed command of the 2d Army, whose most brilliant exploit was the blowing up of the Messines-Wytschaete ridge in the Messines offensive on June 7, 1917. In November, 1917, he was entrusted with the command of the British contingent of four divisions sent to the basin of the Po following the Italian disaster at Caporetto. He was recalled to Flanders in March, 1918, to command the 2d Army again in its defense of Ypres during the great German offensive. In September, with King Albert as leader of the reorganized Belgian Army, he launched the attack that resulted in the precipitate retreat of the army under Prince Rupert of Bavaria.

After the signing of the Armistice Plumer was sent to Germany as commander of the British Army of Occupation, remaining there until April, 1919. From 1919 to 1924 he was governor and commander-in-chief of Malta. In 1925 he succeeded Sir Herbert Samuel as high commissioner for Palestine and was highly successful during his three-year administration in reconciling the animosities resulting from Jewish and Arab aspirations. He was created field marshal and baron in 1919 and viscount in 1929. In addition to numerous British decorations he received those of the French Legion of Honor, the Order of the Star of Leopold (Belgium), and the Order of St. Maurice and St. Lazarus (Italy), and in 1928 was made a Knight of Justice of the Order of the Hospital of St. John of Jerusalem.

**PLUMS.** See HORTICULTURE.

**PLUNKETT, SIR HORACE (CURZON).** An Irish statesman, died in Weybridge, Surrey, England, Mar. 26, 1932. Born Oct. 24, 1854, third son of the sixteenth Baron Dunsany, he was educated at Eton and University College, Oxford. During 1870-89 he lived in the United States as a ranchman in Montana. On his return to Ireland he was instrumental in the promotion of agricultural co-operation, and in 1894 founded the Irish Agricultural Organization Society. The following year he formed in Parliament, to which he had been elected as a Unionist member for County Dublin in 1892, the Recess Committee, whose report on agricultural needs and suggested legislation he drafted. He lost his seat in Parliament in 1900, but served until 1907 as vice-president of the department of agriculture and technical instruction for Ireland, which had been developed from the recommendations of this committee. When the Liberals came into power in 1906 he was retained by Lord Bryce, then Chief Secretary for Ireland, until Nationalist opposition to him grew too strong. On his resignation government support of the valuable work done by the Irish Agricultural Organization Society was withdrawn. He was also a commissioner of the Congested Districts Board for Ireland from 1891 to 1918, and in 1897 was made a member of the Privy Council of Ireland.

Sir Horace played an important part in the Irish agitation before and during the World War. Early in 1914 he visited Ulster and attempted to bring about a reconciliation, suggesting that after a term of years a part of Ulster might vote whether it would secede from Home Rule Ire-

land. Again in 1917-18 he was chairman of the Irish Convention which attempted to find a peaceful solution of the Irish question, following the Sinn Féin rebellion of 1916. The purpose of this convention was to draw up a plan for a constitution of the government of Ireland and to submit this plan to the British government. In 1919 he created and endowed the Horace Plunkett Foundation, a trust for the promotion of agricultural development. He was a Senator of the Irish Free State during 1922-23. Among his writings are: *Ireland in the New Century* (1904); *Noblesse Oblige: An Irish Rendering* (1908); *The Rural Life Problem of the United States* (1910); *Some Tendencies of Modern Medicine* (1913); *A Better Way: An Appeal to Ulster Not to Desert Ireland* (1914); *Home Rule and Conscription* (1918); and *Oxford and the Rural Problem* (Sidney Ball Memorial Lecture, 1920). Knighthood in the Royal Victorian Order was conferred on him in 1903. In 1929 he was elected a member of the Royal Irish Academy.

**POETRY.** See FRENCH LITERATURE; GERMAN LITERATURE; LITERATURE, ENGLISH AND AMERICAN; ITALIAN LITERATURE; PHILOLOGY, MODERN; PHILOLOGY, CLASSICAL; SPANISH-AMERICAN LITERATURES; SPANISH LITERATURE.

**POLAND.** A central European state, partitioned among Germany, Russia, and Austria from 1772 to 1918, when it was reestablished as an independent republic. Capital, Warsaw (Warszawa).

**AREA AND POPULATION.** With an area of 139,868 square miles, Poland had a population of 32,120,020 at the census of Dec. 9, 1931 (excluding military in barracks), compared with a population of 27,176,717 at the census of 1921. The increase for the decade was 18.2 per cent. Births in 1931 numbered 965,795; deaths, 494,893; marriages, 273,322. The average number of births per 1000 inhabitants for the period 1925-29 was 33.2; of deaths, 17.3; the average natural increase, 15.9. Emigration declined from 218,387 in 1930 to 76,000 in 1931. The largest cities, with the census population of Dec. 9, 1931, and the 1921 census population in parentheses, were: Warsaw (Warszawa), 1,178,211 (936,713); Łódź, 605,287 (451,974); Poznań (Poznań), 246,574 (184,758); Lemberg (Lwów), 316,177 (219,388); Cracow (Kraków), 221,200 (183,706); Wilno (Vilna), 197,049 (128,954 in 1919); Katowice, 127,841 (104,868). Poles formed 69 per cent of the population in 1921; Ruthenians, 15 per cent; Jews, 8 per cent; White Russians, 4 per cent; Germans, 3 per cent; and other nationalities, 1 per cent. The population was divided into religious groups in 1930 approximately as follows: Roman Catholics, 74.9 per cent; Jews, 9.7 per cent; Russian Orthodox, 2.4 per cent; and Protestants, 2 per cent.

**EDUCATION.** For the 1930-31 school year, there were 26,540 elementary schools, with 3,961,885 pupils; 743 secondary schools, with 204,992 pupils; 203 teachers' training colleges, with 35,710 pupils; and 1621 professional schools, with 205,456 pupils (1929-30). The 22 universities and high schools had 1699 teachers and 48,155 students in 1930-31. The universities were: Warsaw, 9158 students; Cracow, 7144; Lwów, 6276; Poznań, 4414; Wilno, 3618; Lublin, 711. Elementary education is compulsory and all education is free.

**PRODUCTION.** Poland is predominantly agricultural, although there are numerous important in-

dustries. In 1930, 63.8 per cent of the population was engaged in agriculture, forestry, or fishing; 15.4 per cent in mining and industry; 9.5 per cent in trade and transportation; and 11.3 per cent in other occupations. Of the total area of Poland in 1931, cultivated land comprised 48.6 per cent, forest 24.1 per cent, pastures and meadows 15.3 per cent; and waste land 10.4 per cent. Nearly 60 per cent of the arable land was devoted to cereals. Poland normally ranks third among the nations in the production of rye and potatoes, sixth in sugar beets, seventh in oats, and eighth in barley. Production of the chief crops in 1931, in millions of quintals (quintal equals 220.46 pounds), was: wheat, 22.6; rye, 57; barley, 14.8; oats, 23.1; potatoes, 309.9; sugar beets, 27.6. Hemp, hops, and chicory are other important crops. Livestock in 1931 included 4,123,000 horses, 9,786,000 cattle, 2,599,000 sheep, and 7,321,000 swine. Final estimates of the four main cereal crops for 1932, in millions of quintals, were: Wheat, 13.5; rye, 61.1; barley, 14.0; oats, 23.9.

The mineral and metallurgical output in 1931, with 1930 figures in parentheses, was as follows (in metric tons): Coal, 38,268,000 (37,505,649); crude petroleum, 631,200 (662,763); potash, 261,600 (305,609); salt, 440,400 (387,400); iron ores, 284,400 (476,400); zinc and lead ores, 610,800 (1,051,200); pig iron, 347,114 (477,948); cast steel and ingots, 1,036,966 (1,237,497); rolled products, 752,519 (904,188); other iron and steel manufactures, 240,362 (330,334). The production of natural gas was 473,820,000 cubic meters (489,189,000). Cotton and wool textiles, paper and paper manufactures, chemicals, timber, and petroleum products are the leading industrial products. In 1931, Poland had 30 petroleum refineries, producing 559,648 metric tons of refined products; in 1930-31, 69 sugar refineries, producing 698,051 tons. Of the estimated national income of 18,967,900,000 zlotys (zloty equals \$0.1122 at par) in 1928-29, agriculture contributed 9,059,300,000 zlotys, industry 6,930,300,000 zlotys, and trade (foreign and domestic), 2,978,300,000 zlotys. The general index of industrial production, with 1928 equal to 100, declined to an average of 81.8 for 1930, 69.3 for 1931, and 53.2 for the month of September, 1932. The number of persons employed in industrial establishments of 20 or more workers averaged 765,919 for 1930, 650,518 for 1931, and 540,120 at the end of March, 1932, after which there was a steady rise to 573,463 at the end of August, 1932.

COMMERCE. The trend of Polish foreign trade in recent years is shown in the accompanying table from the *Bulletin* of the Bank of Poland research department.

FOREIGN TRADE OF POLAND, 1927 TO 1931  
[In millions of zlotys, zloty equals \$0.1122]

Year	Imports	Exports	Balance
1927 .....	2,895.5	2,515.1	-380.4
1928 .....	3,362.2	2,508.0	-854.2
1929 .....	3,111.0	2,813.4	-297.6
1930 .....	2,245.9	2,433.2	+187.3
1931 .....	1,462.5	1,878.4	+415.9
1932 .....	862.0	1,083.8	+221.8

The value of the 1931 exports was distributed by the four main commodity classifications as follows (in millions of zlotys): Raw materials and partly manufactured articles, 801; articles of food and drink, 542; manufactures, 447; live animals, 88. Similar classification of imports in 1931 gave: Manufactures, 683; raw materials and

semi-manufactures, 590; articles of food and drink, 194; live animals, 1. Germany was both the leading customer and the chief source of imports in 1931, purchasing Polish goods to the value of 315,218,000 zlotys, and furnishing imports valued at 359,225,000 zlotys. Great Britain purchased 318,523,000 zlotys worth of exports, and furnished 104,392,000 zlotys worth of imports; the United States, 12,654,000 and 153,884,000 zlotys, respectively; Czechoslovakia, 143,867,000 and 100,241,000 zlotys; France, 103,358,000 and 109,725,000 zlotys; and the Soviet Union, 125,257,000 and 36,038,000 zlotys.

Among the 1932 import items, textile raw materials and products declined by 148,000,000 zlotys, or 40 per cent, as compared with 1931; metal goods, by 58,000,000 zlotys (52 per cent); machines and equipment, 58,000,000 zlotys (58 per cent); electrical equipment, 26,000,000 zlotys (51 per cent); hides and leather, by 26,000,000 zlotys (44 per cent); and metal ores, 20,000,000 zlotys (64 per cent). The heaviest export losses occurred in coal, which declined 129,000,000 zlotys, or 38 per cent, in value; in iron and steel, 90,000,000 zlotys (65 per cent); textile products, 70,000,000 zlotys (50 per cent); and lead and zinc, 38,000,000 zlotys (48 per cent). Agricultural exports were 227,000,000 zlotys (60 per cent) less than in 1931. Commodity imports from the United States in 1932 were valued at 103,950,000 zlotys (\$11,663,000); exports to the United States were valued at 10,033,000 zlotys (\$1,125,000).

FINANCE. For the fiscal year ended Mar. 31, 1932, total governmental revenues were 2,262,100,000 zlotys and expenditures were 2,466,100,000 zlotys, the deficit being 204,000,000 zlotys. This compared with revenues in 1930-31 of 2,747,800,000 zlotys, expenditures of 2,809,600,000 zlotys, and a deficit of 61,800,000 zlotys. The budget for 1932-33, as adopted by Parliament Mar. 18, 1932, anticipated revenues of 2,377,357,000 zlotys (\$266,770,000, at par of \$0.1122), and expenditures of 2,451,917,000 zlotys (\$275,105,000), the expected deficit being 74,560,000 zlotys (\$8,365,600). The 1932-33 budget items called for a 10 per cent increase in national defense appropriations, which were 34 per cent of the total appropriations and for an 11 per cent increase in appropriations for service of the public debt, which absorbed 11.2 per cent of the total expenditures.

For the entire calendar year 1932, preliminary returns showed receipts of 1,978,570,000 zlotys, expenses of 2,276,152,000 zlotys, and a deficit of 297,582,000 zlotys.

Poland's public debt on July 1, 1932, amounted to 5,011,100,000 zlotys, of which 4,553,700,000 zlotys, or 90.9 per cent, was held abroad. The foreign debt was distributed as follows: United States government, 1,837,410,000 zlotys; balance on loans of 1920, 1925, and 1927, sold principally in the United States, 1,344,404,000 zlotys; the so-called Post-war Liquidation debt, 324,798,000 zlotys; debts toward private foreign firms, 891,000 zlotys.

COMMUNICATIONS. In 1931, railways in operation had 12,352 miles of line, all state owned, of which 10,908 miles were standard-gauge and 1444 miles narrow-gauge lines. Operating revenue of the state lines in 1930-31 was 1,516,423,000 zlotys and operating expense was 1,486,392,000 zlotys. Highways in 1931 extended about 141,000 miles, of which 28,938 miles were im-



proved roads maintained from the national or local-government budgets. There were 1700 miles of navigable waterways, of which 298 miles were accessible for vessels of over 400 tons. Twenty civil air routes in operation during 1931 carried 11,549 passengers, 305 tons of goods and 52 tons of mail.

Despite the world depression, the number of vessels entering the port of Gdynia during 1931 totaled 3144, of 2,650,000 net registered tons, as against 2238, of 2,031,000 tons, during 1930. Vessels clearing numbered 3148, of 2,665,000 net registered tons (2219, of 2,015,000 tons, in 1930). At Danzig (q.v.), which handles the major share of Poland's shipping trade, entrances numbered 5900, of 4,062,000 net tons, in 1931 and 6078, of 4,143,000 tons, in 1930; clearances were 5971, of 4,064,000 tons, in 1931 and 6086, of 4,143,000 tons, in 1930. Gdynia in 1932 was served by 24 regular steamship lines. In the same year 3610 vessels of 2,791,700 net registered tons entered the port.

**GOVERNMENT.** Under the constitution adopted Mar. 17, 1921, executive power is vested in the President, chosen by both houses of the National Assembly for a period of seven years; and legislative power is vested in the National Assembly, consisting of the Senate of 111 members and the Diet (444 members), called the Sejm, both elected by universal suffrage. President in 1931, Ignace Moscicki, elected June 1, 1926. The composition of the Sejm (lower chamber) following the election of Nov. 16, 1930, was: Government bloc, 247; National People's Union, 62; Peasant party, 48; Socialists, 24; Ukrainians, 18; Christian Democrats, 15; National Labor, 10; Jews, 6; Germans, 5; Communists, 5; other parties, 5; total, 444. Out of 111 members of the Senate, the Government bloc controlled 74; the National People's Union, 12; Peasants, 6; Socialists, 5; Ukrainians, 4; Christian Democrats, 4; Germans, 3; other parties, 3. The chief figures in the Cabinet appointed May 27, 1931, and reconstituted Mar. 21, 1932, were: Premier, Alexander Prystor; Military Affairs, Marshal Josef Pilsudski; Foreign Affairs, August Zaleski; Finance, Jan Pilsudski; Justice, Czeslaw Michalowski. For changes during 1932, see *History*.

### HISTORY

**INTERNAL DEVELOPMENTS.** Marshal Pilsudski's semi-dictatorial régime continued during 1932 the steady undermining of parliamentary government in Poland which had begun with the Marshal's *coup d'état* of 1926. The process had been rendered easier by the victory of the Pilsudski (Government) bloc in the 1930 elections, a victory won, at least in part, by intimidation and manipulation. More than 80 Opposition leaders, affiliated with the Socialist and Peasant parties, were summarily thrown into prison at Brest-Litovsk during the election campaign and charged with conspiracy against the government. Of these all but 11 of the most prominent were released during 1931. Trial of the 11 was under way at the beginning of 1932. On January 13, 10 were found guilty and sentenced to terms of from one to three years at hard labor. Among them was former Premier Wincenty Witos, who received a minimum sentence of one and one-half years because of his distinguished services during the Polish-Soviet war and on other occasions. Announcement of the verdict was accompanied by anti-government demonstrations in Brest-

Litovsk and Warsaw, and in a plenary meeting of Parliament on January 15.

Lacking the two-thirds majority in Parliament necessary to revise the Constitution, the Pilsudski bloc partially satisfied their demand for stronger executive authority by a law passed Mar. 17, 1932. This authorized the President to issue decrees with the force of law. As regards economic and financial matters and those pertaining to jurisdiction and legal status, the special powers were granted only for the parliamentary recess (from March 17 to Nov. 3, 1932). But in matters of public administration, the President's emergency powers were to continue until Dec. 31, 1934. Parliament, however, retained its exclusive jurisdiction over state loans, taxation, and government monopolies.

The government had demanded emergency powers on the ground that the exigencies of the economic depression required quick and decisive action. It now proceeded to supplement economic and financial legislation already adopted by Parliament by a series of decree laws. For the most part these were formulated at monthly conferences among President Moscicki, Premier Prystor, and all former Premiers under the Pilsudski régime. Much of the legislation enacted was designed to relieve the critical condition of Polish farmers. It provided facilities for the payment or postponement of tax and debt arrears, instituted court receiverships for agricultural enterprises, created arbitration offices to deal with credit affairs of small landowners, and discouraged usury.

Another series of laws and decrees dealt with industrial conditions. Unemployment insurance laws were revised so as to reduce the burden on the Treasury. The number of those entitled to receive relief was curtailed, benefits were lowered, and the period over which they were payable was reduced. The dues payable by employers for the account of the unemployment fund were raised. In protest against these measures about half of the working population participated in a one-day strike on March 16. There were clashes with the police and a number of deaths. To care for the unemployed who were not included in the unemployment insurance scheme, the government established the Unemployment Relief Fund organization, two-thirds of whose income was to be raised from private contributions and one-third from taxes on realty rents, sales of sugar, beer, electric bulbs, and gas, and certain amusements. A decree of June 12 provided that salaries of executives in industry, commerce, banking, and insurance should be in proportion to the paying capacity of the enterprises, the earning power of employees, and the state of the employment market. The government assumed dictatorial control over the production and sale of coal, oil, and natural gas; induced producers to lower the price of sugar by 10 per cent; and intervened in numerous other fields of economics and finance. The new customs tariff, formulated after several years of study, was promulgated Oct. 10, 1932, and was to become effective one year later. It constituted an important step in the organization of the economic life of the country. In December, Parliament authorized the compulsory conversion of long-term mortgage bonds, to a maximum interest rate of 4½ per cent; payments on principal were suspended for three years.

Another economy step was the reorganization of the administrative framework of the government. The Ministry of Public Works was abol-

ished on July 1, 1932, its duties being taken over by other ministries. The Ministries of Agriculture and of Agrarian Reforms were merged and the Emigration Office was abolished. In addition, the purchase and sale of salt was transferred from a government bureau to a newly created state enterprise called the Polish Salt Monopoly, which was made a separate legal entity and given the privilege of exploiting the state-owned salt mines and brineworks. Despite these efforts, the financial condition of the government grew steadily worse. When Parliament reconvened November 3, it was faced with the unpleasant task of voting a budget with a \$40,000,000 deficit for the 1933-34 fiscal year.

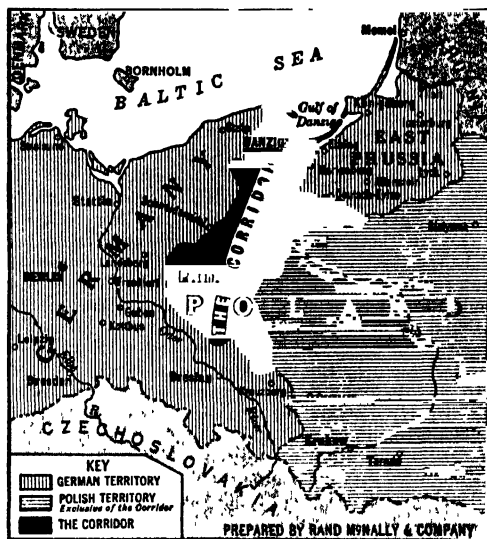
Besides changes due to the administrative reorganization, resignations of two prominent Cabinet ministers occurred during the year. Minister of Finance Jan Pilsudski, brother of Marshal Pilsudski, resigned unexpectedly on September 5. He was succeeded by Professor Zawadzki, a conservative exponent of *laissez faire* economics. On the eve of the resumption of the disarmament negotiations at Geneva, Foreign Minister August Zaleski resigned (November 2) after six years in office. His place was filled by Col. Josef Beck, a confidant of Marshal Pilsudski, who had served as Under-Secretary in the Foreign Office.

The autonomist agitation in Polish Ukraina, which had flamed into large-scale rebellion in 1930, again led to uprisings during 1932. A rising among Ukrainian peasants in Polesta, Eastern Poland, was reported from Warsaw August 30. On September 15, five Ukrainian writers and journalists were sentenced to prison for four years for participating in a Ukrainian nationalist congress in Vienna three years earlier. On September 26, the Polish Governor of Lwów County dissolved the Ukrainian radical party, Selrop, on the ground that it was spreading anti-Polish and communistic propaganda. The party had a membership of about 400,000 and was represented in Parliament by four Deputies. On December 22, three Ukrainians were sentenced to death at Lwów for an armed attack on the Grodek postoffice.

The anti-Jewish rioting of the previous year was renewed by Nationalist students in the University of Warsaw on Nov. 10, 1932, in connection with the observance of the anniversary of the death of a Christian student in the 1931 outbreaks (see 1931 YEAR BOOK). The attacks upon Jews spread to several other cities, particularly Lwów, where terrorization of Jews was reported to have been continuous from November 26 to December 7. According to an interpellation submitted in Parliament by the Jewish Deputies, 399 Jews received first-aid treatment from November 26 to December 2. One Christian student was killed and the University of Warsaw was closed for several days (see JEWS). A dispute between the government and the Vatican over the activities of the so-called pro-Russian mission was settled by a compromise in September. The pro-Russian mission had been sending foreign Jesuits into Eastern Poland to convert the Greek Orthodox community. The Jesuits were accused by the Poles of Russianization of the White Ruthenian and Ukrainian Greek Orthodox population.

**FOREIGN RELATIONS.** Polish foreign relations during 1932 were dominated by the growing tension with Danzig and Germany, which, in conjunction with the advent of the Herriot govern-

ment in France, caused a significant reorientation in Poland's foreign policy. The increased friction with Danzig was attributable in large part to the intransigent attitude of the German Nationalists and Hitlerites controlling the Senate of the Free City. Dr. Henryk Strasburger, who as Polish High Commissioner in Danzig had labored to improve Polish-Danzig relations, resigned on Feb. 12, 1932 and was succeeded by Dr. Kasimir Papee. In taking office, Dr. Papee asserted that Polish-Danzig relations were far from satisfactory. The Free City, he said, was created to serve as a Polish port and "must be governed so as to fulfill the obligations imposed upon it by the Treaty of Versailles."



THE POLISH CORRIDOR

Dr. Papee immediately became involved in a controversy with the Danzig Senate over the entrance of German-made goods into Poland through Danzig under the guise of having been manufactured in the city. To end this practice, the Warsaw government announced that it would take over the entire administration of the Danzig customs, a project which aroused strong protest among Danzigers. Sensational rumors of a Hitlerite plan to make Danzig the headquarters of the Nazi Storm Troops, who had been banned in Germany, and of Polish preparations for a coup in Danzig plagued officials of all three governments during the spring. Sections of the Polish press urged Marshal Pilsudski to seize Danzig and East Prussia and defy the world, and on May 24 the Foreign Relations Committee of the German Reichstag requested the government to notify Poland that a raid on Danzig would be resisted to the end by Germany. On June 15, in defiance of the Free City authorities and of a ruling of the World Court, a Polish destroyer entered Danzig harbor without observing international port rules. Later in the month the German Navy was welcomed to Danzig, despite objections of the Warsaw government. These developments were accompanied by a Polish boycott of goods made in Danzig and of the Danzig shore resorts.

Through the efforts of Count Gravina, League of Nations Commissioner at Danzig, two protocols were signed between Dr. Papee and Dr. Ernest Ziehm, President of the Danzig Senate, on

August 13. One extended to Polish war vessels the right to enter Danzig Harbor at any time after notifying the Chief Pilot under the Port Council. The other pledged both states to discourage unfriendly activities and demonstrations on the part of their respective citizens. The conclusion of these agreements diminished national hostility somewhat. But tension was revived in November, when Poland undertook to introduce Polish currency for payments in the railway system of the Free City. The Free City immediately appealed to the Council of the League. On November 26, a treaty was signed between the two countries which settled a number of disputes and served to restore more amicable relations.

**THE SOVIET-POLISH NON-AGGRESSION PACT.** The threatening developments in Germany, together with the advent of Herriot's liberal government in France, caused Poland hurriedly to conclude a non-aggression treaty with the Soviet Union, concerning which negotiations had been in progress for several years. A draft treaty was tentatively approved in Moscow on Jan. 25, 1932. It pledged both governments to "refrain from any aggressive acts or from attack against each other, either separately or jointly with other powers." If one of the contracting parties was attacked by another state or group of states, the other agreed not to help the attacking state either directly or indirectly. If one of the contracting parties attacked a third state, the other party would be entitled to denounce the treaty without previous notice. Each of the contracting parties undertook "to refrain from participation in any agreements manifestly hostile toward the other party from the viewpoint of aggression." Conciliation of disputes not capable of solution through ordinary diplomatic channels was provided for in a conciliation convention forming an integral part of the treaty.

It had been the intention of Poland to act in conjunction with her allies, France and Rumania, in concluding the non-aggression pact with the Soviet Union. However, Rumania delayed action by demanding Soviet recognition of Rumania's annexation of Bessarabia as a previous condition to the conclusion of a Soviet-Rumanian non-aggression treaty. Meanwhile the victory of the Left in the French elections greatly alarmed the Poles, who foresaw a possible repudiation of the Franco-Polish alliance, and further restriction of French financial aid. Accordingly, the Polish government proceeded to sign the non-aggression pact at Moscow (July 25) without waiting for a satisfactory outcome of the Soviet-Rumanian negotiations. The conciliation convention provided for in the pact was signed at Moscow November 23 and on November 27 ratification of the non-aggression pact was announced in Moscow and Warsaw. Two days later a Franco-Soviet non-aggression pact was signed in Paris. The conclusion of the Polish-Soviet treaty, while relieving somewhat Poland's anxiety concerning its eastern frontier, by no means ended mutual suspicions between the two powers. In the month of October eight persons were executed in Poland as Soviet spies.

With the elevation of Colonel Beck to the Foreign Office portfolio, steps were taken indicating a disposition to effect a reconciliation with Germany. The Poles were particularly incensed by the failure of Premier Herriot to consult them before announcing his disarmament plan in November (see **DISARMAMENT**).

**DEFAULT ON DEBT TO UNITED STATES.** In September, the government notified the government of the United States that it would take advantage of the option granted in the debt-funding agreement to postpone for two years payment of principal on its debt. The principal amount due Dec. 15, 1932 was \$1,357,000, while the nonpost-ponable interest due was \$3,070,980. In notes of November 22, and Dec. 8, 1932, the Polish government requested that the December 15 interest payment be postponed and that the entire matter of the debt owed by Poland to the United States be reconsidered. The U. S. government rejected both requests, and on December 15 Poland defaulted on her interest payment, pleading inability to transfer the funds except by reducing the gold coverage of the zloty and impairing its stability. John N. Willys, American Ambassador to Poland, resigned on Apr. 20, 1932, and was succeeded by F. Lamnot Belin.

See FRANCE, GERMANY, DANZIG, UNION OF SOVIET SOCIALIST REPUBLICS AND RUMANIA under *History*; REPARATIONS AND WAR DEBTS. Consult Robert Machray, *Poland, 1914-1931* (London, 1932).

**POLAR RESEARCH.** The outstanding development in the field of polar research during 1932 was the launching of the International Polar Year, a programme of systematic observation of magnetic, meteorological, and other geophysical phenomena at a network of stations covering the entire globe. About half the stations were in the polar regions. Thirty-three nations participated in the enterprise and about half of the stations were specially established for the occasion. The various scientific expeditions occupied their respective stations commencing with July, 1932, and were to continue their observations until August, 1933. The enterprise took the form of a jubilee celebration of the First International Polar Year in 1882-83, when 12 countries sent out 14 expeditions, 12 into the Arctic and two into the Antarctic.

As in the First Polar Year, the Arctic attracted most of the 1932-33 expeditions. Twenty-three stations were maintained north of Latitude 60° North. American scientists conducted observations at Fairbanks, and Point Barrow, Alaska, and at Peary Lodge, Thule, Greenland. The latter expedition, sent out by the University of Michigan and the Pan American Airways, investigated the feasibility of establishing an air line from the United States to Europe via Greenland. It also sought evidence as to whether the earth was emerging from or entering upon an Ice Age. British and Canadian stations were maintained at Fort Rae and Chesterfield, in North Canada. Four other stations were scattered along the coast of Greenland. The Soviet government was particularly active in the enterprise, establishing stations in Franz Josef Land and Novaya Zemlya; also in North Siberia at Dickson Harbor, at the mouth of the Lena River, at Yakutsk, and at St. Laurence Bay.

Other polar exploration and research during 1932 was confined mainly to the Arctic regions of the Soviet Union and to Greenland. Besides establishing nine of the 17 new polar stations maintained during the Polar Year, the Soviet government sent a number of expeditions into the Far North. Among the more important was that of the icebreaker *Sibirskov* through the northeast passage from Arkhangelsk to Vladivostok. The *Sibirskov* expedition, headed by Professors

Schmidt and Vize, achieved the passage in one season, a feat never before accomplished. Valuable economic possibilities were believed to have been opened up. Since 1928, the Soviet government had made regular use of the Kara Sea, formerly considered inaccessible, as a trade route to the mouths of the Siberian rivers (Yenesei, Lena, and others) from the West. In the summer of 1932, 46 ships reached the mouths of the Siberian rivers by this route. In the same year, the icebreaker *Malygin* made two trips to Franz Josef Land.

Soviet scientists on board the icebreaker *Tasmir* studied the hydrology of the Kara and Barents Seas. In August, an air expedition, headed by the Soviet aviator B. S. Chuknovsky, started from Troitzk in the Ural Region and explored the Taimir peninsula to the rocky island of Minin, discovered in 1931. The Ushakov expedition completed two years of exploration in North Land and the flyers, Alexeyev and Kozlov, using Dixon Island as their base, reached North Land by airplane. In October, the vessel *Albatross* left Point Dickson on the Siberian coast carrying back to civilization men who had established a hunting post there. On the return trip, the *Albatross* grounded on White Island and six members of the crew rowed 400 miles to the port of Gel in an open boat to secure aid. The icebreaker *Deryatka*, with a crew of 38, set out in search of the *Albatross* but was lost at sea. On December 5 one of the *Deryatka's* boats, containing eight frozen corpses, was found 40 miles north of Archangel. Search for the crew of the *Albatross* was still under way at the end of the year.

Exploration in Greenland during 1932 was stimulated by the rivalry between Norway and Denmark for possession of unsettled parts of the island and by projects for the establishment of air lines from Europe to America via Greenland. A Danish expedition of 96 men, led by Dr. Lange Koch, was the largest to visit Greenland. With two ships, 12 motor boats, and several airplanes, the expedition spent three months mapping and surveying 2400 square kilometers (1490 square miles) of the East Coast between Latitude 70° and 77° North. Several stations were established along the coast, where 26 members of the expeditions remained throughout the winter. In Franz Josef Fiord, Dr. Koch found about 5000 petrified specimens of Stegocephali, quadrupeds of prehistoric times which could walk on land as well as live in the sea. Another Danish explorer, Dr. Knud Rasmussen, mapped by airplane the coastline and fiords of Southeast Greenland from Pikiutdluk (south of Angmagasalik) to Cape Farvel (Farewell). A third Danish party, led by Captain Eynar Mikkelsen, with three British scientists participating, mapped in detail the Blossesville coast, East Greenland. By the end of the 1932 season, Danish explorers had investigated the coast of East Greenland from Cape Bismarck in the north to Cape Farewell in the south.

The British expedition, which since June, 1930, had been making surveys in Greenland for a proposed British Arctic air route, continued its work despite the death of its leader, H. G. Watkins, whose native canoe overturned while he was hunting seals on Lake Fiord August 20. The party prepared to spend another winter in Greenland. Mr. Watkins was succeeded as leader by John Rymill. In June, Admiral Peary's daughter, Mrs. Edward Stafford, with her two sons and a

party sailed with Captain Robert Bartlett in the *Morrissey* for Cape York, Greenland, where a masonry shaft was erected and dedicated (August 25) to the discoverer of the North Pole.

A British group, headed by B. B. Roberts, spent several months exploring the interior of Iceland. They measured the thickness of the Vatna Jokull ice cap by seismic soundings, mapped the area near the eastern scarp of Kverkfjoll, and made geological and ecological surveys. They reported that the Hyannalindir desert supported a flora and fauna much greater than had been supposed. Napoleon Verville, of Edmonton, Canada, returned to that city in September, 1932, after exploring Banks Land and Melville Island in company with Alex Austin. He found that Eskimos were on Melville Island, contradicting the government theory that Banks Land was the northern limit of Eskimo territory. He was the first white man to visit Melville Island since Vilhjalmur Stefansson's 1915 expedition.

While there was little exploration in the Antarctic during 1932, preparations were under way for two important expeditions during 1933. In the United States, Lincoln Ellsworth and Bernt Balchen, both veterans of polar air expeditions, were preparing for a flight across a largely unexplored section of the Antarctic Continent in an effort to determine several unsolved questions, particularly whether there is any opening from the Weddell Sea to the Ross Sea. A Norwegian expedition, headed by Capt. Hjalmar Riiser-Larsen, planned to leave Norway about Jan. 1, 1933, and explore by sled the Antarctic calotte from Enderby Land to the Weddell Sea, a distance of about 3000 miles. Meteorological and magnetic observations were to be made, the latter with a view to correcting charts and maps for the Norwegian whaling industry. The overland trip was to be made by only three men. See EXPLORATION, METEOROLOGY; GREENLAND under *History*.

**POLICE.** See CRIME.

**POLICE POWER.** See LAW IN 1932.

**POLICE RADIO BROADCASTING.** See RADIO

**POLIOMYELITIS.** See MEDICINE AND SURGERY

**POLISH CORRIDOR.** See DANZIG, POLAND and GERMANY under *History*.

**POLITICAL AND SOCIAL SCIENCE, THE AMERICAN ACADEMY OF.** A national forum for the discussion of political and social questions, founded in Philadelphia in 1889 and incorporated in 1891. The organization does not take sides upon controverted questions, but seeks to secure and present reliable information to assist the public in forming an intelligent and accurate opinion. The thirty-sixth annual meeting which was held Apr. 15-16, 1932, considered the general subject "National and World Planning." A six-session meeting held on Nov. 11-12, 1932, dealt with the general topic "Next Steps: A Post-Election Stock-Taking." *The Annals* is issued bi-monthly as the official organ of the academy, each publication being devoted to a study of a particular topic of economic, political, or social importance. In 1932 the following topics were considered: *Power and the Public*; *The Modern American Family*; *Modern Insurance Developments*; *National and World Planning*; *Prohibition—A National Experiment*; and *Palestine—A Decade of Development*. This organ from time to time includes special studies prepared by research

fellows appointed by the academy. The officers in 1932 were: president, Ernest Minor Patterson; secretary, J. P. Lichtenberger; treasurer, Charles J. Rhoads; and vice-presidents, the Hon. Herbert Hoover, Carl Kelsey, and Charles G. Haines. Headquarters are at 3457 Walnut Street, Philadelphia, Pa.

**POLITICAL ECONOMY.** Subjects in the field of applied economics are treated in this volume under the following heads: BANKS AND BANKING; BUSINESS REVIEW; FINANCIAL REVIEW; CHILD LABOR; COÖPERATION; LABOR ARBITRATION AND CONCILIATION; LABOR LEGISLATION; MATERNITY PROTECTION; MINIMUM WAGE; OLD AGE PENSIONS; STRIKES AND LOCKOUTS; UNEMPLOYMENT; WOMEN IN INDUSTRY; WORKMEN'S COMPENSATION. See also such articles as: CHILD WELFARE; LABOR, AMERICAN FEDERATION OF; STATISTICS; SOCIALISM; TRADE UNIONS; WELFARE WORK. See also the articles on AGRICULTURE and the various crops. Further discussions are to be found in articles on the several industries, minerals, public utilities, etc. Books on political science and economics for the general reader are to be found listed in the article LITERATURE, ENGLISH AND AMERICAN, under *Economics and Politics*.

**POLITICAL SCIENCE, ACADEMY OF.** An international institution for advancing the political sciences and promoting their application to public problems, founded in 1880 in New York City and incorporated in 1910. Its membership on Dec. 31, 1932, numbered 6520, of whom eight were honorary members, 225 life members, 5324 individual members, and 1196 subscribing members, chiefly libraries and organizations. At the semi-annual meeting on April 18 in New York City "The Crisis in World Finance and Trade" was discussed. At the fifty-second annual meeting on November 18 the topic under discussion was "Steps Toward Recovery." The officers for 1932 were: Alanson B. Houghton, president; Albert Shaw, Jackson E. Reynolds, and R. C. McCrea, vice-presidents; Parker T. Moon, secretary and editor of publications; George A. Plimpton, treasurer; and Miss Ethel Warner, director and assistant treasurer. Headquarters are in Fayerweather Hall, Columbia University, New York City.

**POLITICS, INSTITUTE OF.** These annual sessions, at which foreign affairs are so discussed as to promote a more sympathetic understanding of the problems and policies of other nations, were inaugurated by the trustees of Williams College in September, 1919. Courses of public lectures are delivered by scholars and statesmen from foreign countries; round-table and open conferences, presided over by recognized authorities on the topics selected for discussion, are established. The first session of the institute was held in Williamstown, Mass., in the summer of 1921, and annual sessions have taken place since that time. Membership is open to men and women on the faculties of colleges and universities, to writers on foreign politics, to persons engaged in the direction of foreign commerce or banking, to diplomatic and consular officials, to officers of the army and navy, to editors, foreign correspondents of the press, and, by invitation, to others who have had training and experience in international law and politics.

The twelfth session of the institute met in Williamstown July 28 to Aug. 25, 1932. The following courses of lectures were given: "Possibilities of Economic Planning—the Actual Situa-

tion in Germany," Prof. Herbert von Beckerath of Bonn University; "The Industrial and Economic Organization of France," Pierre Lyautey, editor of *La Journée Industrielle*, Paris; "Italy and the World Crisis," Dr. Luigi Villari of Rome; "The Financial Outlook in England," Prof. T. E. Gregory of the London School of Economics; "A British View of the World Economic Order," Arnold Toynbee of the Royal Institute of International Affairs, London; "Japan and the Asiatic Continent," Dr. Inazo Nitobe of Tokyo; and "Nation Building in China," Dr. T. Z. Koo of Peiping.

The following is a list of the round-table subjects, with their respective leaders: "Contrasts in Latin American Civilization," Dr. Stephen P. Duggan of the Institute of International Education, New York City; "The Present Position of the Credit Problem," Prof. T. E. Gregory of the London School of Economics; "The Disintegration of the Modern World Order," Arnold J. Toynbee of the Royal Institute of International Affairs and Prof. Edwin F. Gay of Harvard University; "Sino-Japanese Relations in Eastern Asia," Henry Kittredge Norton of Ossining, N. Y.; "The Peace Treaties and the Map of Europe," Prof. Bernadotte E. Schmitt of the University of Chicago; and "American Economic Foreign Policy," W. W. Cumberland of New York City and Prof. John H. Williams of Harvard University. Special general conferences were held as follows: "Limitation of Armaments," Raymond L. Buell of the Foreign Policy Association, New York City; "The Imperial Economic Conference at Ottawa," Dr. P. E. Corbett of McGill University; "The St. Lawrence Waterway," Dr. Walter W. McLaren of Williams College; and "Secretary Stimson's Statement of August Eighth," Dr. Stephen P. Duggan of the Institute of International Education.

The officers of administration in 1932 were: Harry Augustus Garfield, chairman; Walter Wallace McLaren, executive secretary; and Willard Evans Hoyt, treasurer. Headquarters are at 1 Hopkins Hall, Williamstown, Mass.

**POLO.** Play for the Cup of the Americas, a new trophy placed in competition by President Augustin P. Justo of the Argentine, was the most interesting feature of the polo season of 1932. The open championship and other big tournaments of late August and September were lively but there was not the usual number of entries and the final game was a complete runaway for Winston Guest's Templeton team, composed of youthful Long Island players. Immediately after the play on Long Island a team of United States younger men journeyed to South America and played with marked success through the national championship at Buenos Ayres. It was the first time that a United States team (except the U. S. Army four of 1931) had gone to foreign shores since 1921 when the famed Westchester Cup was brought back from England. After the Argentine open, the United States team of Michael Phipps, Winston Guest, Elmer Boeske, and Williams Post II, defeated the Argentines for the new international trophy, two games to one. Boeske was the scoring star of the series but the whole team of the United States youngsters amazed the South Americans by their whirlwind play and served to give even greater popularity to the game in the Argentine, where 30,000 persons packed the stands for each of the three inter-

national games. The series for the new trophy bids fair to become as important as that for the Westchester Trophy, which is competed for every three years by English and United States fours. Plans were made for another Cup of the Americas series on Long Island in 1933.

The Templeton team, composed of Michael Phipps, Winston Guest, Stewart Iglehart, and Raymond Guest, galloped off with the open title, beating J. H. Whitney's Greentree team in the final in September at Meadow Brook. A last minute injury to Cecil Smith, hard-riding Texan on the Greentree team, dismantled that four a bit and the substitution of Tyrell-Martin, English player, did not aid the team work of the losers. The great surprise of the open was the defeat of the Sands Point team, led by Thomas Hitchcock, jr., the lone ten-goal player in the world, in the first round by E. W. Hopping's brilliant Eastcott team. Eastcott played a remarkable defensive game and beat the Hitchcock, Eric Pedley, Lindsey Howard, G. H. (Pete) Bostwick combination, 6 to 5, at the Sands Point Club, Port Washington. In the final of the Monty Waterbury Memorial tournament, the best of the high-goal handicap events, the Sands Point team proved its capabilities, demolishing the same Eastcott four, 18 to 16, after granting an eight-goal allowance.

The United States Army four of Lt. C. N. McFarland, Lt. MacDonald Jones, Lt. George W. Read, jr., and Maj. C. C. Smith rode off with the junior championship at Rumson in August, defeating J. C. Rathborne's Bahadur team in the final. The Meadow Brook Cups, spring handicap tournament, also fell to the Army team. Yale's preeminence in intercollegiate play continued, the Elis taking both outdoor and indoor titles. In the outdoor final, a finely balanced Yale four of Michael Phipps, James P. Mills, Stewart Iglehart, and Dunbar Bostwick vanquished Harvard, 13 to 9, in the final game.

As usual indoor polo was played all over the country, and the national championships were contested at the Squadron A Armory in New York City and the Squadron C Armory in Brooklyn. Winston Guest's Optimists came back to the top after the lapse of a year and won both the open and Class A titles. The Squadron C team of Brooklyn took Class B honors, and the Class C championship was won by the team of the Farmington Valley Polo Association of Connecticut. The Ramapo Polo Club took the Class D title. Yale's riders won the intercollegiate title again, and the interscholastic crown was taken by Lawrenceville, succeeding Hun School.

**POMOLOGICAL SOCIETY, AMERICAN.** See HORTICULTURE.

**PONAPÉ.** See CAROLINE ISLANDS.

**PONDICHÉRY.** See FRENCH INDIA.

**POPE PIUS XI.** See ROMAN CATHOLIC CHURCH.

**POPULAR SCIENCE MONTHLY AWARD.**

See CHEMISTRY, INDUSTRIAL.

**POPULATION.** See each country under *Area and Population*; CENSUS.

**PORK PRODUCTS.** See LIVESTOCK.

**PORTLAND CEMENT.** See CEMENT.

**PORTS AND HARBORS.** Drastic cuts in Federal appropriations forced a curtailment of American harbor works during the year. To be sure the Emergency Relief Act passed by Congress had made some comparatively small funds available for this work. It was announced on

September 13th that the expenditure of 15½ million dollars on flood control works and 30 million dollars on rivers and harbors had been authorized. On October 25, Gen. Lytle Brown, Chief of Engineers, let a number of contracts, based on this act, for what would normally be considered smaller improvement, extensions, and maintenance operations.

The construction of a rock-mound breakwater at Monterey, Calif., is of interest and the repairs authorized to the south jetty at the mouth of the Columbia River recalls one of the most interesting jetty constructions in the United States.

Among the more important developments there should be noted the plans of the federal and municipal governments to spend some \$3,700,000 on port developments at Los Angeles, Calif.; the State work on pier and terminal improvements at San Francisco, and the interesting straightening of the San Joaquin River to provide a 26-foot deep waterway for 44 miles above San Francisco Bay.

Also the new 5-mile sea wall which protects New Orleans from Lake Ponchartrain floods is an interesting example of stepped slab design in reinforced concrete and precast concrete pile construction.

We have called attention in previous YEAR BOOKS to the extensive improvement under way in Southampton, Eng. The great drydock and the quay wall construction were the subject of a special article in the *Engineering News-Record* of March 3. The extensive use of huge concrete blocks, or monoliths, and the novel methods used in sinking them, combined with the construction problems connected with building the largest dry dock in the world, mark this work at Southampton as the outstanding harbor construction of the present day.

**PORTUGAL.** A republic of Europe, situated west of Spain in the Iberian Peninsula. Capital Lisbon.

**AREA AND POPULATION.** The total area of Portugal, including the Azores and Madeira, was 35,880 square miles and the census population for 1930 was 6,660,852 (preliminary), compared with 6,032,991 at the census of 1920. Continental Portugal comprised 34,604 square miles and 6,196,020 inhabitants (1930); the Azores and Madeira, 1276 square miles and 464,832 inhabitants. The estimated population in 1931 was 6,716,897. Births over the period of 1927-31 averaged 204,342 annually and deaths 119,166, the excess of births being 85,176 annually. The birth rate per 1000 inhabitants averaged about 30.7 and the death rate 17.9. The population of the chief cities in 1930 was: Lisbon, 594,390 (486,372 in 1920); Porto (Oporto), 227,595; Setúbal, 37,074; Funchal (in Madeira), 24,238 (1920).

**EDUCATION.** Illiterates at the census of 1920 numbered 4,277,341, of whom 3,985,000 were in continental Portugal. In 1929-30, there were 367,330 pupils in the primary schools, 13,991 in circuit schools, 18,125 in secondary schools, and 4949 in universities.

**PRODUCTION.** In continental Portugal, 22,018,191 acres, or 59 per cent of the total area, was under cultivation. About 20 per cent was devoted to pastures and meadows, 16 per cent remained uncultivated, although suitable for cultivation, and 5 per cent was waste land. The wheat crop of nearly 20,000,000 bushels in 1932

was the largest on record; the 1931 crop was 12,999,000 bushels. Rye, barley, oats, corn, and potatoes were other crops. The wine output in 1931 was 178,315,000 gallons; olive oil, 19,763,000 gallons. Cork production was 101,681 metric tons (84,283 tons in 1930). The 1931 sardine catch was the largest in several years but prices declined and in 1932 many sardine packing plants were closed. Coal production in 1931 was 70,000 metric tons, as against 246,673 metric tons of coal and lignite produced in 1930; copper pyrites, 277,000 tons, against 399,120 tons in 1930. The 1930 tin output was 1023 tons; wolfram (tungsten ore), 499 tons. About 5 per cent of the population was engaged in industry at the end of 1930, the chief industries being foodstuffs, textiles, chemicals, shoes and leather, cork, glass, ceramics, and metal working. Textile industries employed 60,000 operatives in 1930.

COMMERCE. Imports in 1931 declined by 32 per cent to \$73,265,000, while exports declined 19 per cent to \$34,247,000, the adverse trade balance being reduced by \$26,555,000, as compared with 1930. In 1930, imports were valued at \$108,016,000 and exports at \$43,443,000. Machinery and tools; coal, coke and briquets; codfish, raw cotton, sugar, cotton goods, and wheat were the leading imports, in order of value, and wines, fish and sardines, cork, and fruits and nuts were the leading exports. The United Kingdom in 1931 furnished 25.5 per cent of the total imports; Germany, 15.4 per cent; the United States, 13.0 per cent; and France, 7.2 per cent. The United Kingdom took 23.3 per cent of the total exports; France, 18.4; Germany, 9.9; and the United States, 4.6 per cent. In 1932 import values were 2.8 per cent higher and export values 2.4 per cent less than in 1931. Imports from the United States were \$4,613,689 (\$5,682,884 in 1931); exports to the United States, \$2,798,124 (\$3,532,734 in 1931).

FINANCE. The national budget showed a surplus for the fourth consecutive year in the fiscal year ended June 30, 1932. Receipts totaled 2,007,000 contos (\$73,055,000), and expenditures 1,857,000 contos (\$67,595,000), leaving a surplus of 150,000 contos (\$5,460,000), as compared with an estimated surplus of 1900 contos (\$69,000), and with an actual surplus in 1930-31 of 152,000 contos (\$6,088,000). The Treasury balance on June 30, 1932, stood at 580,000 contos. (The conto equals 1000 escudos; average exchange values of the escudo for the fiscal years 1930-31 and 1931-32 were \$0.0440 and \$0.0364, respectively.) The ordinary budget for 1932-33 placed revenues at 1,795,199 contos (\$94,371,000), and expenditures at 1,792,224 contos (\$94,297,000). The public debt on June 30, 1930, was approximately \$471,483,000.

COMMUNICATIONS. On Dec. 31, 1930, there were 2128 miles of railway line under operation by a private company, including 894 miles leased from the government. Gross receipts of the railways in 1930 were equivalent to \$14,302,000. Highways extended about 9940 miles. The merchant marine in 1931 consisted of 261 vessels, of 276,357 tons. Vessels entering the ports in the oversea and coastwise trade in 1930 numbered 7356, of 27,597,000 net registered tons.

GOVERNMENT. The Constitution of Aug. 20, 1911, provided for a parliament of two chambers, the National Council of 164 members elected by direct suffrage for three years and the Senate of 71 members elected by the municipal councils

for three years. The President was to be elected by both chambers for four years and was ineligible for reelection. However parliament had not been convened (1932) since the establishment of the military dictatorship of Gen. Antonio Oscar de Fragoso Carmona in 1926. General Carmona was elected President as an unopposed candidate on Mar. 25, 1928. Premier at the beginning of 1932, Gen. Domingos Augusto Alves da Costa Oliveira, who assumed office Jan. 20, 1930.

HISTORY. Under the firm rule of its Dictator President, General Carmona, Portugal came through the depression year 1932 in better shape than most other countries of Europe or of the world. The budget showed a surplus for the fourth successive year, exports declined only 3 per cent as compared with 1931, industrial activity was maintained, the wheat crop was the largest on record, and the vineyards produced so much wine that it was cheaper than bottled water in Lisbon. Despite losses of income due to the Brazilian moratorium and the depreciation of the pound sterling, to which the escudo was linked, the condition of public finances improved. This was reflected in lower money rates, further reduction in the floating debt, additional appropriations for public works, increased balances abroad, further conversions of old loans at lower interest rates, and an increase in the gold reserves of the Bank of Portugal. Portuguese exchange fluctuated with the pound sterling throughout 1932, except when the New York-London rate dropped below \$3.32; at such times the escudo was pegged to the dollar at the rate of 33 buying and 33.20 selling. Exchange restrictions were relaxed in April, and no difficulty was encountered during the remainder of the year in securing exchange for foreign transactions.

The relatively favorable economic situation was reflected in decreased activity among the elements opposed to the Carmona dictatorship. In January several minor uprisings and plots were frustrated. Some 200 persons were arrested January 5 in connection with the discovery of a depot of bombs, rifles, and dynamite in Oporto. Government officials attributed the unrest to Communist agitators. The remainder of the year was relatively quiet. The Minister of the Interior on March 2 announced that the dictatorship would soon end and that a constitutional régime patterned on that of the United States would be established. The text of the proposed Constitution was published on May 28, with the announcement that it would not be submitted to popular referendum until the people had had an opportunity to study and discuss it. It provided for a president chosen by popular vote for seven years and a cabinet responsible to him rather than to the National Assembly. The Assembly, to consist of 90 Deputies, was to be elected for four years, half by popular suffrage and half by various administrative bodies. General Carmona was to be designated the first President.

The Oliveira Cabinet resigned on June 25 while the new Constitution was under consideration and was succeeded on July 4 by a ministry headed by Dr. Oliveira Salazar, the former Minister of Finance. Dr. Salazar held the Finance portfolio, in addition to the Premiership. Other leading cabinet figures were Dr. Albino Pinto Reis, Minister of Interior; Dr. Cesar de Sousa Mendes, Foreign Affairs; Gen. Daniel de Sousa, War. The absence of military men was considered indicative of an effort to popularize the régime. No move was



made toward holding elections or the promised referendum on the Constitution. Instead, at the close of the year, the government issued a decree extending the term of President Carmona for two additional years, the term to end in 1934. At the same time the Dictator granted amnesty to more than 800 political exiles, who were allowed to return to Portugal. The amnesty decree did not apply to some 50 important exiles, including former Prime Minister Alfonso Costa, and Dr. Bernardino Machado, twice President of the republic. The military garrisons at Oporto and elsewhere were reported to have made a formal protest to the government against continuation of the ban upon these men.

Dom Manoel II, who abdicated the throne of Portugal upon the outbreak of the republican revolution of 1908, died in England on July 2, His body was taken to Lisbon on a British cruiser and placed in Lisbon's Pantheon (See MANOEL, DOM).

The future of Portugal's valuable colonial possessions was widely discussed in the European press during the year. Italy, whose demand for more colonies in Africa was openly voiced by Foreign Minister Grandi in the Italian Senate, sent an impressive air fleet to Lisbon in February. Shortly afterward, a fleet of the British Navy called at the Portuguese capital and an English shipbuilding company offered to take over the construction of several Portuguese cruisers, which an Italian contractor declined to build because of the decline of Portuguese exchange.

**PORTUGUESE EAST AFRICA.** See MOZAMBIQUE.

**PORTUGUESE GUINEA**, gí'ně. A colony of Portugal on the west coast of Africa, entirely surrounded on the land side by French territory. It includes the archipelago of Bijagoz, together with the island of Bolama on which is situated the capital, Bolama (population 4000). Area, estimated at 22,000 square miles; population (1928), 343,961. The principal port is Bissau, population about 1000. Governor, J. F. Vellez Caroco.

**POSTAL CREDIT UNIONS.** See COÖPERATION.

**POST OFFICE DEPARTMENT.** See UNITED STATES under *Administration*.

**POTASH.** See CHEMISTRY, INDUSTRIAL; FERTILIZERS.

**POTATOES.** The potato production in 1932 of 22 countries reporting to the International Institute of Agriculture, not including France and the Soviet Republics, was placed at 4,589,246,000 bushels, a decrease of .7 per cent from the preceding year's crop and an increase of 7.7 per cent over the annual average for the five years 1926-1930. These countries devoted 26,229,000 acres to the crop which was 1.5 per cent above the acreage of 1931 and 5.6 per cent above the annual average of the five year period. The 1932 production of the leading European countries was reported as follows: Germany 1,665,440,000 bushels, Poland 989,492,000 bushels, Czechoslovakia 308,720,000 bushels, Spain 188,526,000 bushels, and the Netherlands 135,215,000 bushels. France produced 598,904,000 bushels in 1931 and an annual average of 514,588,000 bushels for the five years 1926-1930. The Soviet Republics reported an average annual yield of 1,650,221,000 bushels and an average annual area of 13,671,000 acres for the five year period. The production of Canada in 1932 was estimated at 65,415,000 bushels which was 25 per cent below

the crop of 1931 and 15.3 per cent below the five year average.

The Department of Agriculture estimated the potato crop of the United States in 1932 at 356,589,000 bushels produced on 3,368,000 acres at an average yield of 105.9 bushels per acre. Both yield and acreage were lower than in 1931. Production of late potatoes grown in 30 States was placed at a little over 291,300,000 bushels, the intermediate crop at about 35,300,000 bushels and early potatoes at 30,000,000 bushels, or one-fourth smaller than in 1931. The leading potato producing States and their yields were reported as follows: Maine 39,480,000 bushels, Michigan 29,900,000 bushels, Minnesota 29,016,000 bushels, New York 28,350,000 bushels, Wisconsin 22,620,000 bushels, Pennsylvania 21,450,000 bushels, and Idaho 19,500,000 bushels. These States produced 53 per cent of the total crop and 46 per cent of the total acreage. In average yield per acre Maine ranked first with 235 bushels followed by Idaho with 200 bushels. Minnesota produced the largest acreage 372,000 and Michigan and Wisconsin stood next with 260,000 acres each.

The certified seed potato production was estimated at 6,929,000 bushels, or about one-fifth smaller than in 1931. The production of 2,920,600 bushels in Maine was 42 per cent of the total production of the country and was made up of 1,302,400 bushels of Green Mountain, 1,276,200 bushels of Irish Cobbler, and 220,300 bushels of Spaulding Rose. The yields of other leading States were estimated as follows: North Dakota 824,620 bushels, New York 557,950 bushels, Minnesota 437,260 bushels, Nebraska 392,000 bushels, and Michigan 370,650 bushels. In the Western States Bliss Triumph, Early Ohio, and Netted Gem were the more popular varieties.

During the fiscal year ended June 30, 1932, the United States exported 816,000 bushels and imported 89,577,000 pounds of potatoes, comparing respectively with 1,548,000 bushels and 343,757,000 pounds in the preceding fiscal year. The Department of Agriculture secured numerous lots of tubers and seeds from the original home of the potato in South America in an effort to obtain disease-resistant types.

**POULTRY.** See LIVESTOCK.

**POULTRY DISEASES.** See VETERINARY MEDICINE.

**POWER DEVELOPMENT.** See POWER PLANTS; STEAM TURBINES; WATER POWER.

**POWER PLANTS.** Because of the excess capacity among central stations, the extensive development of hydro power in the years immediately preceding, and curtailed industrial output, there was very little activity in the field of steam power-plant construction in the United States during 1932. Such as there was included, among the more important work, the letting of a contract for a 35,000-kilowatt steam plant at Buzzards Point, Md. for the Potomac Electric Company of Washington, D. C.; a 75,000-kilowatt unit for the Kearny Station of the Public Service Electric & Gas Company of New Jersey; and a 160,000-kilowatt addition to the Richmond Station of the Philadelphia Electric Company. In addition to this new work, several new stations already under construction were placed in service during the year, notably, a 25,000-kilowatt steam plant for the city of Tacoma; the 360,000-kilowatt addition to the Hudson Avenue Station of the Brooklyn Edison Com-

pany; a 12,000-kilowatt, 1400-pound pressure unit in the Deepwater Station of the Houston Lighting Company (Texas); an 18,000-kilowatt high-pressure extension to the Burlington, N. J. Station; Huntly Station No. 2 at Buffalo; and a 25,000-kilowatt addition to the Pasadena, Calif. Municipal Plant.

The central-station output for 1932, according to statistics compiled by the National Electric Light Association, was 78,000,000,000 kilowatt-hours. This represented a reduction of 9 per cent from the corresponding figures for 1931 and 13.3 per cent under 1929 which was a peak year in electrical production. According to the records maintained by the U. S. Geological Survey, 59 per cent of the total central-station production was from fuel and 41 per cent from water power.

Among the industrial power plants a few new installations were undertaken, but the new work was confined largely to replacements of obsolete equipment. In a number of cases turbines or steam engines were installed to replace purchased power. Indications are that, as business conditions improve, activity in power plant construction will be confined largely to the industrial field for a considerable period. This prediction is supported by the fact that industry contains much obsolete power equipment, which must be modernized to meet the inevitable competition, and because there is already a large excess of central-station capacity.

Among institutions, both public and private, there was greater power activity during 1932 than in many other fields. This was in part attributable to public works programmes. The States of New York, Ohio, and Missouri carried out extensive rehabilitation programmes affecting the power facilities of their prisons, hospitals, and other public buildings. In New York City the huge medical centre, comprising the New York Hospital and Cornell Medical College, was opened in September and is served by one of the largest institutional power plants in the country, namely, 7500 horsepower in steam engines. The Federal Government also initiated work on a large number of public buildings in various localities, many of which involved large steam heating plants. The largest and most important of these is a central heating plant at Washington, D. C. to serve what is known as the Triangle Group of 22 new buildings, projected or now under construction. Power will be purchased, but six large high-pressure boilers, each capable of generating 237,000 pounds of steam per hour, will be installed for heating and other services. Other large central heating plants undertaken or placed in service during the year were one at Duluth and the plants serving the Union Railroad Stations in Chicago and in Cincinnati.

During the year work progressed actively on the two mercury-vapor power plants, one at the works of the General Electric Company at Schenectady and the other at the Kearny Plant of the Public Service Electric & Gas Company of New Jersey. Each is of 20,000-kilowatts capacity. That at Schenectady will supply power from the mercury turbine to the lines of the New York Power & Light Company and steam to the works of the General Electric Company, whereas that at Kearny will generate power from the mercury turbine and deliver steam to the existing steam turbine units in that station. At each of these installations the mercury boiler contains 270,000 pounds of mercury, the two together representing

an amount equivalent to 89 per cent of the total annual consumption of mercury in the United States, or enough to supply 50 million thermometers.

Abroad, a steam power project of widespread interest that went into operation during the year was that at Magnitogorsk in the heart of the mining district of Siberia, 1200 miles east of Moscow. This project forms part of the five-year plan of the Soviet Government. There are three steam plants aggregating 600,000 kilowatts ultimate capacity which will supply power to the steel mills and serve the community with electricity and steam for heating. These plants were designed by and constructed under the supervision of American engineers, but much of the equipment is of German manufacture. They operate at 425 pounds steam pressure, 800 degrees F. steam temperature, and burn both blast-furnace gas and pulverized coal. The first of these plants is now in operation.

Other new foreign stations of interest are the 110,000-kilowatt addition to the Arrighi Station of the Union d'Electricité, near Paris; the Scheele Station, near Antwerp, which operates at 610 pounds, 840 degrees F. and has three 30,000-kilowatt units and an ultimate capacity of 500,000 kilowatts; and the Battersea Station of the London Power Company, operating at 570 pounds steam pressure and 850 degrees F.

Central-station practice in the United States is still undergoing development to effect greater simplicity, lower investment costs, still higher efficiency and, withal, sustained reliability. High pressures and high temperatures have shown themselves to be both practicable and economical; outages of high-pressure equipment are now no greater than those of medium pressure, and several of the high-pressure stations are operating regularly at well under a pound of coal per kilowatt-hour, or slightly over 12,000 b.t.u. per kilowatt-hour. The Delray Station of the Detroit Edison Company has one unit operating at 1000 degrees F. steam temperature, and a considerable number of plants are in regular service at 1200 to 1400 pounds steam pressure. In the newer plants the tendency is to employ steam temperatures of 800 to 850 degrees. With the higher temperatures and moderate steam pressures it is possible to avoid the complication of reheating the steam between the high and the low-pressure elements of the turbines. The advent of high temperatures and high pressures has brought about a complete redesign of piping, valves, and fittings. Whereas a good grade of high-carbon steel was formerly used, the new conditions demand alloy steels of various compositions which have been developed as a result of extensive research. Investigations are being carried on to determine the creep of these metals under long sustained high temperatures and pressures.

Both in this country and abroad considerable attention is being given to effective means of removing fly ash and cinders from the flue gases to obviate a nuisance to the surrounding locality. This is especially true where pulverized coal is burned and the boilers are forced to high ratings. Many devices are on the market for arresting the fly ash before it leaves the stack, but their efficiency appears to be directly proportional to their cost. Hence, considerable research is going on with a view to developing a reasonably effective system of moderate cost.

**PRAIRIE PROVINCES.** The name applied to the three Canadian Provinces of Manitoba, Saskatchewan, and Alberta (q.v.). Population (1931 census), 2,353,529 compared with 1,956,082 in 1921. See CANADA.

**PRATT INSTITUTE.** A nonsectarian educational institution in Brooklyn, N. Y., founded in 1887 and composed of four schools: Fine and applied arts, household science and arts, science and technology, and library science. The 1932 autumn enrollment was 4608, distributed as follows: Arts, 1900; household science, 946; science and technology, 1737; library school, 25. There were 181 members on the faculty and 12 special lecturers. The library contained 145,000 volumes. President, Frederic B. Pratt, A.M., LL.D.

**PREHISTORIC MAN.** See ANTHROPOLOGY.

**PRESBYTERIAN CHURCH.** The Presbyterian Church, with the Reformed churches, rests on features of the Reformation brought forward by Zwingli and Calvin. It consists of bodies in the United States, the British Isles, and elsewhere, following the doctrinal and ecclesiastical system developed in Holland and France and more fully in Scotland under John Knox. Organizations in the United States bearing the Presbyterian name: The Presbyterian Church in the United States of America; Presbyterian Church in the United States (South); United Presbyterian Church of North America; Cumberland Presbyterian Church; Cumberland Presbyterian Church, Colored; Reformed Presbyterian Church; Reformed Presbyterian Church, General Synod; Associate Synod of North America, also known as the Associate Presbyterian Church; and the Associated Reformed Presbyterian Synod. The Presbyterian churches of the United States have official affiliations with the Alliance of Reformed Churches throughout the World Holding the Presbyterian System.

**PRESBYTERIAN CHURCH, CUMBERLAND.** See CUMBERLAND PRESBYTERIAN CHURCH.

**PRESBYTERIAN CHURCH IN THE UNITED STATES OF AMERICA.** This is the largest body of the denomination and is represented by churches in every State of the Union and by official mission stations in Alaska, Cuba, Puerto Rico, and foreign lands. In 1932 its churches in the United States were organized into 46 synods and 291 presbyteries. Statistics for the year ending Mar. 31, 1932, showed a total communicant membership of 2,009,875. The Sunday-school enrollment totaled 1,624,402. As a result of the movement to dissolve churches having a nominal existence and to combine churches where advisable, the number was decreased by 43, giving a total of 9199 including 42 churches organized during the year, as against 72 which were dissolved. The number of ministers in 1932 was 9939.

Contributions during the year amounted to \$50,172,304. Of the total income \$39,562,235 was used for congregational expenses, while \$10,184,430 was devoted to benevolences, including \$3,365,736 given to the board of national missions, \$3,013,521 to the board of foreign missions, \$706,704 to the board of Christian education, and \$256,310 to the board of pensions for current needs, besides \$304,736 additional for the pension endowment fund. The denomination maintains 52 colleges and 13 theological seminaries. Its official organ is the *Presbyterian Magazine* (monthly). Privately-owned periodicals are the *Presbyterian*

*Advance*, the *Presbyterian Banner*, and the *Presbyterian* (all weekly).

The 1932 meeting of the general assembly of the Presbyterian Church in the United States of America was held in Denver, Colo., May 26-June 1.

The Rev. Charles W. Kerr, D.D., of Tulsa, Okla., was elected moderator, and the Rev. Leon D. Young, D.D., of Dallas, Tex., was made vice moderator. The assembly voted continuation of the spiritual emphasis movement and summoned the entire membership of the church to penitence and prayer with the declaration, "If we return unto God, he will return unto us." It adopted a plan for fostering a great spiritual awakening and the renewal of the evangelistic spirit. The official boards in their annual reports testified to courageous advance in missions and expressed a determination to educate to evangelize. General progress in church unity was attested. Specifically, a plan of union was presented for organic union of the United Presbyterian Church of North America and the Presbyterian Church in the U. S. A. It was reported that the general assembly of the United Presbyterian Church, sitting at the same time, had approved this plan. Both of these assemblies deferred final action until the assemblies of 1933.

The assembly voted continuation of its membership in the Federal Council of the Churches of Christ in America, and in response to criticism of radio utterances adopted a recommendation that the Federal Council, in providing religious services over national broadcasting chains, be requested to provide services thoroughly evangelistic and positively Christian. The assembly adopted a special report on social and industrial relations, setting forth 16 ideals and objectives concerning the relation of capital and labor. A permanent committee on social and industrial relations was placed in charge of the Rev. John McDowell, D.D. The assembly declared its abhorrence of war and pledged its undivided support to all efforts and agencies for peace and international goodwill. It registered undivided loyalty to the Constitution of the United States "in a day when forces are at work undermining the constituted and historic authority of our nation," and pledged unequivocal endorsement of the Eighteenth Amendment and prohibition. The offices of the general assembly are in the Witherspoon Building, Philadelphia, Pa. Two of the official boards are housed there, and two in the Presbyterian Building, New York City.

**PRESBYTERIAN CHURCH IN THE UNITED STATES (SOUTH).** This division of the Presbyterian denomination covers the territory commonly known as the Southern States. It was composed in 1932 of 17 Synods and 90 Presbyteries, with 3540 organized churches, 2431 ministers, and 468,532 members. The ruling elders numbered 16,041 and deacons 18,080. Contributions for current expenses amounted to \$7,816,420, and for benevolences to \$3,247,164. In 1932 the church was supporting 420 missionaries in Africa, Brazil, China, Japan, Korea, and Mexico; these missionaries were assisted by 3643 native workers. In the six countries there were 51,820 church members and 99,153 Sunday school members.

The church maintains four theological seminaries, one training school for lay workers (white), one training school for lay workers (colored), 18 colleges, 13 junior colleges, 12 sec-

ondary schools, 19 mountain schools, two Mexican Mission schools, and 15 orphans' homes and schools. It publishes the *Presbyterian Survey*, which is the medium of communication of all departments with the membership of the church. Privately owned papers of the denomination are the *Christian Observer* and the *Presbyterian of the South*.

The general assembly of the Presbyterian Church in the United States met in Montreat, N. C., May 26, 1932. The Rev. William Crowe, D.D., St. Louis, Mo., was elected moderator for this meeting to succeed Ruling Elder R. A. Dunn, LL.D., Charlotte, N. C. The offices of the general assembly are located at 720 Kirby Building, Dallas, Tex. The Rev. J. D. Leslie, D.D. was stated clerk.

**PRESBYTERIAN CHURCH OF NORTH AMERICA, UNITED.** A member of the family of Presbyterian churches, of Scottish origin, formed by the union of the Associate and the Associate Reformed Churches effected in Pittsburgh in 1858.

The general assembly convened in Beaver, Pa., May 25, 1932. On that date there were in the United States 11 synods, 56 presbyteries, 874 congregations, 891 ministers, 5023 ruling elders, and a church membership of 178,177. The total membership, including missionary fields, was 243,828. The Sabbath school enrollment was 204,261, while the young people's societies numbered 1043 with a membership of 26,746. Contributions for the year 1931-32 totaled \$5,159,950, and missionary contributions \$1,761,434. Among matters of outstanding significance in the action of the Beaver assembly was the adoption of plans for a Diamond Jubilee celebration of 75 years of denominational existence in Pittsburgh, Pa., in May, 1933. The three church-wide annual gatherings, the general assembly, the Women's General Missionary Society, and the National Young People's Convention, were all to convene simultaneously. Action was also taken providing for pastoral settlement of ministers under a definite-term call, ordinarily five or seven years, at the end of which time the term of settlement expires and the relationship is dissolved, unless there is an official request for its continuance another term. (For plan of union, see PRESBYTERIAN CHURCH IN THE U. S. A.)

The denomination supported 427 men and women in four foreign mission fields and 312 men and women in homeland missions. It carried on medical work in 32 foreign hospitals and dispensaries, conducted educational work in 397 schools at home and abroad, maintained nine colleges and four theological seminaries at home and abroad, and reached 39,363 young men and women in its schools and colleges. The official organ of the church is the *United Presbyterian*, a church-owned, yet independent weekly, published in Pittsburgh. The moderator of the general assembly in 1932 was the Rev. Charles S. Cleland, D.D., of Philadelphia, Pa., and the stated clerk was the Rev. O. H. Milligan, D.D., Avalon, Pa. Headquarters of the board of administration are at 705 Publication Building, Pittsburgh, Pa.

**PRESBYTERIAN SYSTEM, ALLIANCE OF REFORMED CHURCHES THROUGHOUT THE WORLD HOLDING THE.** See REFORMED CHURCHES THROUGHOUT THE WORLD HOLDING THE PRESBYTERIAN SYSTEM, ALLIANCE OF.

**PRESIDENTIAL POLL.** The accuracy of straw polls, and their value as an index to the

popular will, were warmly debated in this "year of polls," as somebody termed it. Distinctively an American expedient for anticipating a national verdict, the straw poll seemed to be more than ever in demand as a medium of expression as well as a source of information at this time of acute unrest and anxiety. It became on the one hand a rallying point of political attack and defense, on the other hand a theme of academic study between book covers.

One comment of the time was to the effect that *The Literary Digest's* Presidential poll completed in the Fall what its PROHIBITION POLL (q.v.) had commenced in the Spring, and the two were credited with playing a cumulative part in preparing the nation for the peaceful revolution of November, with its sweeping overturn in party rule and its absolute mandate for the repeal of the Eighteenth Amendment.

Never before had two polls of such vast dimensions—each requiring the postal distribution of more than 20,000,000 personally addressed envelopes containing prepaid postcard ballots—been engineered in the same year. Only an unmistakable and insistent, widespread popular demand could have brought about that double enterprise, which was further stimulated by the opportunity it afforded for providing extra employment at a time of sharp need.

To a large extent the Presidential poll inherited the fruits of its predecessor, the Prohibition poll, for the latter revealed the state of the public mind toward the Eighteenth Amendment in ample time to be of service at the National Conventions in June. Thereby history was made, for the platform builders of both parties responded with wet planks—the Republican for a qualified restoration of liquor control to the States, the Democratic for "naked" repeal.

In the Presidential campaign, Prohibition figured in two ways. It entered into the general revolt against hard times, in a special sense whereby many voters looked to Repeal as a symbol of returning prosperity; and also it continued to hold a sharp edge as an issue in its own right, on the general merits of the whole question. But most of the campaign talk was of the depression, and what had been done or not been done about it, and what might, could or should be done to cure or relieve it.

Such was the complexion of the campaign in mid-September when *The Literary Digest* launched its Presidential poll, an event which was heralded far and wide as an important accessory to the official campaign, one which would throw an interpretive light on its progress and foreshadow its result. Many newspapers throughout the country reminded their readers of the accuracy with which the *Digest* polls in 1924 and 1928 had forecast the victories of Coolidge and Hoover respectively. It was recalled how bitterly the losing party in those campaigns had sought to discredit the Presidential polls. And now, in 1932, that party looked like a winner. Said a writer in the *Chicago Journal of Commerce*:

"How much, we wonder, would not one of the major parties pay to have such a poll avoided in this campaign?"

*The Literary Digest* itself remarked:

"Some critics regard this year's election as so subject to sudden reversions of public sentiment that they argue against the *Digest* poll's being as accurate a barometer as it has been in the past.

"There were some who argued that way in 1928.

"It is not to be expected," said the *Houston Post-Dispatch* in that year, "that the *Literary Digest* poll will foreshadow the 1928 results with such close fidelity as the 1924 poll foreshadowed the results of that year."

"History was to tell a different story, and Josephus Daniels's paper, the *Raleigh News and Observer*, was to exclaim:

"In view of the accuracy of the *Literary Digest* polls in 1924 and 1928, it might be a good idea hereafter quadrennially to quit holding elections and accept *The Digest's* polls as final. It would save millions in money and time."

Viewing the 1932 outlook, political writers in Republican papers refrained for the most part from making rosy predictions, except with the proviso that business should take an upward turn of sufficient strength to convince a majority of the people that the bottom of the depression had been passed. To some it was an article of faith that such an upturn would take place before election day. Such faith was sorely tried when Maine elected a Democratic Governor.

The first report of *The Literary Digest's* poll, a small, preliminary tabulation of scattered ballots from Indiana, New York, Ohio, Pennsylvania, and West Virginia gave Hoover a trilling lead. He was ahead in New York and Indiana, and it was his New York lead that gave him a shade the better of the total count.

Small as the figures were—Hoover, 28,193; Roosevelt, 27,654—the Hoover advantage raised Republican hopes. However, the country was warned by *The Digest* not to draw conclusions from such a small and early count, and the warning was justified in the following week when a second tabulation, with eleven States represented on a small scale, gave Hoover 100,323 and Roosevelt 102,185.

Pennsylvania, which was to figure at the end as the paradox of the poll and conundrum of the election, now claimed the attention of the country by laying the nest-egg of a Roosevelt majority, giving him 21,833 ballots against 17,441 for Hoover. This Democratic lead in the very fortress of the Republican national organization had grave implications. "If Pennsylvania should continue to favor Roosevelt in greater numbers up to election day," remarked *The Digest*, "the result would be equivalent to a revolution in a good-sized country. The Keystone State points with pride to the fact that it supported Lincoln, Grant, Hayes, Garfield, Blaine, Harrison, McKinley, Roosevelt, Taft, Hughes, Harding, Coolidge, and Hoover."

It was suggested that perhaps the old Pennsylvania would reappear in the following week's poll figures. But it didn't. The Roosevelt lead increased steadily to the very end of the poll. Hoover finished with 93,057 Pennsylvania votes, Roosevelt with 124,675.

But then came the great mystery. On election day, Roosevelt was counted out in Pennsylvania, and Hoover declared the winner by a scanty majority. The Quaker State rang with charges of padded registration lists and manipulation of the returns. Mr. S. Davis Wilson, special counsel for the House Elections Investigating Committee in Washington, was quoted as saying that "a recount would show enough illegal votes for President Hoover to swing the state to Roosevelt"; also that his investigators "had uncovered 40,000

votes improperly cast for Hoover in Philadelphia alone."

On a much smaller scale, Delaware passed through a similar capsize, voting for Roosevelt in the poll and being counted for Hoover in the election. Washington dispatches told of irregularities in Wilmington being reported to the House Elections Investigating Committee. Four Army officers, watchers at the polls, said they "had seen votes bought for one or two dollars, with a couple of drinks on the side." All such revelations were soon forgotten, however, in the excitement over the Roosevelt landslide.

From its earliest stages the poll gave abundant evidence of the inter-party drifts which had set in since 1928—particularly, of course, the great swing away from Hoover.

In presenting its second report of the poll, *The Digest* commented further:

"An extraordinary thing about Roosevelt's apparent majority in Pennsylvania, as it stands, is that it includes more former Republicans than former Democrats—10,211 of the former and 7703 of the latter. But many of these 'Republicans' may be Democrats who became Hoover voters four years ago."

The same phenomenon was showing itself in other States. In fact, the pronounced Republican-to-Democratic drift, as indicated by the ballots and tabulated under "How the same voters voted in 1928," was one of the revelations of the poll which captured the keenest interest of statisticians, election prophets, and the newspapers. In the completed poll, the states in which Roosevelt's vote included larger numbers of 1928 Republicans than of 1928 Democrats were California, Illinois, Iowa, Kansas, Michigan, Nevada, North Dakota, Pennsylvania, South Dakota, Washington, and Wisconsin. The balance was very close in Idaho, Maine, Montana, New Jersey, Ohio, and Vermont.

One of the curiosities of the earlier stages of the poll was that each candidate was running ahead in his rival's home State, but Roosevelt soon forged to the front in New York, while continuing to hold his lead in California. Another oddity was that Maine, despite its election of a Democratic Governor—its fourth since the civil war—went into the Hoover column and stayed there to the bitter end.

In mid-campaign the accumulating evidences of a Democratic landslide brought protests from the spokesmen of the losing party, who sought to discredit the poll's accuracy as a barometer of the public mind. President Hoover, more practical, made a radical change in his campaign programme. Emerging from the seclusion of the White House, he embarked on an energetic speaking tour in defense of his administration. "We have overcome the major financial crisis," he proclaimed in the agricultural belt of the middle west, where the people had recently cheered for Roosevelt, with his promise of a "new deal," his solicitude for "the forgotten man" and his attempt to link Republican rule with the economic collapse and with "evasion" and "indirection" in the matter of Prohibition. On that issue Mr. Hoover enunciated a new platform of his own, somewhat wetter than that of his party. Also he observed the custom of prophesying calamities in case of a victory by the opposing party.

The fact of the President having taken hold of his own campaign aroused his supporters to new activity. Administration and optimism were

voiced by Republican speakers and newspapers. The impression went around that Mr. Hoover's speeches had checked the tide to Roosevelt and turned it back to himself. "Signs multiply that a shift to Mr. Hoover is under way and gaining momentum," said the New York *Herald Tribune*.

Successive reports of the poll, however, failed to show any signs of a shift in the voting.

It was at this stage of the poll that a New York brokerage house deceived thousands throughout the country by circulating in a market letter the false report that 35,000 Roosevelt voters in the poll had written to *The Literary Digest* asking to have their ballots "changed" to Hoover—despite the obvious absurdity, as *The Digest* noted in its exposure of the canard, of supposing that any sensible person could expect to "change" an anonymous ballot! At the time the falsehood was launched, *The Digest* had not, it added, received a single letter of the kind described.

Coming to the final report of the poll, we find a grand total of 3,064,497 ballots, surpassing all previous Presidential polls in the number of ballots returned out of the 20,000,000 sent out. Its nearest competitor was *The Digest's* Hoover-Smith poll of 1928, with a return of 2,767,263 ballots.\*

The score of the major candidates stood thus: Roosevelt was ahead in 41 States, Hoover in seven.

The Roosevelt States counted for 474 Electoral votes, the Hoover States for 57.

Roosevelt's total popular vote was 1,715,789, Hoover's was 1,150,398.

Roosevelt's percentage of the grand total of ballots returned was 55.99, Hoover's was 37.53. (The minor candidates accounted for the balance.)

"It would be a miracle," said *The Digest*, "if every state of the forty-eight behaved on election day exactly as forecast by the poll." And the magazine went on to specify Massachusetts and Rhode Island, which were in its Hoover column. "These two states . . . were also in the Hoover column of our 1928 poll, with still larger Republican majorities, but both states were carried by Smith. We have polled the two states in exactly the same way that we polled them four years ago. A study of the returns in relation to the official vote of 1928, and also to the ballot declarations of how the same voters voted in 1928, convinces us that in those states our ballots have somehow failed to come back in adequate quantity from large bodies of Democratic voters. For these reasons," *The Digest* concluded, "we consider that Massachusetts and Rhode Island may be expected to appear in the Roosevelt column on election night." And history was to justify that expectation.

The same conditions applied to Connecticut, New Hampshire, and New Jersey, any of which, *The Digest*, predicted, might be found in the Roosevelt column. And Election night found New Jersey there. It also found Pennsylvania and Delaware in the Hoover column. But we have had some hints of why such a reversal might have been expected in both those States.

*The Digest* rested its case with the public, saying:

"All we know is what we read in the papers," and

\* However, the Prohibition polls of 1930 and 1932 exceeded all the Presidential polls in this particular, each of them almost hitting the five-million mark.

some of the Philadelphia papers are quite outspoken on the causes which, they say, underlie the amazing shift from the substantially Rooseveltian Pennsylvania of the *Digest* poll to the scantily Hooverian Pennsylvania of Election Day.

Of course, *THE DIGEST* takes no side in the Quaker State's always interesting political battle-ground. We think that our readers are entitled to have all the evidence in the case, but we draw no conclusions of our own.

It is pointed out in the Philadelphia *Record* that a local poll by that newspaper, and other newspaper polls in the State, agreed with the *Digest* poll in forecasting a Roosevelt victory. But it is added that all these polls "dealt only with actual figures, and without allowance for political machines and the controlled vote in boss-ridden Philadelphia and other organization-controlled counties."

The writer of this article, Mr. I. K. Fagan, opens with a summary of our poll results, thus:

The avalanche of votes that swept Franklin D. Roosevelt into the Presidency Tuesday by the greatest landslide in the history of the country vindicated with a vengeance the remarkable accuracy of *THE LITERARY DIGEST's* forecast.

"*THE DIGEST* poll predicted Roosevelt would carry 41 States. He won 42.

"*THE DIGEST* said he would win 474 electoral votes. He got 472.

"*THE DIGEST* listed in the Hoover column the States of Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut, and New Jersey.

"Hoover actually won Maine, Vermont, New Hampshire, Connecticut, Delaware, and Pennsylvania.

"*THE DIGEST* commented editorially, however, that Roosevelt probably would win Massachusetts and Rhode Island, and might carry New Jersey.

"Again *THE DIGEST* was right. These three States went to Roosevelt by resounding margins.

"*THE DIGEST* was wrong only on two States, Delaware and Pennsylvania, which it gave to Roosevelt.

"In the case of Delaware, it said the vote would be close.

"It was the Pennsylvania prediction that proved the enigma of the poll. All indications pointed to the startling conclusion that Roosevelt would win this rock-ribbed Republican State.

"In fact, *THE DIGEST* said, in its final summary, that 'We know of no reason why the poll should go very far astray in the figures and percentages from Pennsylvania.'

"Actually, Hoover carried Pennsylvania by a margin exceeding 160,000. However, the *Digest* poll dealt with cold figures. It did not take into consideration the most important factor in Pennsylvania politics—the Organization machine, both in the city and State, the machine that in the past has made majorities to order."

Among thousands of letters on the subject was one from Wilkes-Barre, containing this passage:

"If we could eliminate the padded registrations from the official account, I believe that the results from Pennsylvania would harmonize very close to 100 per cent. with the *LITERARY DIGEST* poll, and give the State to Mr. Roosevelt. For verification I can give you, should you wish it, a considerable amount of data in the form of evidence that I have laid before the District Attorney of this county, from districts in the city of Wilkes-Barre."

But much water has passed under the bridge since then, and few would be hard-hearted enough to grudge Mr. Hoover the satisfaction of carrying Pennsylvania and Delaware. Despite the overturn in those two States, the *Digest* poll came out with figures so amazingly close to those of the election that the proverbial accuracy of *Digest* polls was more than ratified.

Not until early in January was the complete official vote for President compiled by the Associated Press. In printing this table, *The Digest* drew a comparison between the official returns and the figures of its Presidential poll, thus:

*THE DIGEST's* balloting gave Mr. Roosevelt 1,715,789 votes, or 59.86 per cent of the votes cast for the two major party candidates. It gave Mr. Hoover 1,150,398 votes or 40.14 per cent. of the total.

Now see how closely this proportion holds in the official vote just made public. We take the votes for the two major candidates alone for purposes of comparison. Mr. Roosevelt receives 22,813,786 or 59.14 per cent. Mr. Hoover holds 15,759,266 votes, or 40.86 per cent.

Just to make it more clear we will take the Roosevelt percentages—59.86 per cent in the *Digest* poll; 59.14 per cent in the actual election. The difference between the two percentages comes to only 0.72, which is all that the

**DIGEST** straw vote lacked of predicting Mr. Roosevelt's share of the popular vote of the whole country.

When it comes to the various States, we remember that **THE DIGEST** predicted accurately how each State would go with the exception of two that went for Hoover in the straw vote and for Roosevelt in the election, and two others that went for Roosevelt in the straw vote and Hoover in the election.

In the case of the official popular vote in the several States, naturally **THE DIGEST's** balloting paralleled the final figures more closely in some States than in others. As a matter of curiosity we note from the official figures that the **DIGEST** vote was practically one hundred per cent. correct in Missouri—which is a big State. Our vote gave Mr. Roosevelt 64.46 per cent of the total. Well, on election day he actually received 64.48 per cent. Less than one percentage point off were also Idaho, Iowa, Kansas, Minnesota, Nebraska, Wisconsin, and Wyoming.

**PRESIDENTS OF COLLEGES.** See **UNIVERSITIES AND COLLEGES**, and articles on each college.

**PRIESTLEY MEDAL.** See **CHEMISTRY, INDUSTRIAL.**

**PRIMITIVE METHODIST CHURCH.** See **METHODISTS.**

**PRINCE EDWARD ISLAND.** An island in the Gulf of St. Lawrence, constituting one of the Maritime Provinces of Canada. The smallest of the nine provinces; area 2184 square miles; population (1931 census), 88,038, a decrease of 577 from the 1921 census. The capital, Charlottetown, had 12,361 inhabitants in 1931 (10,814 in 1921). Living births in 1930 numbered 1749; deaths, 961; marriages, 488. The 472 public schools had 17,277 pupils in 1930.

Approximately 90 per cent of the population is engaged in agriculture and 94.2 per cent of the farmers own their farms. Stock raising, fishing, and silver-fox breeding are other leading industries. Field crops valued at \$6,828,700 were harvested from 494,351 acres in 1931. The fisheries output was valued at \$1,141,279 in 1930. The value of fur-bearing animals on farms in 1930 was \$2,238,523; the value of 8962 pelts taken in the year ending June 30, 1930 was \$646,685. With 267 manufacturing establishments, the gross value of factory output in 1930 was \$4,254,966, of which \$1,708,139 was the value added in process of production.

Preliminary figures for the fiscal year ended Dec. 31, 1930, placed ordinary provincial revenues at \$1,148,749 and ordinary expenditures at \$1,133,366. The government is administered by a lieutenant-governor, appointed by the Dominion, and a legislative assembly of 30 members elected for four years. Half of the assembly is elected by real property holders, and half by universal male and female suffrage. In the Dominion Parliament at Ottawa the Province is represented by four members in the Senate and four members in the House of Commons. Lieutenant-Governor in 1932, Charles Dalton. Premier Attorney and Advocate General, J. D. Stewart. See **CANADA.**

**PRINCETON UNIVERSITY.** A nonsectarian institution of higher learning for men in Princeton, N. J., founded in 1746. The total enrollment in the autumn of 1932 was 2597, of whom 2325 were undergraduates and 272 were graduate students and fellows. The faculty numbered 313; there were also 29 assistants and 39 administrative officers.

The endowment in 1932 was \$27,172,009; the total income, \$2,990,858; and the total expenditure, \$2,879,756. Bequests and gifts amounted to \$1,186,183 for endowment, \$128,215 for current expenses, \$48,898 for student aid, and \$54,235 for buildings. Among the bequests were \$500,000 from the estate of Thomas D. Jones, \$168,789

from Thomas D. and Gwethalyn Jones, and \$370,920 from the estate of Henry C. Frick. The library in 1932 contained 670,000 volumes, exclusive of pamphlets, broadsides, and manuscripts. Acting president, Edward Dickinson Duffield, A. M., LL.D.

**PRINGLE, REAR ADMIRAL JOEL ROBERTS POINSETT.** An American naval officer, died in San Diego, Calif., Sept. 25, 1932. He was born in Georgetown, S. C., Feb. 4, 1873, and was graduated from the U. S. Naval Academy in 1892. Commissioned an ensign in the Navy two years later, he was advanced through the grades to vice admiral in 1932, being appointed commander of battleships of the Battle Force in June and also commander of battleships of the Pacific Fleet in August of that year. During the World War he commanded the *Diado* and later the destroyer tender *Melville*. On his promotion to rear admiral in 1927 he was made president of the Naval War College at Newport, R. I. In 1930 he was appointed commander of battleship division 3 of the Battle Force of the U. S. Fleet, his squadron consisting of the *New York* (flag ship), *Oklahoma*, *Nevada*, *Pennsylvania*, and *Arizona*.

**PRISONS.** See **CRIME.**

**PRIZE FIGHTING.** See **BOXING.**

**PRIZES, ART.** See **ART EXHIBITIONS.**

**PRODUCE.** See **AGRICULTURE; HORTICULTURE.**

**PROGRESS IN NUTRITION.** See **FOOD AND NUTRITION.**

**PROHIBITION.** it was apparent from the events of the year 1932 that prohibition had reached the turning point in its history. The cumulative effects of the depression, which had rendered entirely nugatory the vaunted economic claims for the amendment—that it was intimately linked with the new economic era of prosperity, that it released large sums of money heretofore spent on drink for the acquisition of new consumption goods, that it was largely responsible for great increases in the acquisition of life insurance, savings bank accounts, and higher school attendance rates—in large part contributed toward the creation of an articulate unfavorable sentiment. This expressed itself, over the year, in many ways: in a series of victories gained by the wets in the lower house of Congress; by the unexpected statement issued by John D. Rockefeller, Jr., on the eve of the meeting of the two national nominating conventions, urging repeal of the Eighteenth Amendment; by the stand taken by both national parties in their platforms, and in the acceptance address of President Hoover; by the overwhelming victory of the Democratic party, in a real sense considerably due to the unequivocal stand which it had taken on the question of repeal; by the repeal of State enforcement laws in nine commonwealths as a result of the action of their electorates; and finally by the preparations wet leaders were making in Congress not only to amend the Volstead Act to legalize the manufacture and sale of real beer but also to repeal immediately the Eighteenth Amendment. As the year closed it was apparent that Americans were witnessing the final act of a strange and exciting drama which had had its inception in 1913 when the Anti-Saloon definitely launched its campaign for nation wide prohibition through the enactment of Federal rather than State legislation. Whether or not the wets would meet with an easy victory in the States on the repeal of the



Eighteenth Amendment question, it was impossible to foretell as the year closed. Undoubtedly the drys were prepared to contest the field stubbornly. But with the hope that the repeal of the Eighteenth Amendment and the legalization of the liquor industries would bring additional revenues into the coffers of the national government and would furnish employment for capital and labor in countless places, there existed powerful arguments for the pressing of the issue by the wets.

In the spring of the year, the publishers of *The Literary Digest* undertook a Prohibition Poll, for the results of which see this topic below.

**THE RESULTS OF PROHIBITION.** These columns in previous years have indicated that, while prohibition was the law of the land, not only was there flourishing a powerful illicit liquor traffic but also that the American public had sloughed off none of its old drinking habits. The fact of the matter is, observant persons had every reason to believe that Americans, if anything, were drinking more hard liquor during the prohibition era than they had before and that the only real sufferers of enforced temperance were those persons who, deprived of cheap beer, found it impossible to pay for the dearer illicit spirits. A study published during the year by Dr. Clark Warburton, called *The Economic Results of Prohibition*, for the first time furnished what appeared to be reliable estimates of the nation's drinking habits during the prohibition period. At the same time Dr. Warburton thoroughly disproved the economic claims of the drys that prohibition was responsible for the period of prosperity and had diverted moneys formerly spent on liquor into the new channels of automobile, radio, and electrical appliance purchases. According to Dr. Warburton's calculations only the per capita consumption of beer suffered from nation-wide prohibition, the reduction being from 20.53 gallons per year over 1911-14 to 6.27 gallons per year over 1927-30. On the other hand, the per capita consumption of wine had increased from .59 gallons per year over 1911-14 to 1.02 gallons per year over 1927-30; and the per capita consumption of spirits had increased from 1.47 gallons per year over 1911-14 to 1.62 gallons per year over 1927-30. Dr. Warburton estimated that the nation had spent in the prosperous year 1929 nearly \$5,000,000,000 on drink and that in 1930 the expenditure had been \$4,000,000,000. This was about what the liquor bill would have been without national prohibition, the only difference being that the working classes, deprived of their beer, had spent probably \$1,000,000,000 less than they might have had prohibition never been inaugurated, while the professional and salaried classes had spent at least \$1,000,000,000 a year more than they might have.

**POSITION OF THE A. F. OF L. AND THE AMERICAN BAR ASSOCIATION.** The American Federation of Labor was plainly disappointed by the failure of Congress to modify the Volstead Act and legalize the manufacture and sale of 2.75 per cent beer; and both its executive council and the convention of the organization itself again urged upon the national legislature the necessity for quickly legalizing beer as a means of industrial and fiscal relief. The A. F. of L., in favoring the return of beer, based its advocacy on two grounds: first, that the return of beer was a true

temperance measure and would help rout the racketeers who were largely drawing their strength from the illicit liquor traffic; second, that the amendment of the Volstead Act would create thousands of new jobs in breweries, machine shops, cooperage works, and on transportation and freight lines, and at the same time contribute a sizeable revenue to the Federal treasury. Said President William Green, in explaining the stand of the A. F. of L.: "We shall press this issue because it is part of our employment programme inasmuch as it will put men back to work. Jobs are better than relief."

At its annual meeting in October, the American Bar Association agreed that while gangs and their tactics were not new to American history, responsibility for the rise to affluence of gang leaders could be placed directly at the door of prohibition. Because of the huge profits connected with organized bootlegging sales the report of the Association's section on criminal law and criminology declared: "gangs had obtained a foothold in community life and were succeeding in purchasing immunity from punishment by the corruption of law enforcement authorities." The report went on to say: "... we simply point out what we believe to be a fact, that prohibition brought about a condition which made it easy for the gangster to obtain a large personal organization at a small risk. . . ." As a remedy the report suggested the elimination of corrupt judiciaries and the concentration of criminal work in courts created for the purpose and handling no other business.

**PRESIDENT BUTLER'S PROGRAMME.** President Nicholas Murray Butler, of Columbia University, placed before the American public a programme for the control of the liquor traffic by the States in the event of the repeal of the Eighteenth Amendment. President Butler's plan called for the following: 1. The erection of State corporations in which there was to be deposited complete control over the liquor traffic. 2. Each State was to be divided into districts where there were to be established warehouses for the purpose of dispensing liquor. 3. The saloon was to be outlawed and drink was to be sold largely for home consumption and in eating places when meals were served, following the Swedish and Quebec plans. 4. In order to encourage temperance relatively high prices were to be charged for the hard liquors and low prices for beer and wine. 5. No liquor was to be sold in any locality which had voted against it. 6. Both national and State governments were to have the right to tax drink. 7. Dry States were to receive adequate protection from the transportation of liquor from wet States. This merely meant that the federal authorities were to be expected to enforce the Webb-Kenyon law of 1913 and the Reed Amendment of 1917.

**PROHIBITION IN CONGRESS.** Prohibition appeared again and again during the proceedings of the long session of the Seventy-Second Congress, test votes being taken in the House on a number of occasions, and in the Senate twice. While the wets encountered defeat in every instance, the size of the votes polled by them was heartening to their cause. Before the meeting of the national conventions and the ensuing presidential election, the drys were stubbornly and successfully contesting the issue; but the overwhelming popular expression in favor of modification and repeal, as evidenced by the returns

of the November elections, apparently had discouraged them, for as the year closed every indication pointed to the early success of a modification measure, certainly in the House and probably in the Senate as well. The first prohibition test in the Senate in twelve years, which took place in January, was on the proposal of Senator Hiram Bingham that the Senate "would welcome" any action by the governors in recommending to their legislatures steps to permit referendums on repeal or modification of the Volstead Act. The wets lost by a vote of 55 to 15. In May, the Senate again voted on the question, this time in connection with Senator Tydings' proposal that beer with an alcoholic content of 2.75 per cent be legalized for revenue purposes. Again the dries won, the vote being 61 to 24. In the House the first test vote came in March when the question before the body was to take up for consideration the Beck-Linthicum resolution, which called for submission to the States of a constitutional amendment permitting each State to license or outlaw the liquor traffic as it chose. The dries here, too, won, the vote being 227 to 187. Voting for consideration of the resolution were 97 Republicans and 90 Democrats. Against it were 112 Republicans, 114 Democrats and 1 Farmer-Laborite. The House majority mustered by the dries was 40, which was the lowest they had succeeded in lining up since the prohibition statutes were enacted. In May, the House once again turned its attention to prohibition when it voted on the O'Connor-Hull bill to legalize beer with an alcoholic content of 2.75 per cent by weight and tax it \$7.50 a barrel or 3¢ a pint. The dries once again won, the vote being 228 to 169.

**THE POSITION OF MR. JOHN D. ROCKEFELLER, JR.** On June 6, John D. Rockefeller, Jr., a lifelong dry, who together with his father for a long time had supported the Anti-Saloon League, made public a letter that he had written to President Nicholas Murray Butler, in which he openly advocated the repeal of the Eighteenth Amendment. Insisting that the law was not receiving the public support he had anticipated; that while the saloon had been abolished the speakeasy had taken its place; that a large illicit liquor traffic had sprung up to furnish requirements of Americans for alcoholic beverages; that many otherwise reputable citizens were openly showing their contempt of the Eighteenth Amendment by drinking in public places and purchasing the wares of bootleggers; that respect for all law has diminished, and that crime has "increased to an unprecedented degree"—prompted by these considerations Mr. Rockefeller urged the repeal of the Eighteenth Amendment. He was not denying the many good results of the law, but he had come to the conclusion that the ensuing evils were outweighing the benefits. Therefore, he urged repeal without waiting for the perfection and adoption of an alternate method. On this point he said: "In my judgment it will be so difficult for our people as a whole to agree in advance of what the substitute should be, and so unlikely that any one method will fit the entire nation, that repeal will be far less possible if coupled with an alternate measure. For 'that reason I the more strongly approve the simple, clear-cut position you [President Butler] are proposing to recommend and which I shall count it not only a duty but a privilege to support.' Mr. Rockefeller

concluded: "My hope is that the tremendous effort put forth in behalf of the Eighteenth Amendment by millions of earnest, consecrated people will be continued in effective support of practical measures for the promotion of general temperance. To that cause my own efforts will ever be devoted."

The dries received the statement more in sorrow than in anger. They pointed out that repeal without agreement on an alternate measure meant the return of the saloon. They insisted that the increase in crime and lawlessness could not be coupled with drinking under prohibition, and that there were real, if intangible, results of the experiment which must be destroyed with the scuttling of the 18th amendment. The wets were, of course, jubilant, Mrs. Charles H. Sabin, National Chairman of the Women's organization for National Prohibition Reform, congratulated Mr. Rockefeller on his courage, and Mr. Henry H. Curran, president of the Association Against the Prohibition Amendment, declared that "the Rockefellers joined the great company of thoughtful American men and women who realize that the safety of our country requires that we correct this hideous mistake without more delay." The *Philadelphia Public Ledger* summed up the attitude of intelligent observers when it declared:

Mr. Rockefeller's unexpected declaration is in accord with the strengthening trend of public opinion as expressed in a recent nation-wide poll and in the pronouncements by so many State political organizations of both parties. And the solution of the Prohibition problem is fast becoming an issue which neither national party can ignore.

**POSITION OF THE LEADING PARTIES ON PROHIBITION.** As a result of the developments of the first half of the year, the action taken by the two leading parties at the nominating conventions was not altogether unexpected. While the Republican plank adopted at Chicago on June 15, was not as bold as the Democratic and ringed its recommendation around with many reservations, nevertheless it was a repeal plank. The Democratic plank adopted on June 30, also in Chicago, was clear and straightforward. Both planks declared for the submission of a new amendment to the constitution—an amendment which would allow the people of the country, functioning through State conventions called for that purpose, to pass on the repeal of the Eighteenth Amendment.

The Democrats favored outright repeal, leaving the control of the liquor traffic to the States. The Republicans did not favor the end of national prohibition altogether though they were in favor of permitting the States to legalize the sale of liquor if they so wish, promising, however, to furnish safeguards against the return of the saloon. The Democrats also proposed the outlawing of the saloon, but they were opposed to action being taken by the Federal government either through the embodiment of such a prohibition in the national constitution or by national law. In one other particular the Democratic plank was more clear-cut, its final sentence being: "Pending repeal, we favor immediate modification of the Volstead Law to legalize the manufacture and sale of beer and other beverages of such alcoholic content as is permissible under the Constitution, and to provide therefrom a proper and needed revenue."

On the question of modification of the Vol-

stead Act the Republican party on the other hand was silent. In another particular the Democrats appeared to be more forthright, their plank plainly declaring in favor of the repeal of the Eighteenth Amendment; the Republican plank on this point was silent. However, President Hoover, in his acceptance speech, redressed the balance when he, too, declared in favor of the repeal of the Eighteenth Amendment when and if a resolution to that effect was to be submitted to the States. Thus, the electorate was actually confronted by two repeal planks and as the cam-

amendment of the constitution. The returns showed the election of 61 wet Senators and 243 wet Representatives. Only 30 outright dries were assured of seats in the Senate while in the House the number was but 29. In the House more than 100 dries lost their seats; in the Senate prominent dries, like Senator Smoot of Utah, and Senator Watson of Indiana, went down to defeat. The accompanying table, prepared by the *New York Times*, showed the probable wet-dry line-up in the Seventy-Second and Seventy-Third Congresses.

HOW CONGRESS MAY STAND ON PROHIBITION

State delegations	SENATE					HOUSE				
	Present division		Division in next Senate			Present division		Division in next House		
	Wet	Dry	Wet	Dry	Doubtful	Wet	Dry	Wet	Dry	Doubtful
Alabama	0	2	2	0	..	1	9	9	0	..
Arizona	0	2	2	0	..	1	0	1	0	..
Arkansas	0	2	1	1	..	0	7	..	0	7
California	2	0	2	0	..	7	4	14	0	6
Colorado	0	2	0	1	1	0	4	4	0	..
Connecticut	2	0	2	0	..	5	0	6	0	..
Delaware	0	2	0	2	..	0	1	0	0	1
Florida	0	2	2	0	..	0	4	4	0	1
Georgia	0	2	2	0	..	0	12	10	0	..
Idaho	0	2	1	1	..	0	2	2	0	..
Illinois	2	0	2	0	..	17	10	24	1	2
Indiana	0	2	1	1	..	5	8	11	0	1
Iowa	0	2	1	1	..	1	10	5	0	7
Kansas	0	2	0	1	1	0	8	0	0	7
Kentucky	0	2	2	0	..	2	9	9	0	..
Louisiana	2	0	2	0	..	4	4	8	0	..
Maine	0	2	0	2	..	0	4	2	1	..
Maryland	1	1	1	1	..	1	5	5	1	..
Massachusetts	2	0	2	0	..	13	8	15	0	..
Michigan	0	2	0	0	2	9	4	17	0	..
Minnesota	2	0	1	1	..	5	5	0	0	9
Mississippi	0	2	2	0	..	0	8	..	7	..
Missouri	1	1	2	0	..	5	11	13	0	..
Montana	1	1	2	0	..	1	1	2	0	..
Nebraska	0	2	1	1	..	1	5	2	3	..
Nevada	2	0	2	0	..	1	0	1	0	..
New Hampshire	1	1	1	1	..	1	1	2	0	..
New Jersey	2	0	2	0	..	12	0	14	0	..
New Mexico	1	1	1	1	..	1	0	1	0	..
New York	2	0	2	0	..	82	11	41	4	..
North Carolina	0	2	2	0	..	1	9	11	0	..
North Dakota	0	2	0	2	..	0	3	1	1	..
Ohio	1	1	1	1	..	13	9	20	2	2
Oklahoma	0	2	0	2	..	0	8	0	0	9
Oregon	0	2	1	1	..	1	2	3	0	..
Pennsylvania	2	0	2	0	..	19	17	26	8	..
Rhode Island	2	0	2	0	..	3	0	2	0	..
South Carolina	0	2	2	0	..	1	6	6	0	..
South Dakota	1	1	..	2	..	1	2	2	..	..
Tennessee	0	2	2	..	..	1	9	7	0	2
Texas	0	2	0	1	1	4	14	13	0	8
Utah	0	2	2	0	..	0	2	2	0	..
Vermont	0	2	0	2	..	0	2	1	0	..
Virginia	0	2	2	0	..	4	6	7	0	2
Washington	0	2	2	0	..	3	2	6	0	..
West Virginia	0	2	0	2	..	2	4	6	0	..
Wisconsin	2	0	2	0	..	9	2	8	1	1
Wyoming	0	2	0	2	..	1	0	1	0	..
Total	31	65	61	30	5	188	247	343	29	63

paign progressed it became increasingly apparent that whichever won, repeal sooner or later would be the order of the day.

RESULTS OF THE ELECTION. Because of the outspoken stand in favor of repeal taken by Governor Roosevelt, the Democratic victory at the polls in November was rightly interpreted as a vote in favor of the repeal of the Eighteenth Amendment. Wets had cause for rejoicing not only because of Governor Roosevelt's success but also because of the election of a wet house for the Seventy-Third Congress. The fact is, returns indicated great enough strength in the House to put through a modification law and a resolution for the repeal of the Eighteenth Amendment; in the Senate the wets apparently lacked only three votes short of the two-thirds needed for the

There were other victories for the wet cause. Eleven States held prohibition referendums, namely: Louisiana, Michigan, New Jersey, California, Washington, Oregon, Colorado, Arizona, North Dakota, Connecticut, and Wyoming. Nine of them voted to repeal State enforcement laws and in every instance these referendums were successful. In Connecticut and Wyoming the vote was concerned only with the testing of local sentiment or of appeal to Congress to take action. Here, too, success perched on the wet banners. In a number of instances the wet vote was overwhelming. Thus New Jersey voted 10 to 1 in favor of the repeal of the State enforcement law; in Louisiana the majority in favor of repeal was 12 to 1; in California it was 3 to 1; in Michigan, Washington, and Arizona it was

2 to 1. In Colorado, North Dakota, and Oregon, the vote was 5 to 4 in favor of repeal of the State law. The case of North Dakota was particularly interesting for that commonwealth had enacted a State law thirty years before the Eighteenth Amendment was written into the Federal Constitution—being the third State in the Union to do so. Oregon, Washington, Colorado, and Arizona had joined the dry column as early as 1914, and Michigan had done so, by constitutional amendment, in 1916. The interpretation of the New York *Times* on this overwhelming indication of public sentiment expressed a general opinion. It said: "It is impossible to read such results in States long classed as dry without concluding that in this immense shift of popular sentiment we are witnessing the actual break-up of the post-war system of prohibition. The country has now an indication of what can happen in 'dry territory' when either the old Congress or the new submits repeal of the Eighteenth Amendment to the States."

**THE RETURN OF BEER.** As the year drew to a close it was plain that, so completely had it been convinced by the results of the November elections, the Seventy-Second Congress was prepared to modify the Volstead Act and legalize the manufacture and sale of beer, if agreement was at all possible as to the alcoholic content of the beverage, and the basic tax to be imposed upon it. Indeed, early in November, Chairman Collier, of the House Ways and Means Committee, announced that he had already called a meeting of his committee for December 7 to conduct hearings on a beer bill for tax purposes. He, himself, favored the general provisions of the earlier defeated O'Connor-Hull bill, which had provided for the legalization of beer with an alcoholic content of 2.75 per cent by weight to be taxed at the rate of \$7.50 a barrel. The alarming condition of the Federal Treasury as the first half of the fiscal year 1932-33 was drawing to a close, and the continuance of the depression, making necessary extraordinary forms of unemployment relief, were largely responsible for Congress's attitude. As November closed, the Federal deficit already was \$750,000,000 with a probable deficit at the end of June 30, 1933 of from \$1,500,000,000 to \$2,000,000,000. Naturally some of the predictions of enthusiastic wets were wide of the mark. Friends of the modification of the Volstead Act insisted that a beer tax could bring in as much as \$750,000,000 annually; others went so far as to claim that it would balance the budget.

From some quarters reports were issued to the effect that legalization of beer would furnish employment to at least 1,000,000 persons, directly in the brewing and malting industries and also in allied activities like cooperage works, machine shops, glass works, etc. In the first flush of enthusiasm hope naturally ran high, yet reasonable persons insisted that the creation of too great a degree of expectancy might be more harmful than not. It was pointed out that in the heyday of its career, that is, in 1914 before the inception of the intensive drive for nation wide prohibition, the brewing and malting industries did not employ more than 90,000 persons or utilize more than \$850,000,000 in capital. It was also to be recalled that the legalization of beer did not mean the creation of a new industry from the ground up, actually a brewing industry both in its legal and illegal aspects already existed. In

view of the fact that many brewers had accepted the standard of one-half of 1 per cent alcoholic content set up by the Volstead Act and had turned to the manufacture of near beer, it would be comparatively easy for them to start immediately the production of real beer. This meant merely the elimination of but one step in the process, that is to say, de-alcoholization of the beverage. In New York City alone there existed already fourteen breweries manufacturing near beer which at very short notice could turn out the real product to supply the needs of the whole Metropolitan area, if not a larger zone. Also, it was hard to expect that the legalization of beer would immediately drive out of business all those illicit wild-cat and alley breweries which were already manufacturing. Their operators had a large capital stake in their industry and no doubt they would contest the field with the legitimate breweries either by force or by underselling. Thus, the economic benefits of the return of beer were, to say the least, hard to chart, and the statements of brewers that there were to be large capital outlays and opportunities for the employment of many men were beginning to be received with considerable skepticism as the year closed.

To estimate the probable consumption of beer in order to calculate the return from a beer tax also had its difficulties. It is true that in 1911-14 the average annual consumption of beer was in the neighborhood of 2,000,000,000 gallons, making a *per capita* consumption of 20.5 gallons and that this ratio, applied to the 1933 population, would make an estimated consumption for the year of 2,500,000 gallons. At a tax rate of \$7.50 a barrel this would mean an estimated revenue of almost \$600,000,000. It is important to remember, however, that there existed a number of factors to make such estimates not at all probable. In the first place, the area of sale would be definitely limited to those States which had repealed their State enforcement laws and at the end of 1932 there were only fifteen such, holding in all not more than 36 per cent of the population. In the second place, with the continuance of the outlawing of the saloon there was eliminated from the scene the chief dispensing agency, for in pre-prohibition days beer had largely been drunk either at the bar or had been taken home in containers. The limitation of the sale of beer to eating places in connection with meals and to bottled beverages for home consumption must inevitably cut into bulk sales.

Other factors likely to affect the sale were: the high price of beer necessitated by the 3¢ a pint tax generally favored in Congress; the continuance of the depression which would stand in the way of the substitution of the more expensive beer for the less expensive coffee as a table beverage; and the fact that during the period of prohibition American drinking habits had changed and Americans had learned to become fond of hard liquor. All these considerations required weight in the determination of probable consumption of beer for tax purposes. The author of this article, writing in *Current History Magazine* for January 1933, believed that for the next year, at any rate, not more than 1,000,000,000 gallons of beer would be consumed; at a tax rate of 3¢ a pint, this would bring into the Federal coffers between \$240,000,000 and \$200,000,000. Any expectation on the part of Congress that the return would be heavier would only suc-

ceed in making the Federal fiscal outlook more dismal than it already is.

On December 5, on the same day that it had originally convened for its short session, the House of the Seventy-Second Congress was called upon by Speaker Garner to take action on a resolution providing for the repeal of the Eighteenth Amendment. The resolution received consideration immediately due to a special rule enacted by a two-thirds vote, and debate on it was limited to forty minutes. The resolution called for a straight repeal of the Eighteenth Amendment without qualifications or modifications of any form. The result of this test showed that the wets lacked just six votes short of the necessary two-thirds to pass the repeal resolution; for 272 members voted in favor of the resolution and 144 members voted against. It is important to note that of the 144 voting in the negative, 81 were lame ducks who would not return to the Seventy-Third Congress. On the other hand, 69 lame ducks cast their vote for repeal. The Democrats were overwhelmingly for repeal, 168 voting for the resolution and 44 against. The Republicans, on the other hand, divided almost equally, 103 of them voting for and 100 against. One member of the Farmer-Labor party voted for repeal. The vote showed that the opponents of repeal came largely from the South and West, 35 of the Democrats voting nay coming from the South and the remaining 9 from the Middle Western, and Rocky Mountain States. Of the 100 Republicans voting in the negative, 64 were furnished by Western Republicans.

By a vote of 17 to 7, on December 15, the House Ways and Means Committee favorably reported on the Collier bill legalizing the manufacture and sale of beer. Following a week of hearings, in which representation was made that the legislation of beer would restore an important industry, put large numbers of persons to work in brewing and malting and allied activities, and furnish a sizeable revenue to the government, the House Ways and Means Committee drew up the Collier bill. This measure contained the following provisions: legalization of the manufacture of beer containing an alcoholic content of 3.2 per cent by weight or 4 per cent by volume; a tax of \$5 per barrel containing not more than 31 gallons; a brewer's license tax of \$1000; a tax of \$20 on retailers dispensing malt liquors; protection of dry areas against the shipment or transportation of beer into their territories from wet areas; penalties for violation of the prohibition against shipment into dry territories; and the law to take effect 30 days after its enactment. The House report accompanying the bill estimated that the revenues produced by the beer tax would be \$200,000,000 annually. The report insisted that 3.2 per cent beer was not intoxicating and could be so described in the enforcement law enacted under the Eighteenth Amendment. The report declared that the change in sentiment on the part of "a majority of the people" of the country on prohibition "can hardly be controverted." The Committee, therefore, in recognizing this change of opinion, was merely indicating its responsiveness to public sentiment. The report pointed out that there was every reason to believe that as a result of the legislation of beer, certain farm and general economic benefits might be expected in view of the fact that large quantities of malt, rice, corn, hops, and various other grains would be used in

making the beverage. The report also quoted estimates that the brewing industry would return 75,000 men to work and stimulate employment by 225,000 more in allied industries. Brewers had promised to spend \$360,000,000 in capital investments for rehabilitation and remodeling within the next year. It is important to note that the Collier bill made no mention of the legalization of naturally fermented wines (that is to say, wine up to an alcoholic content of 14 per cent), nor did it take definite action toward the outlawing of the saloon.

On December 21, by a vote of 230 to 165, the House passed the Collier bill as reported out of the Ways and Means Committee, the Democratic leadership succeeding in killing all efforts to amend the measure from the floor. On the final reading of the bill 133 Democrats, 96 Republicans, and 1 Farmer-Laborite voted in the affirmative while 64 Democrats and 101 Republicans voted in the negative. But the year closed without either repeal of the Eighteenth Amendment or the legalization of beer being effected, for the Senate took no action in the final days of 1932. Whether the wets were to gain that victory which the presidential election of 1932 seemed to promise them therefore still remained in doubt. There was no question, however, that the year 1933 was to see written the most important chapter in this interesting and amazing chronicle of recent American history. See UNITED STATES.

FOREIGN NOTES. In line with the national referendum adopted in 1931, the *Finnish* parliament in April legalized the liquor industry, establishing it on a system somewhat comparable to that existing in Sweden. There was set up a state monopoly through whose offices passed the alcoholic beverages placed on sale in restaurants and retail shops. The law restricted the number of drinking days to 183, retail shops being closed from Saturday through Monday. Unlike Sweden, however, individual purchases were not put on a quota basis. Results of the operations of the new dispensation apparently were mixed. Reports were to the effect that drunkenness and arrests for violent crimes were on the decrease. On the other hand, despite the fact that the monopoly's retail shops were selling hard liquor at comparatively cheap prices, moonshining and bootlegging continued to flourish, the government finding it particularly difficult to cope with smuggling of hard liquors from other Baltic and the Scandinavian countries. The adverse economic situation, which had thrown so many people out of employment, was no doubt one of the important reasons for the continuance of the illicit liquor traffic. It was difficult to say whether a rigid system of control, with all its limitations as to closing days, restricted hours of sale, and the outlawing of saloons would in the end furnish the key to the problem. Finland had not yet completed its first year under the new system and, therefore, judgment on the part of impartial observers was still suspended.

On December 8, the Finnish parliament drastically amended the state liquor law in order to halt the smuggling of illicit liquors, of which mention has been made above. The amendments permit the sale of liquor throughout the year, except on Sundays, holidays, and eight other special days; also daily hours of sale were extended to 17 instead of the former 15, the extension applying to the night hours. The legis-

lation was enacted largely as a result of the stand taken by the government liquor monopoly, which had insisted that it could not compete with the smugglers unless night drinking was permitted and the number of days of sale increased. See FINLAND under *History*.

In *Switzerland*, as a result of the mandate of the constitutional amendment of 1930, the parliament passed a law extending the scope of the federal liquor monopoly. The new statute, by including liquor distilled from fruits within the scope of the state monopoly, strengthened the country's liquor policy of national control of sources of supply. One provision of the law was that the government in time was to acquire all those distilleries which were offered for sale to the liquor administration; another was the prohibition of the opening of new distilleries. In effect, the law extended the monopoly's control of "manufacture, refining, import, export, transit, sale, and taxation, to liquors distilled from fruit products. Also wine, more than 12 per cent alcoholic content, was to be subject to tax, but less potent wine as well as beer and cider were to continue to be free of monopoly control or taxation. Under the new law the Federal government, instead of continuing to turn over all of the monopoly profits to the cantons, was to impound half the proceeds in its fund for old-age insurance and widows' and orphans' pensions. Farmers operating stills were to be allowed to continue making spirits, but only of Swiss materials. All home-made liquor required for household or agricultural use was not to be taxed; the surplus the state was prepared to purchase from the farmers.

**PROHIBITION POLL**, "THE LITERARY DIGEST'S CULMINATING. With the dawn of 1932 came increased signs of popular unrest over the problem of National Prohibition. It seemed to all who had opportunities in some measure to explore or sample the public mind, that the drift of feeling against the Eighteenth Amendment and the Volstead law had gathered such strength that it was bound to declare itself in decisive action sooner or later—and this was a Presidential year.

The Congress showed no sign of knowing anything about this revulsion of popular sentiment, but continued to obstruct, with the adamant inertia of a drilled majority, all attempts at bringing about a reconsideration or modification of Prohibition in itself or in any of its ramifications.

Future historians may interest themselves in the question of how largely the industrial depression may have helped to swell the anti-Prohibition tide. Important conclusions on this point may be drawn from a comparison between *The Literary Digest's* Prohibition polls of 1930 and 1932, the latter of which was to play a decisive historic part in the events leading up to the National Conventions in June and the Presidential Election in November.

Of 4,668,537 ballots mailed back to *The Digest* in the spring of 1932, 3,431,877 were marked for Repeal of the Eighteenth Amendment, and 1,236,660 for Continuance of Prohibition. That was 73.51 per cent for Repeal. The 1930 poll had shown a combined 69.54 per cent of its ballots for Repeal, or (and) a middle question involving Modification of the Volstead law in favor of light wines and beer. The depression was in its infancy at the time of the 1930 poll, and was

not expected to last much longer, yet the drift against Prohibition was within 5 per cent of the strength it was to reach after two more years of industrial stagnation and general distress. Trained observers have drawn the inference that the depression played a smaller part in the matter than might be supposed. In this connection it is pointed out that a still earlier Prohibition poll—one of small dimensions conducted by *The Literary Digest* in 1922—had also been emphatic for repeal or modification.

The events of 1932 were to bring the history of Prohibition to a startling and dramatic climax. Already in January the public impatience was expressing itself in demands for some sort of a plebiscite on the question. Many talked and wrote loosely of a "national referendum." Others, who knew that the Constitution of the United States has no provision for a referendum on any question, joined in a widespread appeal for a *Literary Digest* Prohibition poll. It was pointed out that in a few weeks *The Digest* could canvass an enormous cross-section of the entire nation and obtain an unequivocal expression of current opinion. Letters to this effect poured in to the editors, and the same suggestion was echoed in newspapers all over the country. *The Digest* made some tests by mail, and the response more than confirmed the impression that the country was at fever heat on the subject.

In February *The Digest* mailed out 20,706,352 post-card ballots to every community, large and small, in the United States. The ballots differed from the 1930 ballots in one important particular. The 1930 ballots bore three questions, as we have noted; the 1932 ballots only two. This change was made for these reasons:

In the beginning of the 1930 poll it was assumed that the middle vote, calling for "modification" (light wines and beer), was to be reckoned as part of the "wet" vote, but as the poll progressed, the Prohibition leaders began to claim the modificationists as their own, on the ground that these middle voters still wanted the Eighteenth Amendment. Thus the issue became confused. That confusion was to be dissipated, as we shall see, by the results of the 1932 poll, of which the ballots presented the simple alternative of (1) Continuance of Prohibition and (2) Repeal of the Eighteenth Amendment.

"This time there'll be no bone of contention," *The Digest* remarked in announcing the poll. That was on February 13. A week later came the first small report, from eight States. After that the tally waxed greater in volume weekly—and each week it looked more like a landslide for the repeal of the Prohibition Amendment. Prohibition organizations redoubled their activities, political and propagandist, and strove mightily to discredit the findings of the poll, and even to throw doubts on the non-partisan spirit which had been the *Literary Digest's* guiding star for forty years. Anti-Prohibition organizations increased in number and energy. Statesmen of the two major parties evinced anxious interest in the poll figures, with an eye to the National Conventions coming in June. Reports that the Republican party chiefs were planning a plank for the resubmission of the Eighteenth Amendment brought vigorous threats from prominent dry leaders. Meanwhile a number of Congressmen quietly appealed to *The Digest* for special enlightenment on the dry-wet voting in their home districts.

Those interested in discrediting the poll launched a number of canards, among which only one had a certain color of plausibility which makes it worth recording. It was asserted that *The Literary Digest's* ballots did not reach women in sufficient quantity to give them an adequate voice on Prohibition. *The Digest*, it appeared, had not "sorted out the sexes" in its roster of 20,706,352 names and addresses, but it was convinced that the women of the country were getting their share of ballots. It met the challenge seriously and in a practical way, the result of which it recounted thus:

We decided to poll all the registered voters, men and women—the women separately from the men—in one representative city.

We selected one of the oldest Prohibition centers in the whole country, and one of the most downright American, "from 'way back"—Portland, Maine.

The canvass was so arranged that we could distinguish the women's ballots from the men's, while still preserving the secrecy of the ballot. Another important part of the program was that we were polling the rest of the State of Maine (minus Portland) with our own regular mailing list.

The results of this double operation were most revealing and decisive.

Taking the city as a whole, without distinction of sex, we find that out of 6,909 of Portland's registered voters who have sent in ballots at this writing, 2,096 vote for Continuance of the Eighteenth Amendment, 4,813 for its Repeal.

Now, separating the men and women, we get these figures:

Men—14,598 Mailed, 3,981 Replies = 27.3 per cent.  
Continue 970 = 24.36 per cent.  
Repeal 3,011 = 75.64 per cent.  
Women—11,958 Mailed, 2,928 Replies = 24.48 per cent.  
Continue 1,126 = 38.45 per cent.  
Repeal 1,802 = 61.55 per cent.

The first thing to strike us is that the women don't vote so very differently from the men. Their majority is on the same side as the men's majority. They're not so emphatically wet as their husbands, fathers, and brothers, but their wetness is decisive.

Their response in the way of voting is a trifle less than that of the men, but surprisingly high.

Turning now to the State of Maine, without Portland and without sex distinction, we find that out of 25,689 ballots returned to date, 7,826 are for Continuance, 17,863 for Repeal—a wet percentage of 69.54.

Finally, taking Maine as a whole, Portland included, we find that in a total vote to this writing of 32,598, the figures are 9,922 for Continuance, 22,676 for Repeal—a wet percentage of 69.57.

Note, if you please, the virtually exact correspondence in dry-wet proportions between the total vote of Maine (outside of Portland) and the total vote of Portland, where women voted on an equality with men. The percentages work out as follows.

State of Maine, for Repeal, 69.54

City of Portland, for Repeal, 69.67

This corroboration of the poll's accuracy was cited extensively in the heated discussions leading up to the National Conventions and during the Presidential campaign.

An extraordinary feature of the poll throughout the greater part of its life was that it brought to light only one dry State—Kansas—until the ninth weekly report, when Kansas was joined by North Carolina. And those two States emerged in the final report, on April 30, as the sole champions—by narrow margins—of the Eighteenth Amendment, against 46 States with majorities for Repeal.

*The Digest* presented this comparison between the percentage results of its two large Prohibition polls:

1930	Per cent	1932	Per cent
For Enforcement ..	30.46	For Continuance ..	26.49
For Modification ..	29.11	For Repeal .....	73.51
For Repeal .....	40.43		

Those who in 1930 argued that the Modification vote should be counted as dry, now counted

it as having been wet. Otherwise the apparent wet gains in the intervening two years would have been, of course, fabulous. Probably some color of dryness did enter into that middle column, but how much can only be guessed. The two-question ballot proved its value, although in the course of the poll it was attacked by both wets and drys, each faction accusing it of favoring the other.

#### FINAL REPORT OF THE LITERARY DIGEST PROHIBITION POLL

[For Continuance or Repeal of the Eighteenth Amendment]

State	Continuance	Repeal	Total
New England .....	76,432	273,956	350,388
Maine .....	10,877	24,794	35,671
New Hampshire ..	6,820	14,529	21,349
Vermont .....	4,937	11,329	16,266
Massachusetts .....	39,184	143,950	183,134
Rhode Island .....	3,431	18,395	21,826
Connecticut .....	11,883	60,959	72,842
Middle Atlantic ....	240,192	995,725	1,235,917
New York .....	76,922	426,694	503,616
New Jersey .....	29,953	174,806	204,759
Pennsylvania .....	133,817	394,225	527,542
East North Central .	286,758	901,349	1,188,107
Ohio .....	106,367	280,196	386,563
Indiana .....	66,126	140,100	206,226
Illinois .....	53,748	228,972	282,720
Michigan .....	39,815	141,553	181,368
Wisconsin .....	20,702	110,528	131,230
West North Central .	183,814	377,535	561,349
Minnesota .....	31,475	101,694	133,169
Iowa .....	32,480	57,874	90,354
Missouri .....	43,890	106,519	150,409
North Dakota .....	6,810	21,205	28,015
South Dakota .....	7,110	15,159	22,269
Nebraska .....	19,790	33,222	53,012
Kansas .....	42,259	41,862	84,121
South Atlantic ....	141,643	267,105	408,748
Delaware .....	2,442	6,425	8,867
Maryland .....	14,818	46,964	61,282
Dist of Columbia .	3,009	10,509	13,518
Virginia .....	27,721	47,617	75,338
West Virginia .....	23,662	44,741	68,403
North Carolina .....	32,429	32,361	64,790
South Carolina .....	12,282	18,361	30,643
Georgia .....	14,038	25,479	39,517
Florida .....	11,742	34,648	46,390
East South Central .	82,063	118,527	200,590
Kentucky .....	26,143	53,662	79,805
Tennessee .....	27,479	29,122	56,601
Alabama .....	16,894	20,438	36,832
Mississippi .....	12,047	15,305	27,352
West South Central .	96,185	154,019	250,204
Arkansas .....	14,817	16,202	31,019
Louisiana .....	7,510	33,286	40,796
Oklahoma .....	25,026	30,004	55,030
Texas .....	48,832	74,527	123,859
Mountain .....	36,058	85,053	121,111
Montana .....	4,859	19,995	24,854
Idaho .....	5,818	10,710	16,023
Wyoming .....	1,832	6,420	8,252
Colorado .....	14,870	22,887	37,757
New Mexico .....	1,587	4,781	6,368
Arizona .....	2,552	7,027	9,579
Utah .....	4,650	10,281	14,931
Nevada .....	395	2,952	3,347
Pacific .....	77,452	242,163	319,615
Washington .....	15,858	48,973	64,831
Oregon .....	11,446	26,271	37,717
California .....	50,648	166,919	217,567
State Unknown ....	16,063	16,445	32,508
Final totals ....	1,286,660	3,481,877	4,668,537



Regarding the above comparison between the 1930 and 1932 percentages, *The Digest* made this interesting discovery:

Curiously enough, some very close correspondences emerge from a comparison of the above figures and the returns of the national plebiscite in Finland, whereby that country, last winter, abolished Prohibition after trying it for twelve years. Here are Finland's totals and percentages:

Retain .....	217,019.....	28.1 per cent
Modify .....	10,915.....	1.4 per cent
Repeal .....	544,967.....	70.5 per cent

The Finland dry percentage, it will be noted, falls between the American dry percentage of our 1930 poll and that of our 1932 poll. The Modify-Repeal percentage falls between our 1930 Modify-Repeal percentage and our 1932 Repeal percentage. Thus:

DIGEST, 1930	Per cent	Finland	Per cent
Modify-Repeal ..	69.54	Modify-Repeal ...	71.9
DIGEST, 1932	Per cent		
Repeal .....	73.51		

A valuable feature of the final tabulation of the poll (See page 696) is the geographical grouping of the States, and the furnishing of regional totals as well as State totals.

### PROTESTANT EPISCOPAL CHURCH.

A religious body representing the Anglican communion in the United States, of which the Church of England is the parent church, and which was brought to America by the Jamestown colonists in 1607. Despite the absence of a colonial episcopate the church, under English clergymen, maintained a firm foothold for 170 years. In 1785 the first American bishop was consecrated in Scotland, and three years later two more were consecrated. The church completed its organization at a convention in Philadelphia in October, 1789, at which the constitution and name were adopted and the Book of Common Prayer was set forth.

In 1932 the total number of communicants of the Episcopal Church, in 8307 parishes and missions, was 1,319,183, an increase of 7179 over the preceding year. The clergy numbered 6388; 181 priests were ordained during the year, while the 15 theological seminaries of the church reported 536 candidates for orders. In the 5000 church (Sunday) schools 501,866 pupils were enrolled. Baptisms during the year numbered 64,431, and confirmations 64,601. The government of the church centres in a general convention which meets triennially, the next session (the fifty-first) to be held in Atlantic City, N. J., in October, 1934. The affairs of the church between sessions are conducted by a National Council which is also the board of directors of the Domestic and Foreign Missionary Society.

Operating on a balanced budget, the church in 1931 reported total expenditures amounting to \$3,695,033. Of this sum, the total expenditure for missions, domestic and foreign, was \$2,726,097, divided in practically even amounts between the two fields. The foreign-mission fields included Japan, China, Liberia, Mexico, the Philippines, Alaska, Hawaii, Brazil, the Canal Zone, Cuba, Puerto Rico, Haiti, the Dominican Republic, the Virgin Islands, and Palestine; in addition, there were establishments in 10 important European centres. Domestic missionary activities included work among the foreign born, Indians, Negroes, mountaineers, mill workers, in addition to a wide range of social service. American missionaries abroad numbered, men and women, respectively, 184 and 231; native staff abroad, 1312 and

738. During the year, 58 new missionaries were appointed.

The National Council is assisted by coöperating agencies, including the Woman's Auxiliary; the Brotherhood of St. Andrew; the Church Army; the Daughters of the King; the Guild of St. Barnabas (for nurses); the Girls' Friendly Society in the United States (for girls and young women); the Young People's Fellowship (for young men and women); the Church Mission of Help; the Seamen's Church Institute of America; and the American Church Institute for Negroes. Official periodicals are *The Spirit of Missions* and *Bulletins* of the National Council, together with material dealing particularly with each department of the Council. Several independently owned publications make an important contribution to the life of the church: *The Living Church*, *The Churchman*, *The Witness*, *The Southern Churchman*, weeklies; *American Church Monthly* and *The Chronicle*, monthlies.

The year 1932 was marked by the death of only one bishop: The Rt. Rev. Cameron Mann, D.D., bishop of South Florida, who was succeeded by his coadjutor, the Rt. Rev. John D. Wing, D.D. During the year, the Bishop of Sacramento, the Rt. Rev. William H. Moreland, D.D., presented his resignation. It will be ratified at the next meeting of the House of Bishops. New members of the House of Bishops consecrated during 1932 were: The Rt. Rev. Benjamin M. Washburn, D.D., Bishop Coadjutor of Newark, and the Rt. Rev. Ralph E. Urban, Suffragan Bishop of New Jersey. The headquarters of the National Council, of which the Presiding Bishop, the Rt. Rev. James DeWolf Perry, D.D., Bishop of Rhode Island is president, are in the Church Missions House, 281 Fourth Avenue, New York City.

### PROTOZOA. See ZOÖLOGY.

**PRUSSIA**, prûsh'â. A constituent republic of the German Reich. Formerly a kingdom of the German Empire, it was proclaimed a republic Nov. 13, 1918. Area, Dec. 30, 1930, was 113,036 square miles. Total population (1925 census), was 38,175,989. Births in 1930 numbered 713,322, deaths 454,516, marriages 350,347. Chief cities, with their populations (1925 census): Berlin, the capital 4,024,286; Cologne, 700,222; Essen, 629,564; Breslau, 599,770; Frankfurt-on-Main, 540,115; Dortmund, 525,837; Düsseldorf, 464,543; and Hanover, 425,274. Public elementary schools in 1926 enrolled 4,169,481 pupils, and the private elementary schools, 13,925. There were 55,498 students in 14 universities in 1930-31 and about 720,886 pupils in various secondary and preparatory schools in 1926.

Agriculture, mining, and manufacturing are the principal industries. The chief crops, with the yields in metric tons, in 1930 were: Wheat, 2,320,566; rye, 5,710,115; barley, 1,588,255; oats, 3,838,436; potatoes, 31,966,252; meadow hay, 11,569,398. Vineyards yielded 13,085,837 gallons of wine, valued at 29,432,014 Reichsmarks (1 Reichsmark equaled \$0.2382 at par). In the fiscal year 1931-32, the budget of the Prussian Government was estimated to balance at 3,920,348,760 Reichsmarks. The public debt on April 1, 1931 aggregated 623,440,338 Reichsmarks.

The Constitution of Nov. 30, 1920, vests legislative power in a Diet (*Landtag*) of 422 members, elected by direct suffrage, and a State Council (*Straatsrat*) elected by the Provincial Assemblies. The Diet elects the Premier, who appoints the members of his Cabinet. The Diet

elections of April 24, 1932, returned 102 National Socialists, 93 Social Democrats, 87 Centrists; 57 Communists, 31 Nationalists, 7 People's party, 2 State party, and 3 others. Premier in 1932, Otto Braun (Social Democrat). See GERMANY.

**PSYCHIATRY.** See **PSYCHOLOGY.**

**PSYCHICAL RESEARCH.** The past year, though on the whole a quiet and uneventful one, was marked by several incidents of importance. First must be mentioned the Jubilee of the Society for Psychical Research. Founded in London in 1882 by a group of able men, the chief of whom were Prof. Henry Sidgwick, F. W. H. Myers, and Prof. Sir William Barrett, F.R.S., the society has steadily maintained its high critical standards, worthy of those of any scientific society in any field. It has done so in the face of opposition from two sides: a now fast diminishing contempt from the side of orthodox science and an often virulent dislike on the part of spiritualists and others willing to go further than the facts appear to warrant on a conservative estimate. Of these two types of opposition, it is probable that the latter has done the more harm, by bringing the subject in general into disrepute. Besides the founders named above, the Society for Psychical Research has had as Presidents such physicists as Balfour Stewart, Lord Rayleigh, Sir William Crookes, Sir Oliver Lodge; such philosophers as the Earl of Balfour, Henri Bergson, and F. C. S. Schiller; such biologists as Charles Richet and Hans Driesch; and such psychologists as William James, William McDougall and T. W. Mitchell. It is impossible in a brief space to give even a summary account of the work done by the society and reported on in its *Proceedings* and *Journal*, now extending jointly to nearly seventy volumes. In vol. xli (July, 1932) of the society's *Proceedings* will be found a valuable survey of the society's work, written, from first-hand knowledge of the entire period, by Mrs. Henry Sidgwick. This is followed by a classified list of the contents of the society's *Proceedings* and *Journal*.

In the field of investigation the most important event was undoubtedly the result of sittings with the medium Rudi Schneider, briefly referred to in last year's article, and now fully reported on by E. and M. Osty in their book *Les Pouvoirs Inconnus de l'Esprit sur la Matière*. The conditions of the investigation were briefly as follows: For the purpose of controlling the medium a simple apparatus similar to certain types of burglar detectors had been installed. It consisted of an infra-red ray directed at a photo-electric cell, which recorded any interference with the beam. The cell was at first connected with a bell and a flashlight apparatus. During these sittings the bell rang and flashlight exposures were repeatedly made. This clearly indicated that the infra-red beam had been interfered with, that is, absorbed or refracted by an interposed substance of some kind. Yet when the plates so exposed were developed it was found that no such substance was visible. The photographs showed the entire area concerned, including the medium, but nothing extraneous was visible in the infra-red beam.

Further to test the nature of this non-photographable substance, the photo-electric cell was connected with a galvanometer, which measured and recorded the extent and frequency of the absorptions of the infra-red beam. It was discovered that the substance did not usually

enter into the infra-red ray, absorb a certain percentage of it, and remain constant. On the contrary, the substance oscillated rapidly in the extent of its absorptions, which ranged between about 30 per cent and about 75 per cent. These oscillations were found to occur at a rate of between 120 and 420 per minute. Later the medium's rate and volume of respiration were measured. The volume showed nothing particularly out of the ordinary. But the rate was found to be very much larger than normal, rising from the medium's normal 12 to 14 per minute to a rate in trance of between 120 and 300 respirations per minute, rising as high as 350. It was also found that the invisible and non-photographable substance in the infra-red beam oscillates at a rate uniformly and exactly double the medium's rate of respiration. That is, every inhalation and exhalation corresponds to an oscillation in the infra-red ray.

This is how the case stands at present. The investigation is to be resumed early in 1933, and next year's article may report discoveries of exceptional importance. In any case the results described already in themselves open up a new era in the investigation of parapsychical phenomena.

Many critics have already so often said, after successive revelations of suspicious incidents, that the career of the Boston medium Margery has come to an end, that one hesitates to repeat the statement. But this time it is difficult to see how the mediumship can survive the discovery made by Mr. E. E. Dudley, at the time a warm supporter of the Margery mediumship, that the fingerprints of the "spirit" supposed to manifest himself at the Margery sittings, are in fact those of an identified living man. The facts are quite clear and conclusive and the remaining supporters of the medium Margery have made no attempt to disprove them, nor does it seem possible that they should be able to do so. The only serious suggestion put forward by defenders is that the whole fingerprint system is fallacious. The student may weigh for himself the rival claims of that system and of the Margery mediumship. It may be hoped that this marks the final closing of not the least unsavory chapter in the annals of psychical research.

Mr. S. G. Soal published a long report in the *Proceedings* of the S.P.R. of his widespread and long-continued experiments in telepathy. In brief, the object of the experiment was to discover whether the faculty of telepathy exists in only rare individuals or under exceptional circumstances, or whether it is present in however minute a degree in all human beings. The experiment shows conclusively that the latter possibility must be rejected.

In the same *Proceedings* Mr. Theodore Besterman published a report of his experiments in the psychology of testimony as applied to parapsychical phenomena. An average sitting for such phenomena was reproduced, and the sitters were asked to answer a questionnaire dealing with the phenomena at the sittings. The testimony so rendered was correct in proportions ranging from 5.9 per cent to 61 per cent, averaging 33.9 per cent. The answers are analyzed in detail and the conclusions are that there is a slight tendency to underrate the number of persons present, that apparently irrelevant disturbances are largely ignored, that sitters are very little able to report conditions of visibility, that reports of audi-

tory conditions are erratic, that short periods of time are either greatly underrated or greatly exaggerated, etc.

Among other noteworthy books published during the year are C. E. Bechhofer Roberts, *The Truth about Spiritualism*; Sir Oliver Lodge, *Past Years and Letters from Sir Oliver Lodge*; E. Selous, *Thought Transference (or What?) in Birds*; P. Thomas Bret, *Précis de Métapsychique*, vol. iii; and an important pronouncement by the philosopher Hans Driesch, *Parapsychologie: Die Wissenschaft von den "Okkulten" Erscheinungen*, in which the whole field is surveyed cautiously and critically, and in which the writer comes to an affirmative conclusion in respect of certain of the phenomena.

**PSYCHOANALYSIS.** See **PSYCHOLOGY**.

**PSYCHOLOGICAL ASSOCIATION, AMERICAN.** See **PSYCHOLOGY**.

**PSYCHOLOGY.** NOTES AND NEWS. The fortieth annual meeting of the American Psychological Association was held at Cornell University, Ithaca, New York, on September 8-10. There was a registered attendance of 612 persons. Dr. Joseph Jastrow, one of the original founders of the association, spoke informally concerning the early history of the association in celebration of the 40th anniversary. The presidential address was delivered by Professor W. R. Miles, Yale University, on "Age and Human Ability." The newly elected president for the year 1932-33 was Prof. L. L. Thurstone, University of Chicago. An invitation was accepted from the University of Chicago to hold the 41st annual meeting at that institution on September 7-13, 1933.

One hundred and six papers were read in a series of 17 sessions. Animal psychology predominated, with three sessions and 22 papers devoted to the subject. Two sessions with 13 papers were assigned to Sensory Phenomena, and two with 10 papers to Clinical Psychology. Single sessions (3 to 8 papers each) were assigned to General Problems, Child Psychology, Abnormal Psychology, Applied Psychology, Physiological Psychology, and to the more specialized topics of Mental Tests, Memory, Learning, Efficiency, and Personality. Taking the programme as a whole, there appeared to be a trend away from Mental Tests and in the direction of experimental techniques.

The Tenth International Congress of Psychology was held at the University of Copenhagen from August 22 to 27. The representatives of the United States Government were Carl E. Seashore, Dean of the Graduate School, University of Iowa, Herbert S. Langfeld, Princeton University, Walter R. Miles, Yale University, Margaret F. Washburn, Vassar College, Harry P. Weld, Cornell University.

On account of the death on July 2, 1931, of the President of the Congress, Professor H. Höfding, the Chairman of the Danish National Committee for the Congress, Professor Edgar Rubin, presided. The Congress was greeted at its opening session by His Majesty, the King of Denmark.

One hundred and fifty-seven papers were read by psychologists from England, United States of America, Germany, Russia, Italy, Denmark, Holland, Belgium, Austria, Poland, India, Switzerland, Spain, Hungary, Bulgaria, Yugo-Slavia. There was a total attendance of 500 persons.

The next International Congress is to be held in 1936 at Madrid under the presidency of Prof. L. Mira of the University of Barcelona.

One of the notable events of the year was the

completion of the series of thirty radio addresses under the auspices of the National Advisory Council on Radio in Education, begun in the preceding year. The topics covered were Animal Behavior, Educational Psychology, Problems in Personality, and Industrial Applications. Universities, public libraries, and other agencies assisted in bringing these addresses to the attention of the public. As an aid in following the lectures and in providing references for further reading, Listeners' Notebooks were prepared, 45,000 of which were distributed. The lectures were also printed and distributed to the number of approximately 65,000 copies. Later, the thirty addresses, together with the introductory chapters of the Listeners' Notebooks, were published in book form under the title *Psychology Today* (University of Chicago Press, 1932, pp. 495). A proposal to continue the radio talks during the year 1932-33 was under consideration by the National Advisory Council on Radio in Education.

The 100th anniversary of the birth of Wilhelm Wundt, born August 16, 1832, was celebrated in the Leipzig laboratory in October. Wundt became Professor of Philosophy at Leipzig in 1875, and founded the world's first psychological laboratory in 1879.

The following prominent psychologists died during the year: Edgar J. Swift, Emeritus Professor of Psychology, Washington University, August 30, best known for his early studies in the field of learning and his later applications of psychology to the problems of everyday life; Leonard T. Troland, Lecturer in Psychology, Harvard University, Director of Research, Technicolor Motion Picture Corporation, Hollywood, Calif., May 27, investigator in the field of visual phenomena and author of systematic treatises on Psychology; June E. Downey, Professor of Psychology and Philosophy, University of Wyoming, October 11, originator of one of the early forms of the Personality Test, and investigator in the field of right- and left-handedness; Anton A. Grunbaum, Director of the Psychological Laboratory at Amsterdam, Holland, Jan. 10, 1932, a student of the Würzburg School who made many contributions to the study of the higher thought processes, and in later years directed his interest toward problems in Abnormal Psychology; Max von Frey, University of Würzburg, January 25, primarily a physiologist, he was best known to psychologists through his classical work on the senses.

The first issue of the *Psychoanalytic Quarterly* appeared in April, 1932. The journal was planned to publish, besides original articles, book reviews, news items and books, particularly translations not otherwise accessible to English readers. These books would be presented in installments. (*Psychoanalytic Quarterly* Press, Albany, N. Y.)

The first number of *Personality: A Quarterly for Psychodiagnostic and Allied Studies* appeared in the United States in 1932. It was edited by Robert Saudek of London and a large staff of collaborators. It was planned to issue simultaneously an English and a German edition of this new journal. The publication was inaugurated by the Duke University Press, Durham, N. C.

A memorial volume, *Twenty-five Years* was published by the Vineland Training School, Vineland, New Jersey, 1932, commemorating the establishment of the Vineland Laboratory by H. H. Goddard in 1906. The volume presented the nine papers delivered at a formal conference, includ-

ing a résumé of the research accomplished and published, and a survey of research opportunities offered by the institution.

The second edition of the *Psychological Directory* (Clark University Press, 1932) came from the Press. Pertinent information, together with complete bibliographies of publications, was furnished for 2400 psychologists from 40 countries. The first edition of this work (1929) contained 1250 names from 24 countries. It was reported that another volume would shortly appear containing data for deceased psychologists back to antiquity.

Announcement has been made of the publication of *Revista Italiano di Psicoanalisi*, the official journal of the Italian Psychoanalytic Society.

There was originated in Chicago the Chicago Society for Personnel Study, consisting of psychiatrists, psychologists, sociologists, educators, physiologists, and others, with the hope of integrating the sciences in a scientific body devoted to the study of personality in all its phases, normal and abnormal, child and adult.

The Clark University Press published volume ii of *Autobiography in Psychology* (1932). It contained historical accounts of 15 psychologists, of whom eight were American, two were English, two were German, one was French, one Italian, and one Danish.

Announcement was made of the organization in Chicago of an Institute for Psychoanalysis. The Institute was planned to engage in teaching and research to the end that competent practitioners might be available, that medical men might learn to appreciate the need for analysis, that the scientific basis upon which it rests might be strengthened, and that the proper coordination with the scientific disciplines might be established. The Director of the Institute was Dr. Franz Alexander. He was supported by a staff of 13 lecturers, associates, and consultants. The Board of Trustees and the Advisory Board contained the names of many prominent professional and business men.

**GENERAL AND THEORETICAL PSYCHOLOGY.** The trend of interest in theoretical psychology continues to be in the direction of organismic conceptions, whatever the variety of names that may be applied to it. The German psychologists hold to certain unique systematic concepts which can be translated as "Totality Psychology" (e.g. F. Sanders, *Ganzheit*, and Gestalt, *Archiv für des gesamte Psychologie*, 1932, vol. 85, pp. 237-260) which assumes a transphenomenal psychical principle and which gives all our acts relation and meaning. There was also the "Understanding Psychology" (e.g. H. Seelbach, *Verstehende Psychologie und Individual-Psychologie*, *International Zeitschrift für Individual Psychologie*, 1932, vol. 10, pp. 262-288) which assumed understanding and the mental life generally to be a function not explicable in terms of cause and effect.

In strong contrast to this philosophical trend among the German psychologists, was the behavioristic concept of totality or wholeness. This was illustrated in the work of E. C. Tolman (*Purposive Behavior in Animals and Men*, New York, 1932), who presented what he called a molar behaviorism in contrast to the molecular behaviorism of Watson. By this he meant that behavior "is more than and different from the sum of its physiological parts. Behavior, as such,

is an emergent phenomenon that has descriptive and defining properties of its own."

The organismic concept with a strictly biological trend seemed to be gaining ground. It rested heavily upon the biological theories of the development of the organism and the physiological theories of neural function. This point of view was well presented in several articles by O. C. Irwin, on the Organismic Hypothesis and Differentiation of Behavior (*Psychological Review*, 1932, vol. 39, pp. 128-146, 189-202, and 387-393). He first attacked the reflex chain theory with its "atomistic implications" and substituted the concepts of Child, Herrick, Coghill, and others on the functioning of the organism as a whole. He then substituted the theory of mass action for the older reflex arc concept. Finally, he argued that behavior patterns are differentiated from a primitive general matrix of behavior rather than built up from reflex units.

In strong contrast to this systematic organismic outlook was that of E. B. Holt (*Animal Drive and the Learning Process*, New York, 1931) who used much the same source material drawn from the biological and physiological laboratories, but constructed a system upon the circular reflex, the chain reflex, and the conditioned reflex. With these resting upon the theory of neurobiotaxis, Holt constructed a purely mechanistic organization remarkably complete and convincing as far as it went. A second volume was promised to carry the interpretation still further.

Gestalt psychology appeared to be attracting somewhat less attention both in the realm of theoretical discussion and of laboratory research. A critical discussion of the concepts of Gestalt appeared in *Die Lehre von der Gestalt* by M. Scherer (Berlin, 1931). Experimental studies continuing the work of Koffka and his associates appeared in "Beiträge zur Psychologie der Gestalt" (*Psychologische Forschung*, 1931, vol. 15, pp. 194-274).

**SOCIAL PSYCHOLOGY.** The year 1932 gave but little consideration to general and theoretical problems in social psychology. Two studies of general questions may be cited, however. First is that of L. L. Bernard ("The Evolution of Social Consciousness and of the Social Sciences," *Psychological Review*, 1932, vol. 39, pp. 147-164) and next that of M. F. Washburn ("Ejective Consciousness as a Fundamental Factor in Social Psychology," *Psychological Review*, 1932, vol. 39, pp. 395-402). Of rather general import was the symposium on "Contributions of Psychology to the Understanding of Problems of Personality and Behavior," presented at the Ninth Annual Meeting of the American Orthopsychiatric Association held in Baltimore on Feb. 20, 1932. Four papers were read followed by extended discussion. They dealt with modern schools of psychology, the evolution of personality, norms of development, individual differences and biological foundations of personality.

*American Social Psychology: Its Origins, Development and European Background* (New York, 1932) was of some historical interest in its attempt to determine the ancestry of the rather vaguely delineated science.

The main interest of social psychologists in 1932, as in several previous years, has been directed toward the analysis and measurement of personality and its component parts. The measuring devices have, in the main, taken the form of scales. For example, there were described scales

for measuring emotional maturity (R. R. Willoughby, *Journal of Social Psychology*, 1932, vol. 3, pp. 3-36); "Scales for Measuring Persistence" (C. K. A. Wang, *Journal of Social Psychology*, 1932, vol. 3, pp. 79-90); "Scales for Measuring the Attitude toward Prohibition" (H. N. Smith, *Journal of Abnormal and Social Psychology*, 1932, vol. 26, pp. 429-37); and "Scales for Personal Values" (P. E. Vernon and G. W. Allport, *Journal of Abnormal and Social Psychology*, 1932, vol. 26, pp. 232-248). In addition to these scales, many tests were designed for the measurement of special social traits, such as cruelty, compassion (J. W. Hawthorne, *Journal of Social Psychology*, 1932, vol. 3, pp. 189-211). The problems involved in such measurements were dealt with by M. A. May in "Problems of Measuring Character and Personality" (*Journal of Social Psychology*, 1932, vol. 3, pp. 131-145).

The depression turned attention to certain pressing problems arising from lack of employment. Notable among studies of this type was *The Minnesota Unemployment Research Project* described briefly by D. G. Paterson (*Personnel Journal*, 1932, vol. 10, pp. 318-328); also, *The Duluth Casual Laborer Group* studied and reported by A. H. Hansen, M. R. Trabue, and H. S. Diehl (University of Minnesota Employment Stabilization Research Institute, 1932, vol. 1, No. 3). Samplings of the unemployed were given a great variety of tests in order to determine their relative fitness to compete with the average man. The group was found to possess occupational resources below the average.

EDUCATIONAL PSYCHOLOGY (including Mental Tests). The year 1932 has produced an abundance of literature both in the nature of general discussions of theory and practice and specific studies of classroom problems, as well as researches in the field of measurement. *Modern Psychologies and Education* (C. E. Ragsdale, New York, 1932) examined the psychological theories underlying modern educational methods. An attempt was made to list those psychological principles which could then be accepted by educators. The problems underlying the education of the backward child, an ever-present problem in education, were dealt with by D. K. Fraser in *Education of the Backward Child* (London, 1932). Of particular interest was the report of Child Training in the Soviet Union ("Kindererziehung in der Sowjetunion" by R. Adler, *International Zeitschrift für Individuelle Psychologie*, 1931, vol. 4, 297-309). The leaders of this work did not believe in the use of intelligence tests for determining natural fitness but assumed the educability and socialization of all children. The general methods employed were reported to develop a desire for knowledge, independence and self-confidence. The report of a special Commission on Character Education appointed by the National Education Association appeared in the Tenth Yearbook, Department of Superintendence, Washington, D. C., 1932. It included chapters on the problems of developing character, on character research and character measurement by such devices as tests, questionnaires and rating scales.

The White House Conference on Child Health and Protection made public the report of its *Committee on Growth and Development* (Century Company, 1932) in four volumes covering respectively, General Considerations, Anatomical and Physiological Factors, Nutrition and Appraisal of the Child. These documents contained

material of lasting value for the student and teacher of the child.

The *Handbook of Child Psychology* (edited by C. Murchison, Worcester, Mass., 1932) provided an authoritative account of seventeen special fields within Child Psychology by as many specialists. Among the topics given expert treatment were language development, children's drawings, games and amusements, children's dreams, children's morals, their physical growth and development, eating, sleeping, and the process of conditioning emotions in the child. Extensive reference lists were provided in connection with each topic.

In the more specialized field of learning, the search for fundamental principles continued along with special studies of such factors as repetition, satisfaction, and retroactive inhibition. A general treatment of the whole problem of learning, and embodying recent researches on learning was published in *The Fundamentals of Learning* by E. L. Thorndike (New York, 1932). This book afforded a good view of the status of the learning problems. A more practical treatment of the subject of efficiency in the process of learning was presented by W. F. Book in *Economy and Technique of Learning* (New York, 1932).

The student conversant with recent trends in educational psychology has become accustomed to finding his firmly established notions of the laws of learning called seriously into question. The effects of repetition, of pleasant effects, of primacy, of recency, had all been minimized by one or other authority. One of the last to go was the effect of the passage of time upon amount remembered or the so-called "Law of Forgetting." The year 1932, however, saw an even more fundamental concept questioned, namely, that habits are established by practicing them. K. Dunlap in *Habits* (New York, 1932) reported that habits, whether good or bad, can be broken by practicing them. This paradoxical conclusion was supported by experimental researches as well as by argument. The idea was certain to elicit discussion and attack from those who saw their last stronghold of traditional psychology being stormed.

No report could be made of the great number and variety of mental tests developed and employed during the year. A ready reference to such material was made available, however, in a survey of "Educational Tests" which appeared in the *Psychological Bulletin* (1932, vol. 29, pp. 120-146). One hundred and sixty-eight studies were reviewed, covering tests for survey and experimental purposes, for diagnosis and remedial purposes, for prognosis and guidance, for improving marks and marking systems.

ABNORMAL PSYCHOLOGY (including *Psychoanalysis*). The most notable event of the year 1932 was the inauguration of a survey of the field of psychiatry by a group of experts within psychiatry and related fields. This survey was supported by one of the large foundations and was prosecuted under the auspices of the National Research Council (Washington, D. C.). Critical evaluations of psychiatric theory and practice were made from the point of view of Medical Psychiatry, Neurology, Psychoanalysis, Psychobiology, Clinical Psychiatry, and Research in Psychiatry. It was intended to have these reports subjected to discussion by groups of specialists and differences ironed out in order to provide a concerted programme of research and development in this important field.

A significant event in the history of Psychoanalysis in the United States was the opening of the Institute for Psychoanalysis in Chicago (see *Notes and News* above). The following paragraph taken from a formal announcement indicated the scope of the new project: "The Institute for Psychoanalysis in Chicago plans research which cannot be carried on in private practice. In the beginning it will concentrate on psychobiological problems, but it hopes later to extend studies into the field of the social sciences. If these plans can be realized satisfactorily, the Institute will contribute to the assimilation of psychoanalysis in the system of sciences to an unprecedented degree. The related disciplines will really appreciate psychoanalysis only if they can obtain from it substantial help for the solution of their own special problems."

At last Freud's own mechanisms have been turned against himself. E. Michaelis (*Freud: son visage and son masque*, Paris, 1932) psychoanalyzed the master and found that the external contradictions disclosed in Freud's writings were the expressions of an internal contradiction, a conflict, a lack of inward integration. Just as the discovery of conflicts in the minds of great historical characters has opened the way for an interpretation of their achievements, so Freud's inner conflicts offer the best basis for an understanding of his psychoanalytic system (see also C. G. Jung, *Sigmund Freud in his Historical Setting, Character and Personality*, 1932, vol. 1, pp. 48-55).

After two and a half years of labor a new classification of mental disorders has been published (see G. W. T. Fleming, *The Revision of the Classification of Mental Disorders*, Report by the Clinical Psychiatry Sub-Committee of the Research and Clinical Committee, *Journal of Mental Science*, 1932, vol. 78, pp. 387-391). The aim had been to develop a system which should be as simple as possible. The grand divisions of the classification are: amentia, neuroses, and psychoneuroses, schizophrenic psychoses, psychopathic constitution, affective and emotional psychoses, toxic psychoses, epileptic psychoses, organic brain disease psychoses, and other miscellaneous types.

The publication of a *Directory of Psychiatric Clinics in the United States* (New York, 1932) was a matter of some interest to psychologists, since such a clinic was defined as "one having a psychiatrist in attendance," and would in many cases include psychologists on its staff. This was the third edition of this work, and contained record of 674 clinics.

Announcement was made of the establishment of a chair of Psychological Medicine at the Long Island Medical College. The first incumbent of this position was Dr. Alfred Adler of Vienna.

*The Medical Value of Psychoanalysis* (F. Alexander, New York, 1932) represented an interesting attempt on the part of its author to present a clear statement of psychoanalysis for the understanding of medical men and students, presumably with the purpose of introducing the psychoanalytic technique into the routine of the general practitioner. It had apparently become feasible to withdraw this practice from the exclusive control of the psychoanalytic specialist. The book by J. R. Oliver (*Pastoral Psychiatry and Mental Health*, New York, 1932) went even farther afield, in attempting to provide the clergyman with some technical knowledge of vari-

ous forms of mental illness, in order that he might recognize them and check them in their incipient stages.

There appeared during the year a comprehensive account of certain studies in Abnormal Psychology carried on in Russia under the direction of A. R. Luria (*The Nature of Human Conflicts*, 1932, New York, translated by W. H. Gannt). The researches were concerned with the breakdown of motor control under emotional stress. The method consisted of the registration of voluntary and involuntary movements of the right and left hands respectively during the word association test. Emotional and normal states showed clear-cut differences in motor response.

A general discussion of the problems of mental deficiency in the U.S.S.R. was contained in a report on what was called the "defectology movement" (D. J. Azboukier, *The Defectology Movement and Higher Defectology Instruction in the U.S.S.R. and in Other Countries*, Trudy II, University Moskva, I, 107-113). There was an account of examination methods and institutions compared with those of other countries. There were over 200 schools for defectives of various sorts, employing 1500 instructors (see also W. Eliasberg, *Beobachtungen zur psychischen Hygiene und zur Psychotechnik im neuen Russland, Zeitschrift für psychologischen Hygiene*, 1932, vols. 5, 10).

An attempt was made to determine the psychological effects of the drugs that had come, within the last several years, to play such an important part in the experimental treatment of the mental diseases (see R. W. Bohn, "Sodium Amytal Narcosis as a Therapeutic Aid in Psychiatry," *Psychiatric Quarterly*, 1932, vol. 6, pp. 301-309 and E. Lindemann "Psychological Changes in Normal and Abnormal Individuals under the Influence of Sodium Amytal," the *American Journal of Psychiatry*, 1932, vol. xi, pp. 1083-1091). Among other changes he found a decrease in inhibition accompanied by a feeling of freedom and well-being.

**APPLIED PSYCHOLOGY.** Applied Psychology as a discipline had become so extensive and diversified that by 1932 the various subdivisions such as Industry, Business and Law had attained an independent status and bulked as large as the whole of Applied Psychology of a few years earlier. An excellent survey of the field of Industrial Psychology was published during the year (M. S. Viteles, *Industrial Psychology*, New York, 1932). The author was forced to exercise restraint in the selection of his material in order to keep it within the limits of a volume of 650 pages. The book contained a good treatment of the important question of maladjustment of the worker and the motives that lead to satisfaction and dissatisfaction.

Research activities, as in the past few years, have been devoted primarily to measurement and the development of tests. Two new fields had attracted the attention of the applied psychologist, those of the dentist and the mortician. Tests had been proposed in Germany for the elimination of persons not suited for the dental profession (see "Germany's Elimination Test for Dentists" by H. Keller and C. O. Weber, *Journal of Applied Psychology*, 1932, vol. 16, pp. 465-474, also "Eignungsprüfung beim Reichsverband der Deutschen dentisten," Anon. *Industrielle Psychotechnik*, 1931, vol. 8, pp. 347-351). There were measures of intellectual and educational level, of

sensory acuity and manual skill. E. B. Clark began in 1931 to report a series of studies on the "Color Problem in Dentistry" (*Dental Digest*, 1931, vol. 37, pp. 499-509, 571-582, 646-660, 732-741, 815-826; and *Journal of the American Dental Association*, 1931, vol. 18, pp. 2093-2103) which opened up a relatively new field for measurement. He attempted to establish a kind of scale for tooth color and shade which could be used in what had come to be known as dental ceramics.

In a series of three articles G. W. Frear (*Mortuary Management*, 1932) attempted to make certain practical applications of psychology; whether this lead would develop into another full fledged field remained a question.

In the field of industrial psychology attention continued to be directed to the personality factors in adjustment to working conditions. Among such studies, one of the best was that of R. B. Hersey (*Workers' Emotions in Shop and Home: A Study of Individual Workers from the Psychological and Physiological Standpoint*, Philadelphia, 1932). He made an intensive study of the emotional life of about thirty workers in a railroad shop, developing a record from day to day by way of observation and introspective report. Ten detailed case studies were included in the volume. He noted a need for a more intimate appreciation of the emotional fluctuations of the worker which affect his output, and was impressed with the periodicity of these fluctuations. In "Efficiency, Work, Satisfaction, and Neurotic Tendency," R. N. McMurray (*Personnel Journal*, 1932, vol. 11, pp. 201-210) expressed the view that there had been an over-emphasis upon neurotic tendency in accounting for differences in performance and differences in satisfaction from work, which distracted attention from the significance of environmental factors. F. Haeger ("Das Leistungsgefühl," *Psychotechnische Zeitschrift*, 1931, vol. 6, pp. 148-152) emphasized the importance of self-confidence in its effect on the worker's attitude. A. W. Kornhauser and A. A. Sharp ("Employee Attitudes: Suggestions from a Study in a Factory," *Personnel Journal*, 1932, vol. 10, pp. 393-404) discovered a serious cause of unsatisfactory attitudes of the workers in the nature of the supervision which was exercised over them.

Among the more specialized fields of investigation that of the problem of automobile driving occupied a prominent place in the activities within the United States and foreign countries. Tests for drivers, analysis of accidents and accident statistics, legibility of road signs and license plates, effectiveness of color signals, the influence of visual defects upon driving efficiency, and the examination of accident-prone drivers were the matters most frequently investigated. The human element as distinguished from the mechanical was made to bear the burden of responsibility for the mounting accident rate. (See *Transactions of the Societa Italiana di Medicina Sociale*, 1932, for several Italian Studies, and the *Psychotechnische Zeitschrift*, 1932, for a report of German work.)

The publication in 1932 of a bibliography of the literature bearing upon the question of human energy cost in industry called attention to a relatively new attitude toward the problem of fatigue. (R. M. Page, *Measuring Human Energy Cost in Industry: A General Guide to the Literature*, Genetic Psychology Monographs, 1932,

vol. xi, nos. 5 and 6). The bibliography contained 649 titles and was rather fully annotated.

*The Personnel Bibliographical Index* (Bureau of Education Research, Columbus, Ohio, 1932) gave an excellent survey of the literature on Personnel problems. It was a volume of 433 pages containing an annotated bibliography of thousands of books and articles cross indexed, and classified according to author and subject. It was planned to publish supplements biennially in order to keep the Index up to date.

**PUBLIC AFFAIRS**, INSTITUTE OF. An organization inaugurated in 1927 at the University of Virginia, Charlottesville, for the purpose of advancing the popular understanding of public questions and stimulating in the public mind a more vital interest in public matters, particularly the domestic problems of the United States. The attendance at the 1932 session, held from July 3 to 16, consisted of 560 registered members and 1204 registered visitors from 30 States, the District of Columbia, Cuba, South Africa, New Zealand, Puerto Rico, Peru, Mexico, Costa Rica, and England. Membership in the institute is open to men and women who have taken part in public life and to those who are interested in any phase of public affairs.

The programme of the 1932 session was planned in accordance with the announced purpose of the institute to limit its discussions primarily to a study of governmental problems of national, State, and local concern and to certain economic and social conditions underlying them. It consisted of eight round tables, dealing with the following subjects: "The Anti-Trust Laws"; "The Country Church and the Rural Ministry"; "County Government"; "Our Latin-American Relations"; "Economic Recovery"; "Municipal Administration"; "Religious Education"; "Unemployment"; and five special conferences on the following topics: "Regulating Women's Work by Law"; "Conference on World Economics"; "Conference on Studying Public Affairs the Year Around"; "Adult Education in Action"; "Conference of Club Activities and Problems." In addition to the leaders of these round tables and conferences there were 151 invited speakers at their sessions as well as 24 evening speakers.

The officers of administration in 1932 were: Dr. John Lloyd Newcomb, acting president of the University of Virginia; Dr. Charles G. Maphis, dean of the summer quarter and director of the institute; Eleanor McKenney Gibson, secretary of the institute; a committee from the rector and visitors of the University of Virginia; and an advisory board composed of 24 prominent educators and recognized leaders in public affairs, selected from all sections of the United States and from the two political parties. Headquarters are at the University of Virginia, Charlottesville, Va.

**PUBLIC FINANCE**, UNITED STATES. Depression conditions, which had strongly made themselves apparent during 1931, reached what was thought by expert observers to be possibly their maximum in 1932, with a large deficit which grew steadily throughout the fiscal period, and defied the power of Treasury officers to forecast with any degree of accuracy. Definite tendency to shortage of revenue on a large scale, apparent during the preceding year, with the resulting adoption by Congress of the so-called "bonus bill," led to a decline of revenue that did



not reach full maximum until the results of the business reaction and of the stock market shrinkage had been fully reflected in income-tax payments. It was plain from June, 1931, however,—the beginning of the fiscal year 1932—that the Treasury would be subject to an unexpected and probably unprecedented falling off of income; and, from the early autumn of 1931 accordingly, the department began casting about for means of meeting the shortage of receipts. Factors of revenue decline which had originally shown themselves months before, were beginning to assume their complete development by about the end of 1931, and excise taxes—including tobacco receipts as well as other forms of local taxes, receipts from land and real-estate taxation and others—were reduced to low points. At the same time, there were many drafts on the Treasury that, in ordinary times, might not have been esteemed very severe, but on this occasion proved exceedingly hard to endure. The administration of President Hoover had committed itself to a policy of constructing unnecessary public buildings, and otherwise expending money on work designed to enlarge employment for the rank and file of the community. An extravagant programme of construction of new public buildings in Washington had been undertaken, and was pushed forward toward completion. At the same time, the absence of the incomes, previously received from foreign countries, through the payment of debt-installments, rendered conditions still worse. Thus the government, in spite of feeble attempts at economy, was really more extravagant than ever, and at the same time, all revenues, including that from customs, were proving less satisfactory than at any time in the past.

Total ordinary receipts for the year ending June 30, 1931, amounted to \$2,121,228,000 and were thus about \$1,196,005,488 less than those for the corresponding period a year earlier. Expenditures for the year were \$5,008,590,305 or about \$786,639,966 greater than for the preceding year. The result was a deficit of \$2,885,362,299—a net figure, after making allowance for all deductions due to the transactions in the public debt. It was natural that a large part of the reduction of income should take place in income and profits taxes which declined by \$803,100,000 and reached a level of \$1,057,300,000 while customs amounted only to \$327,700,000 showing a falling off of \$50,600,000.

of the country than had been the case in previous periods, owing to the fact that now, for the first time since the depression, the government revenue was reflecting some of the real business changes that had occurred.

No study of the general situation will, moreover, be accurate without remembering that the government found itself driven to adopt what was equivalent to a discredited device known widely in Europe—that of the "supplementary budget." The efforts to bring about a budgetary balance were neutralized about as fast as made, through the adoption of costly supplementary legislation by Congress in providing for new outlays designed to help the economic situation, yet incidentally resulting in aggravating the seriousness of the position of the different economic groups in the community. Among such acts of legislation were those providing for the Reconstruction Finance Corporation, the recapitalizing of the farm-land banks, the establishment of the Home Loan Banks, the provision of relief funds for disbursement through the States under given conditions, and a variety of other costly outlays and undertakings of one sort or another. These speedily resulted in creating a body of expenses frequently referred to in a complimentary way as "self-liquidating" but actually—in all probability—representing for the most part unproductive investments.

The forepart of the fiscal year (after July, 1931) was already so unfavorable that the Treasury department was ready at the opening of the new session, to offer to Congress estimates designed to provide the basis for a new budget. They included revisions of income-tax rates, a sales-tax plan, new excise taxes, and a variety of additional exactions. The House of Representatives was recalcitrant and unwilling to accept these suggestions, and eventually sales taxation was dropped and a revision of income-tax rates took its place with additions to excise taxation over a considerable area. But these, naturally, were, for the most part, of a nature which must take effect in a later year. Congress, in spite of bitter recrimination and long continued debate, was unable to adopt the new revenue act until June 6, 1932, or just before the close of the fiscal year here under discussion, so that, so far as actual budgetary results are concerned, the outcome of the year was, to all intents, based upon previous legislation. The new income tax had been intended to go into effect retroactively, but

## ORDINARY RECEIPTS, FISCAL YEARS 1920 TO 1932

[On basis of daily U. S. Treasury statements (unrevised)]

Year ending June 30—	Customs	Income and profits taxes	Miscellaneous internal revenue	Miscellaneous revenues, including Panama Canal Proceeds		Total
				from foreign obligations	All other	
1920	\$322,902,650	\$3,944,949,288	\$1,460,082,287	\$ 74,296,622	\$892,834,542	\$6,694,565,889
1921	308,564,391	3,206,046,158	1,890,879,823	114,821,206	605,121,388	5,624,932,961
1922	356,443,887	2,068,128,193	1,145,125,064	75,222,068	464,185,439	4,109,104,151
1923	561,928,867	1,678,607,428	945,865,833	232,989,156	587,744,697	4,007,135,481
1924	546,637,504	1,842,144,418	958,012,618	221,774,675	449,475,487	4,012,044,702
1925	547,561,226	1,760,587,828	828,638,068	183,637,677	459,773,890	3,780,148,684
1926	579,430,093	1,982,040,088	855,599,289	194,237,957	351,448,263	3,962,755,690
1927	605,499,983	2,224,992,800	644,421,542	206,089,173	448,390,943	4,129,394,441
1928	569,000,000	2,173,400,000	621,000,000	205,900,000	468,900,000	4,042,300,000
1929	600,810,888	2,331,274,428	608,135,086	199,131,566	293,886,505	4,030,250,225
1930	589,000,903	2,410,986,977	628,308,035	303,670,694	247,725,091	4,177,941,702
1931	378,354,005	1,860,394,295	569,386,721	184,474,622	314,628,856	3,817,233,493
1932	327,700,000	1,057,300,000	503,700,000	.....	232,500,000	2,121,228,006

The situation thus depicted came closer to a real representation of the true budget conditions

the final provision put it into operation only at the opening of 1933 (covering incomes of 1932),

RECEIPTS AND EXPENDITURES FOR THE FISCAL YEAR 1932, ON THE BASIS OF DAILY TREASURY STATEMENTS (UNREVISED), AND ESTIMATED RECEIPTS AND EXPENDITURES FOR THE FISCAL YEARS 1933 AND 1934

	1932, actual	1933 estimates	1934 estimates	
			Basic budget	Supplemented, budget message
<b>GENERAL AND SPECIAL FUNDS COMBINED</b>				
<b>Receipts:</b>				
Internal revenue—				
Income tax .....	\$1,057,385,853	\$ 860,000,000	\$1,010,000,000	\$1,010,000,000
Miscellaneous internal revenue .....	503,670,481	900,000,000	981,000,000	981,000,000
Total internal revenue .....	1,561,006,834	1,760,000,000	1,991,000,000	1,991,000,000
Customs (excluding tonnage tax) .....	327,754,969	290,000,000	320,000,000	320,000,000
Miscellaneous receipts—				
Proceeds of Government-owned securities—				
Principal—foreign obligations .....		73,499,881	123,018,315	123,018,315
Interest—foreign obligations .....		195,094,698	205,724,562	205,724,562
Railroad securities .....	1,695,570	918,498	1,276,872	1,276,872
All other .....	20,671,931	49,963,585	44,447,670	44,447,600
Panama Canal tolls, etc. ....	22,588,375	22,573,842	21,617,000	21,617,000
Other miscellaneous (including tonnage tax) .....	72,008,258	75,836,144	84,685,339	84,685,339
Total general and special fund receipts .....	\$2,005,725,437	\$2,467,886,148	\$2,791,769,188	\$2,791,769,188
<b>Expenditures:</b>				
Legislative Establishment .....	27,318,601	24,675,800	20,581,300	17,050,700
Executive Office .....	424,546	354,100	378,000	364,700
Veterans' Administration .....	784,841,820	838,265,000	869,885,000	739,986,000
Shipping Board .....	51,540,827	32,574,000	9,800,000	9,280,500
Other independent offices and commissions .....	52,545,271	45,946,700	41,966,800	40,709,300
Department of Agriculture .....	318,975,817	314,204,500	144,876,400	141,944,800
Department of Commerce .....	52,700,200	44,742,400	40,065,000	38,540,100
Department of the Interior .....	81,444,996	69,865,300	65,660,000	64,135,000
Department of Justice .....	51,689,261	45,281,300	43,854,000	42,193,400
Department of Labor .....	14,701,344	12,336,900	13,368,000	12,768,300
Navy Department .....	357,617,834	356,178,000	329,931,500	328,979,600
Post Office Department .....	125,899	75,000	75,000	75,000
Department of State .....	18,881,864	14,083,000	12,533,800	12,030,500
Treasury Department .....	287,945,002	280,796,900	252,473,900	247,510,500
War Department .....	466,788,011	426,001,900	392,710,400	389,230,000
Add unclassified items .....	\$2,567,491,293	\$2,505,380,800	\$2,237,659,100	\$2,084,798,400
	45,491			
Total .....	\$2,567,536,784	\$2,505,380,800	\$2,237,659,100	\$2,084,798,400
Interest on the public debt .....	599,276,631	695,000,000	725,000,000	725,000,000
Public debt retirements—				
Sinking fund .....	412,554,750	425,569,600	439,658,200	439,658,200
Purchases and retirements from foreign repayments .....		69,008,800	90,812,100	90,812,100
Purchases and retirements from franchise tax receipts (Federal reserve and Federal intermediate credit banks) ..	21,000	3,500,000	3,500,000	3,500,000
Estate tax .....	1,000			
Forfeitures, gifts, etc. ....	53,000 }	75,000	100,000	100,000
Refunds of receipts—				
Customs .....	17,202,968	17,510,500	14,515,000	14,515,000
Internal revenue * .....	83,921,552	69,723,400	69,681,800	69,681,800
Postal deficiency .....	202,876,340	134,000,000	97,000,000	67,215,400
Panama Canal .....	10,661,805	13,421,800	12,933,000	12,880,000
Stock of Reconstruction Finance Corporation ..	500,000,000			
Additional stock of Federal land banks .....	125,000,000			
Distribution of wheat and cotton for relief ..		40,000,000		
Agricultural marketing fund (net) .....	136,238,856	10,000,000		
Adjusted service certificate fund .....	200,000,000	100,000,000	100,000,000	100,000,000
Civil service retirement fund .....	20,850,000	20,850,000	20,850,000	20,850,000
Foreign service retirement fund .....	215,000	416,000	292,700	292,700
District of Columbia .....	9,500,000	7,775,000	7,775,000	7,775,000
Total general and special fund expenditures .....	\$4,885,909,686	\$4,112,280,900	\$3,819,776,900	\$3,636,578,600
Excess of expenditures .....	\$2,880,184,249	\$1,644,344,757	\$1,028,007,712	\$ 844,809,412
<b>TRUST FUNDS</b>				
Receipts .....	115,502,569	156,370,550	157,393,525	157,393,525
Expenditures .....	120,680,619	156,657,500	155,017,300	153,846,600
Excess of expenditures .....	\$ 5,178,050	286,950		
Excess of receipts .....			2,376,225	3,546,925
<b>GENERAL, SPECIAL, AND TRUST FUNDS COMBINED</b>				
Receipts .....	2,121,228,006	2,624,256,693	2,949,162,713	2,949,162,713
Expenditures .....	5,006,590,305	4,268,888,400	3,974,794,200	3,790,425,200
Excess of expenditures .....	\$2,885,362,299	\$1,644,681,707	\$1,025,631,487	\$ 841,262,487
Excess of expenditures, exclusive of debt retirements .....	\$2,472,782,549	\$1,146,478,307	\$ 491,561,187	\$ 807,192,187

\* Includes refunds and drawbacks under Bureau of Industrial Alcohol.

<sup>b</sup> Represents the share of the United States charged against the General Fund of the Treasury. The expenditures chargeable against the revenues of the District of Columbia under "trust funds" amounted to \$39,524,773.60 for the fiscal year 1932.

while the new excises were ordered to become effective on June 21, 1932. Thus the changes made were future and not actual so far as the real current incomes of the year were concerned.

**FEDERAL EXPENDITURE.** A study of federal expenditures in detail illustrates the situation, already referred to in general terms as indicating the extravagant tendencies of Congress. The figures submitted by the Secretary of the Treasury in his annual report made at the opening of the new session in December, 1932 showed that:

**ORDINARY RECEIPTS, EXPENDITURES CHARGEABLE AGAINST ORDINARY RECEIPTS, AND SURPLUS 1920 TO 1932**

[On basis of daily Treasury statements (unrevised)]

Fiscal year	Total ordinary receipts	Expenditures chargeable against ordinary receipts	Surplus
1920 ...	\$6,694,565,888	\$6,482,090,191	\$212,475,197
1921 ...	5,624,932,960	5,558,209,189	86,723,771
1922 ...	4,109,104,150	3,795,902,499	313,801,651
1923 ...	4,007,185,480	3,697,478,020	309,667,460
1924 ...	4,012,044,701	3,506,677,715	505,366,986
1925 ...	3,780,148,684	3,529,643,446	250,505,238
1926 ...	3,962,755,690	3,584,987,873	377,767,817
1927 ...	4,129,394,441	3,493,584,519	635,809,922
1928 ...	4,042,348,156	3,643,519,875	398,828,281
1929 ...	4,033,250,225	3,848,463,190	184,787,035
1930 ...	4,177,941,702	3,994,152,487	183,789,215
1931 ...	3,817,233,493	4,219,950,388	902,716,845*
1932 ...	2,121,228,006	5,006,590,305	2,885,362,299*

\* Deficit.

While total Federal expenditures increased \$1,158,000,000 from 1929 to 1932, the expenditures for major activities undertaken or accelerated to afford relief from the depression and for the postal deficiency showed a combined increase of \$1,189,000,000. The remaining Federal expenditures declined slightly, from \$3,555,000,000 for 1929 to \$3,524,000,000 for 1932.

In the major expenditures largely attributable to the depression are included expenditures of \$500,000,000 for the capital stock of the Reconstruction Finance Corporation, \$125,000,000 for additional capital stock of Federal land banks, \$186,000,000 for net loans under the agricultural marketing act, an increase of about \$306,000,000 in expenditures for public works, and an increase of \$117,000,000 for the postal deficiency after deducting about \$52,000,000 from the postal deficit for 1929 for payment of so-called back railway mail pay to inland carriers under authority of the joint resolution approved June 6, 1929.

Service of the public debt including sinking fund and other debt retirements accounted for \$1,012,000,000 of the expenditures for 1932, a reduction of about \$216,000,000 from 1929. This decrease resulted from reduced payments for interest, reflecting lower rates on Government issues, and from decreased retirements from repayments of principal from foreign governments owing to the suspension of foreign debt payments due in the fiscal year 1932.

Another major class of governmental outlays is for national defense and the care of war veterans. Expenditures under this category totaled about \$1,631,000,000 for 1932, or about \$233,000,000 more than for 1929.

The balance of the Federal expenditures aggregated about \$821,000,000 in 1932 as compared with \$929,000,000 in 1929, a decrease of \$48,000,000. Certain expenditures included in this total do not represent Government activities and may be classified as nonfunctional. Thus expenditures for trust fund accounts represent moneys payable to or for the use of beneficiaries of the trust and are not classified as general expenditures of the Government. These include such items as expenditures on account of the Government life insurance fund, trust funds for the benefit of the Indian tribes in connection with the sale of Indian lands, and expenditures of the District of Columbia government from taxes levied in the District. Refunds of receipts include repayments of taxes erroneously collected. Other expenditures under this general classification include, for both years, the purchase of certain obligations by the Government; for 1929 payments of so-called back railway mail pay and for 1932 the payments authorized under the settlement of war claims act of 1928. The total of the major nonfunctional items was \$417,000,000 in 1929 and \$262,000,000 in 1932, a decrease of about \$155,000,000.

Other expenditures, largely for departmental activities, were \$619,000,000 for 1932, an increase of \$107,

000,000 over 1929. Expenditures for the Shipping Board, which include construction loans for the development of merchant marine, were responsible for \$86,000,000 of this increase, war expenditures for departments and other accounts not elsewhere certified were about \$71,000,000 larger for 1932 than for 1929. The latter class of expenditure aggregated about \$567,000,000 for 1932, or about 16.1 per cent of total Federal expenditures exclusive of the major items due to or affected by the depression. The activities which were supported by this \$567,000,000 of expenditures include the legislative and judicial branches of the Government, the fiscal administration and control of banking and currency, foreign relations, civil pensions and allowances, and other governmental activities in connection with conservation of natural resources, education, promotion of public health, Indian affairs, aids to agriculture, labor, aviation, and industry.

In such conditions, the deficit of the preceding year, already thought of as very large and aggregating \$902,000,000, was plainly bound to receive a great increment. It was still possible to assert that this deficit was not really what it seemed, since it had been caused by the prepayment of the bonus to the "veterans" in a sum somewhat similar to the amount of the deficit; so that, from one point of view, it was possible to consider the country as having really advanced some funds for the early settlement of an outstanding debt which would have had to be disposed of at some time. In 1931, however, there could be no question as to the real character of the situation. Instead of being able to make apparent reductions of debt by paying off outstanding certificates of indebtedness at dates of maturity, even if increases took place at other dates, the Treasury fell into a definite condition of continuous shortage with resort to every kind of borrowing expedient authorized by existing legislation. Unquestionably, as now admitted by practically all, the practice of borrowing largely on short-term at the banks was proving disastrous, and should never have been allowed to intrench itself in public practice. It now, nevertheless, had to be reckoned with as a condition not a theory, and when treasury authorities were urged to fund the entire body of outstanding short term debt into long term bonds to be sold to investors, they hesitated. Thus, throughout the year, the policy of compelling the banks to absorb enough short-term obligations to permit the treasury to meet its recurring needs continued. The policy, dangerous as it was, found an aggravation in the inflation doctrines accepted by Federal Reserve Banks which permitted the adoption of the plan of heavy purchases and holdings of government obligations not only by the member banks but by the reserve banks themselves. Thus it was practicable to make an appearance of solvency and soundness which was belied by the fact that, as time went by, the short term debt became less and less manageable.

**LEGISLATIVE PROSPECTS.** The year was noteworthy in that it produced the revenue act of 1932 which effected one of the largest increases ever imposed by the Federal government in time of peace. The terms of this enactment are reviewed in the article *Taxation*, and at this point it is enough to say that the measure included enlargements both of income tax rates and of excise and other taxation, including a notable restoration of the so-called "nuisance taxes" governing admissions, stamp taxes, and others. The additions, however, did not supply any new revenue during the fiscal year 1932, and but little during the calendar year 1932. As experience accumulated during the later months of 1932 more-

## STATEMENT OF THE PUBLIC DEBT, DECEMBER 31, 1932

[On the basis of daily Treasury statements]

<b>Bonds:</b>		
2% Consols of 1930 .....	\$ 599,724,050.00	
2% Panama Canal Loan of 1916-36 .....	48,954,180.00	
2% Panama Canal Loan of 1918-38 .....	25,947,400.00	
3% Panama Canal Loan of 1961 .....	49,800,000.00	
3% Conversion bonds of 1946-47 .....	28,894,500.00	
2½% Postal Savings bonds (4th to 48d Series) .....	43,453,860.00	
		\$ 796,733,490.00
<b>First Liberty loan of 1932-47—</b>		
3½% bonds .....	\$1,892,227,850.00	
4% bonds (converted) .....	5,002,450.00	
4½% bonds (converted) .....	535,983,300.00	
	1,933,213,600.00	
4¼% Fourth Liberty loan of 1938-38 .....	6,268,099,450.00	
		8,201,318,050.00
<b>Treasury bonds—</b>		
4¼% bonds of 1947-52 .....	758,983,300.00	
4% bonds of 1944-54 .....	1,036,834,600.00	
3¾% bonds of 1946-56 .....	489,087,100.00	
3¾% bonds of 1943-47 .....	454,185,200.00	
3¾% bonds of 1940-48 .....	852,994,450.00	
3¾% bonds of 1941-43 .....	544,916,050.00	
3½% bonds of 1946-49 .....	821,402,000.00	
3% bonds of 1951-55 .....	766,581,350.00	
		5,224,883,950.00
<b>Total bonds</b> .....		14,222,970,490.00
<b>Treasury Notes:</b>		
3% Series A—1934, maturing May 2, 1934 .....	244,234,600.00	
2½% Series B—1934, maturing Aug. 1, 1934 .....	345,292,600.00	
3% Series A—1935, maturing June 15, 1935 .....	416,602,800.00	
3¼% Series A—1936, maturing Aug. 1, 1936 .....	865,138,000.00	
2¾% Series B—1936, maturing Dec. 15, 1936 .....	360,533,200.00	
3¼% Series A—1937, maturing Sept. 15, 1937 .....	834,401,500.00	
3% Series B—1937, maturing Apr. 15, 1937 .....	508,328,900.00	
	3,074,531,600.00	
4% Civil Service retirement fund, Series 1933 to 1937 .....	220,000,000.00	
4% Foreign Service retirement fund, Series 1933 to 1937 .....	2,120,000.00	
4% Canal Zone retirement fund, Series 1936 and 1937 .....	2,124,000.00	
		3,298,775,600.00
<b>Certificates of Indebtedness:</b>		
3¾% Series A—1933, maturing Feb. 1, 1933 .....	144,372,000.00	
3¾% Series TM—1933, maturing Mar. 15, 1933 .....	660,715,500.00	
2% First Series, maturing Mar. 15, 1933 .....	33,606,150.00	
2% Series B—1933, maturing May 2, 1933 .....	239,197,000.00	
1½% Series TJ—1933, maturing June 15, 1933 .....	373,856,500.00	
1½% Series TS—1933, maturing Sept. 15, 1933 .....	451,447,000.00	
¾% Series TD—1933, maturing Dec. 15, 1933 .....	254,364,500.00	
	2,157,558,650.00	
4% Adjusted Service Certificate Fund Series, maturing Jan. 1, 1933 .....	126,900,000.00	
		2,284,458,650.00
<b>Treasury Bills (maturity value):</b>		
Series maturing Jan. 11, 1933 .....	75,954,000.00	
Series maturing Jan. 18, 1933 .....	75,110,000.00	
Series maturing Jan. 25, 1933 .....	80,295,000.00	
Series maturing Feb. 8, 1933 .....	75,056,000.00	
Series maturing Feb. 15, 1933 .....	75,480,000.00	
Series maturing Feb. 23, 1933 .....	60,000,000.00	
Series maturing Mar. 1, 1933 .....	100,000,000.00	
Series maturing Mar. 29, 1933 .....	100,039,000.00	
		641,934,000.00
<b>Total interest-bearing debt outstanding</b> .....		20,448,138,740.00
<b>Matured debt on which interest has ceased:</b>		
Old debt matured—issued prior to Apr. 1, 1917 .....	1,599,520.26	
4% and 4½% Second Liberty loan bonds of 1927-42 .....	2,826,500.00	
4¼% Third Liberty loan bonds of 1928 .....	4,521,900.00	
3¾% Victory notes of 1922-23 .....	19,200.00	
4¾% Victory notes of 1922-23 .....	1,029,450.00	
Treasury notes, at various interest rates .....	17,168,750.00	
Certificates of indebtedness, at various interest rates .....	23,801,900.00	
Treasury bills .....	13,166,000.00	
Treasury savings certificates .....	674,675.00	
		64,807,895.26
<b>Debt bearing no interest:</b>		
United States notes .....	346,681,016.00	
Less gold reserve .....	156,039,088.03	
	190,641,927.97	
<b>Deposits for retirement of national bank and Federal reserve bank notes</b> .....		
..	96,576,049.50	
Old demand notes and fractional currency .....	2,040,299.35	
Thrift and Treasury savings stamps, unclassified sales, etc. ....	3,351,879.68	
		292,610,156.50
<b>Total gross debt</b> .....		20,805,556,791.76

over, and as it became apparent that the deficit for the year would still run into enormous figures, it became plain that additional taxes would

be required. At the session of Congress which opened in December, 1932, plans were at once taken in hand for the imposition of additional

taxes, but developments indicated that actual measures would be deferred until the new administration, elected in the fall of 1932 had taken office on Mar. 4, 1933. This administration, however, both in the Democratic platform, and in the campaign addresses of the candidates, stood pledged to a reduction of at least 25 per cent in existing administrative costs, and the question of taxation necessarily had to be deferred until it could be ascertained how far compliance with these pledges would prove practicable.

**PUBLIC LANDS.** See LANDS, PUBLIC.

**PUBLIC RELIEF.** See UNEMPLOYMENT.

**PUBLIC UTILITIES.** See POWER PLANTS; MUNICIPAL OWNERSHIP.

**PUBLISHING.** See LITERATURE, ENGLISH AND AMERICAN.

**PUERTO RICO**, pwër'tō rē'kō. An island in the West Indies, ceded by Spain to the United States under the treaty of Dec. 10, 1898. The official name of the island was changed from Porto Rico to Puerto Rico by joint resolution of the U. S. Congress, approved by the President May 17, 1932. Capital, San Juan.

**AREA AND POPULATION.** The smallest but the most densely populated of the four islands composing the Greater Antilles, Puerto Rico lies 480 miles east of Cuba and 1380 miles southeast of New York City. The island is about 100 miles long and 35 miles wide, with an area of 3435 square miles, or approximately the size of Connecticut. The estimated population on June 30, 1932, was 1,599,142. At the census of 1930, the population was 1,543,913, or 449.5 per square mile, as compared with 1,299,809 (378.4 per square mile) at the census of 1920, an increase for the decade of 244,104, or 18.8 per cent. The population in 1930 was 74 per cent white, 20 per cent Negro or mulatto, and the remainder Chinese, Japanese, and Hindus. The leading cities, with their populations in 1930, are: San Juan, 114,715 (71,443 in 1920); Ponce, 53,530 (41,912); Mayaguez, 37,060 (19,124). For the period 1927 to 1931 births averaged 57,142 annually, and deaths 33,092, the annual excess of births being 24,050. The average birth rate per 1000 inhabitants was 37.4 and the death rate 21.7.

**EDUCATION.** About 40 per cent of the population over 10 years of age were illiterate in 1931, a figure representing a substantial reduction during the preceding quarter century. Enrollment in the public schools during the 1931-32 school year was 229,169, an increase of 2954 over the preceding year. There were in operation 23 public high schools; 20 incomplete, or continuation, high schools; 39 second-unit rural schools; 1813 elementary urban schools; and 1899 elementary rural schools. The total teaching staff was 4601 (an increase of 78 over 1930-31), of whom 4429 were paid by the insular government and 172 by municipal governments. Expenditures for educational purposes from insular funds in 1931-32 amounted to \$4,363,007; from municipal funds, \$1,166,693. Enrollment in the University of Puerto Rico in 1931-32 was 2308, as compared with 1703 in 1930-31.

**PRODUCTION.** Agriculture is the main support of the population; there were 52,113 farms in 1930, as compared with 41,078 at the census of 1920. Sugar, tobacco, citrus fruits, and coffee are the major crops, while cotton, cacao, coconuts, beans, plantains, and fresh vegetables are important secondary crops. Dairying is a growing

industry. For the 1931-32 season, sugar production was 992,432 short tons (784,000 in 1930-31); tobacco, about 5,500,000 pounds (37,293,000 in 1930-31); coffee, about 9,000,000 pounds (13,735,000 in 1930-31); sea-island cotton, 3445 bales (1931 calendar year) (2642 bales in 1930). Shipments of fresh and preserved fruit for the year ended June 30, 1932, were valued at \$4,321,135. The 1931-32 sugar crop was the largest on record and the price received for it was the lowest since 1898. The drastic reduction in the tobacco crop was due to a growers' strike, caused by low prices. The livestock census of 1930 showed 310,514 cattle, 103,689 swine, 55,573 goats, 3949 sheep, 49,545 horses, and 6122 mules. While the number of cattle had increased since 1920, the number of all other livestock had decreased.

Sugar, cigars and cigarettes, garments, fine needlework, and canned and preserved fruits are the chief manufactured products. The output of cigars was 215,390,000 in 1930-31 (201,109,000 in 1929-30); cigarettes, 242,080,000 (260,390,000 in 1929-30). The needlework industry, which employed about 50,000 persons, exported products valued at \$12,093,000 to the mainland in 1931 (\$12,883,000 in 1930). Due to overpopulation and other factors, health, living, and laboring conditions in Puerto Rico were much less satisfactory than in the United States. Malaria, hookworm, malnutrition, and tuberculosis affected a large percentage of the population, and the death rate from malaria in 1931 was the highest ever registered. There was much unemployment. Wage scales during 1931 were: Common plantation labor, \$0.50 to \$1.50 per day; foremen and gang bosses, \$2 to \$2.50; skilled mechanics and artisans, \$3 to \$5 per day.

**COMMERCE.** For the year ended June 30, 1932, Puerto Rico's trade with the United States and foreign countries amounted to \$147,698,039, compared with \$174,838,337 in 1930-31, a decrease of about \$27,140,298, or 16 per cent. Imports declined to \$61,281,101 from \$76,437,410 in 1930-31, while exports fell to \$86,416,938 from \$98,400,927 in the previous year. The excess of commodity exports over commodity imports was \$25,135,837, or 17 per cent of the total trade. Trade with continental United States represented 92.4 per cent of the total 1931-32 trade. Shipments to the United States were valued at \$83,045,863, or 96.8 per cent of all exports and imports from the mainland were valued at \$52,826,794, or 86.2 per cent of the total. Puerto Rico in 1931-32 supplanted Cuba as the leading customer of the United States in Latin America; its per capita purchases of United States goods were \$34.20, as compared with per capita purchases of all Latin American countries from the United States amounting to about \$2.50.

The island's chief exports during 1931-32 were: refined and raw sugar, 814,660 long tons valued at \$55,118,211 (720,380 long tons valued at \$54,367,401 in 1930-31); coffee, 589,502 pounds worth \$154,903; (1,977,659 pounds worth \$546,438 in 1930-31); leaf tobacco, 12,028,566 pounds valued at \$5,782,151 (19,928,726 pounds valued at \$12,053,863 in 1930-31); fruit, \$5,792,433 (\$5,994,464 in 1930-31); cigars, \$2,403,532 (\$3,899,556 in 1930-31).

**FINANCE.** The Governor reported that the condition of the insular treasury at the close of the fiscal year ended June 30, 1932, was "satisfactory beyond all expectations." The revenue of \$12,662,360 was the largest ever collected in one year,

and \$1,608,162 more than that collected during 1930-31. Including proceeds of the coffee fund (\$72,476), and the surplus in the insurance fund (\$18,663), total receipts into the general fund were \$12,753,399, which, added to the balance on hand July 1, 1931, brought total general-fund resources for the year to \$13,306,426. Total cash disbursements during the year were \$12,305,597 and transfers to various trust funds were \$126,407, making total disbursements and transfers of \$12,432,084. The treasury balance on July 1, 1932, was thus \$874,422. The final excess of resources over the general fund appropriation liabilities was \$638,239, or an increase of \$434,269 as compared with the resources on July 1, 1931. The budget estimates for 1932-33 called for expenditures of \$10,287,835.

The bonded indebtedness of the insular government on June 30, 1932, amounted to \$28,761,000, compared with \$29,097,000 on June 30, 1931. During the fiscal year, bonds amounting to \$570,000 were issued and bonds amounting to \$906,000 were redeemed. Taking into consideration a decline in the sinking funds for bond redemption from \$1,458,577 on June 30, 1931, to \$1,370,528 on June 30, 1932, the net change in the bonded indebtedness during the year was a decrease of \$247,951. As for the municipalities, their aggregate indebtedness on June 30, 1932, was \$18,882,541, plus interest payable amounting to \$40,008, as compared with their indebtedness of \$19,957,352, plus accrued interest of \$27,603, reported on June 30, 1931.

COMMUNICATIONS. Railways in 1931 extended about 463 miles, of which 306 miles were public-service lines. During 1931-32 about 183 miles of highway were asphalted with funds of the Puerto Rican Hurricane Relief Commission, making a total of 1263 miles of hard-surfaced roads. A total of 1097 vessels, with a net tonnage of 1,241,572, entered the ports in the foreign trade during 1931, and 1123 vessels, of 1,461,105 net registered tons, cleared.

GOVERNMENT. Puerto Rico is governed in accordance with the Jones Act passed by the United States Congress Mar. 2, 1917, and subsequent amendments. Executive power is vested in a governor appointed by the President of the United States and legislative power in a legislature of two elective houses—a senate of 19 members and a house of representatives of 39 members, all elected for four years. A resident commissioner, elected by the people for a term of four years, represents the island in the United States Congress. The six departmental heads form an executive council, presided over by the Governor. The Jones Act conferred United States citizenship collectively upon the people of the island. Gov. Theodore Roosevelt resigned Jan. 18, 1932, to become Governor General of the Philippines, and was succeeded by James R. Beverley, who assumed the office Jan. 30, 1932. Mr. Beverley had served as attorney general of Puerto Rico since May 22, 1928.

#### HISTORY

POLITICAL DEVELOPMENTS. While the chief issue in the election of Nov. 8, 1932, was the political future of Senator Antonio R. Barcelo, long the acknowledged political boss of the island, the Senator's fate was intimately connected with the question of the future status of Puerto Rico. The campaign emphasized the fact that the existing political relationship between

island and mainland was of a temporary nature, and that Puerto Ricans were divided into four groups on the issue of their political future. These groups were: (1) the Union-Republicana party, led by Sen. Rafael Martinez Nadal, advocating statehood or complete local autonomy, but with permanent association with the United States; (2) the Socialists, led by Sen. Santiago Iglesias, who strongly favored permanent association with the United States but who were more interested in economic than in political problems; (3) the Liberals, headed by Senator Barcelo, who favored ultimate independence but were willing to accept the existing system pending realization of their aim; and (4) the Nationalists, led by Pedro Albizu Campos, who demanded immediate and complete independence, and announced their intention of refusing to accept offices under the existing governmental setup.

The Union-Republicana and the Socialists formed an alliance during the campaign, with the primary objective of unseating Senator Barcelo. They succeeded in their aim. While the Liberals remained the largest political unit in the island, capturing some 166,000 votes out of the 388,000 cast, the opposing Coalition won some 205,000 votes, of which about 110,000 were cast by Union-Republicans and about 95,000 by Socialists. The coalition held a safe majority in both houses of the new Legislature. In the Senate, which Senator Barcelo had presided over from 1917 to 1929, the Liberals held only five seats out of 19; in the House of Representatives they held nine out of 39. Señor Iglesias was elected to the post of Resident Commissioner at Washington by a large majority. Meanwhile the Nationalists, who had secured 30,000 signatures to their registration petition, polled only a few more than 5000 votes. Despite the intense rivalry displayed in the campaign and the fact that more than 85 per cent of the qualified voters cast their ballots, the election was unusually quiet. It was the first election in which women exercised the right of suffrage.

During the political campaign, there came an announcement in Spanish-language newspapers in New York City (June 28), of the offering of 5,000,000 gold pesos (\$5,000,000) of bonds by the Nationalist party to "finance the fight for Puerto Rican independence." The bonds were issued in Puerto Rico on Nov. 16, 1930, but had not been publicly offered there. The platforms of the two major political parties in the United States took notice of the situation in the island. The Democratic party for a third time went on record as favoring "ultimate Statehood for Puerto Rico," while the Republican platform declared the Puerto Ricans were entitled to "a good-faith recognition of the spirit and purposes of their Organic Act." The Republicans favored "inclusion of the Island in all legislative and administrative measures enacted or adopted by Congress or otherwise for the economic benefit of their fellow citizens of the mainland," and the restriction of appointments so far as possible to persons of at least five years' residence in Puerto Rico.

LEGISLATION. During the fourth and last regular session of the Legislature (February 8 to Apr. 15, 1932), a law was passed establishing a permanent emergency fund. The law provided that at the close of operations of each fiscal year there should be transferred to the emergency

fund any part of the cash balance of the general fund, plus advances to other funds reimbursable to the general fund exceeding the balance of the appropriations provided for in the budget and of all other appropriations in force. When the Legislature neglected to act upon Governor Beverley's recommendations for revision of the election laws, the Governor called a special session, which convened June 21, 1932. Two election laws were then enacted by the Legislature and approved by the Governor. They were designed to give all important political groups fair representation in the insular and local election boards and in polling places, and to extend the time given by law to the insular board of elections to exclude new registrants from the election lists.

Among other measures passed at the several legislative sessions were: (1) an act to authorize the treasurer to purchase in the open market insular and municipal bonds, to consolidate issues, and to borrow money temporarily in anticipation of tax collections; (2) an act canceling and remitting certain taxes owed by coffee and coconut plantations; (3) an act levying a special tax of 2 per cent on the assessed valuation of every cuerda (acre, approximately) of coffee land in order to create a coffee insurance and rehabilitation fund.

**THE 1932-33 BUDGET.** A steady decline in budget receipts during the 1932-33 fiscal year led Governor Beverley to take drastic economy measures to balance revenue and expenditure. The Treasury's original estimate of revenues for the year was \$10,450,000. Nevertheless, the Legislature authorized appropriations of \$12,119,060. Before the budget was signed the Governor slashed \$900,000 from the appropriations, chiefly through salary reductions. In December, 1932, the Treasury issued a new estimate of revenues for the year, which was about \$1,257,000 below the previous estimates. With a budget deficit of \$1,000,000 in prospect, Governor Beverley informed the Legislature that new economies aggregating \$1,000,000 would have to be put into effect for the remaining seven months of the fiscal year.

**BIRTH CONTROL ADVOCATED.** Governor Beverley's report for the 1931-32 fiscal year aroused a considerable stir among religious groups in the United States because of his implied advocacy of birth control as a means of meeting the island's serious problem of overpopulation. Calling attention to the rapid increase in population to a density of 465.5 per square mile, the Governor said that this was "too large for an area which is and must always remain largely agricultural." The government, he said, had attempted to solve the problem by the encouragement of new industries and the expansion of established ones, but other solutions were required. "Without some extraordinary and unexpected changes in economic conditions, further net additions to population in the island must inevitably result in greater distress and poverty and ultimately in a rising death rate. The population question is fundamental and is intimately related to the standard of living, to labor conditions, and especially to health conditions." In his inaugural address, the Governor stressed the necessity for birth control, but the Legislature took no action.

Opposing the Governor's proposal of birth control legislation, the Rev. A. J. Willinger, Roman Catholic Bishop of Ponce, asserted that regulation of marriage rather than birth control offered

a solution to the island's population problem. He said the policy of absentee landlordism by large corporations had reduced many inhabitants to virtual peonage and was responsible for many illegal and consensual marriages. He recommended that such marriages be prohibited.

**THE 1932 HURRICANE.** Before Puerto Rico had recovered economically and financially from the disastrous hurricane of 1928, the northern part of the island was devastated on Sept. 26, 1932, by another great storm. In a preliminary report to the Legislature, called in special session October 18 to enact relief legislation, Governor Beverley reported that the hurricane had inflicted damage to the extent of \$30,000,000, of which \$20,437,000 represented damage to crops (\$11,553,000 damage to sugar cane). He estimated that 245 persons had been killed, 3329 injured, 36,249 buildings destroyed, 3,046 buildings damaged, 18,957 families rendered homeless, and 41,516 families left without food. The area of the storm was considerably smaller than that of 1928. Nevertheless, it was reported to have destroyed about 20 per cent of the coffee crop, a considerable part of the sugar crop, and almost all of the grapefruit groves when but 15 per cent of the greatest grapefruit crop in the island's history had been shipped and packed. As a result of the storm, the economic outlook of the island was reported worse than after the 1928 hurricane. The Banco Agrícola y Territorial of San Juan, one of the oldest banking institutions in the island, closed its doors September 29, increasing the credit stringency. The Reconstruction Finance Corporation at Washington extended a loan of \$360,000 to meet emergency relief needs from October 17 to November 30.

**GOVERNMENTAL APPOINTMENTS.** Effective Mar. 30, 1932, Charles E. Winter, of Wyoming, succeeded Governor Beverley as attorney general. Associate Justice Jacinto Texidor of the Supreme Court died Oct. 5, 1931, and was succeeded (Apr. 11, 1932), by Félix Córdova Dávila, Resident Commissioner of Puerto Rico in Washington. To complete Señor Córdova Dávila's unexpired term in Washington, the Governor appointed José L. Pesquera, who assumed office Apr. 28, 1932.

Consult Bailey W. and Justine W. Diffie, *Porto Rico: A Broken Pledge* (New York, 1931).

**PUGILISM.** See BOXING.

**PULITZER PRIZES.** A series of awards established in 1915 by the will of Joseph Pulitzer, publisher of the *New York World*, to be presented annually by Columbia University on recommendation of the advisory board of the Pulitzer School of Journalism, for outstanding achievements, in letters and journalism. The value of the prizes in the group devoted to letters is \$1000, with the exception of that for the best work on the history of the United States which is \$2000. The value of the prizes in the journalistic group is \$500, with the exception of that for the best example of a reporter's work during the year which is \$1000.

In November, 1931, the announcement was made that in the award for novels, the prize, previously restricted to an American author whose novel "best presented the wholesome atmosphere of American life," would thereafter be awarded for the best novel, regardless of theme, published during the year by an American author. Acting under this modification of the original provision, the jury gave the 1932 prize for the best novel to Pearl S. Buck, whose novel,



*The Good Earth*, presents a true picture of peasant life in China. The award has been widely criticized, not as to literary merit, but for the radical departure taken by the jury from the original provision of the founder of the prize. Other recipients in the group devoted to letters were: George S. Kaufman, Morrie Ryskind and Ira Gershwin, joint authors of the play *Of Thee I Sing*, which it was adjudged best represented "the educational value and power of the stage"; Gen. John J. Pershing, whose *My Experiences in the World War* was pronounced the best book of the year upon the history of the United States; Henry F. Pringle, whose *Theodore Roosevelt* won the prize for the best American biography, "teaching patriotic and unselfish service to the people, illustrated by an eminent example"; and George Dillon, whose *The Flowering Stone* was pronounced the best volume of verse published during the year by an American author.

In the field of journalism, the gold medal for "the most disinterested and meritorious public service rendered by an American newspaper during the year," was awarded to the Indianapolis (Ind.) *News* for its work as a contributing force in the elimination of waste in city management and reduction of taxes in 86 counties in Indiana. The "best example of correspondence during the year," was jointly adjudged to Walter Duranty for his dispatches to the New York *Times* portraying conditions in Russia, and to Charles G. Ross for his article in the St. Louis *Post-Dispatch* entitled "The Country's Plight—What Can Be Done About It?" No award for the best editorial article written during the year was made. The award for the best example of a reporter's work during the year was shared by five men on the Detroit *Free Press*, W. C. Richards, D. D. Martin, J. S. Pooler, F. D. Webb, and J. N. W. Sloan, who had pooled their efforts in a "spot news story, written against press time, of the parade of the American Legion during the 1931 convention in Detroit." The best cartoon published in any American newspaper during the year 1931 was adjudged to have been the cartoon by John T. McCutcheon entitled, "A Wise Economist Asks a Question," which appeared in the Chicago *Tribune*.

**PULP.** See FORESTRY; PAPER.

**PURDUE UNIVERSITY.** A State technological institution in Lafayette, Ind., founded in 1869. The main purpose of the institution has been to train men for service in the fields of engineering, agriculture, and applied science and women in the fields of home economics and general science. The enrollment for the autumn of 1932 was 4056, of whom 3406 were men and 650 women; registration in the 1932 summer session was 764. There were 336 members on the faculty and in addition 81 assistants. The endowment amounted to \$340,000 and the income for the year was \$3,759,041. The library contained 108,218 volumes. President, Edward C. Elliott, Ph.D., LL.D.

**PUTNAM, MRS. AMELIA EARHART.** See AERONAUTICS.

**QUAKERS.** See FRIENDS, RELIGIOUS SOCIETY OF.

**QUAKES.** See EARTHQUAKES; SEISMOLOGY.

**QUARANTINE OF PLANTS AND VEGETABLES.** See HORTICULTURE; ENTOMOLOGY, ECONOMIC.

**QUARRY ACCIDENTS.** See WORKMEN'S COMPENSATION.

**QUEBEC, kwé-béc'.** The largest Province in Canada; bounded on the west by Hudson Bay and Ontario, on the north by Hudson Strait, on the east by Labrador, and on the south by New Brunswick, the United States, and Ontario. Area, 594,434 square miles; population (1931 census), 2,874,255 (2,360,665 in 1921). Chief cities with populations (1931 census): Montreal, 818,517 (618,506 in 1921); Quebec, 130,594 (95,193 in 1921); Verdun, 60,745 (25,001); Three Rivers, 35,450 (22,267); Hull, 29,433 (24,117); Sherbrooke, 28,993 (23,515). In 1929, there were in the Province 8200 schools of all kinds, with 624,601 pupils and 24,168 teachers. There are four universities: McGill (Montreal, Protestant), with 3949 students in 1929-30; Lennoxville (Protestant), 165 students; Laval (Quebec, Roman Catholic), 7233; University of Montreal (Roman Catholic), 9567.

The basic industry of Quebec Province is agriculture; the total area of field crops in 1931 was 5,681,062 acres and the value \$72,801,000. The production of tobacco in 1931 amounted to 6,340,000 pounds from 55,060 acres. In 1930, the 1906 fur farms had fur bearing animals valued at \$3,686,377. The value of 277,410 pelts taken in 1929-30 was \$1,658,358. Quebec has a total forest area of about 243,714 square miles and, in 1930, produced 1,833,000 tons of wood-pulp valued at \$58,703,067; paper (including newsprint), was valued at \$90,668,181; lumber and sawmill products, \$34,349,164. Fish products in 1930 were valued at \$2,502,998.

Mineral production in 1931 was valued at \$35,673,395. Asbestos, copper, gold, silver, mica, and zinc are the principal minerals produced. The asbestos output, under normal conditions, comprises 85 per cent of the world total. In 1930 the 7410 manufacturing establishments had a capital investment of \$1,727,064,388, employees numbering 213,467, and a value of output of \$1,022,280,087 gross and \$560,036,409 net. The financial report for the fiscal year ending June 30, 1932, showed a deficit of \$584,709 (the first in 34 years) due to reduced revenue from succession duties, liquor sales, land and forests, mines, and automobiles; ordinary receipts amounted to \$36,941,020 and ordinary expenditures totaled \$37,525,729.

Quebec is governed by a lieutenant-governor and a responsible ministry, assisted by a legislative council, appointed for life by the Lieutenant-Governor, and a legislative assembly of 90 members elected for five years. The 18th Legislature, elected Aug. 24, 1931, was constituted of 79 Liberals and 11 Conservatives. The Province is represented in the Dominion Parliament at Ottawa by 24 members in the Senate and 65 members in the House of Commons. Lieutenant-Governor in 1932, H. G. Carrol. Premier, Attorney-General, Minister of Municipal Affairs, and Provincial Treasurer, L. A. Taschereau (Liberal). See CANADA.

**QUEEN'S-CHICORA COLLEGE.** A college for women in Charlotte, N. C., founded in 1857; nonsectarian in purpose but under the direction of the Presbyterian Church. The enrollment for the autumn term of 1932 was 318. There were 38 members on the faculty. The endowment amounted to \$336,000. The library contained 13,000 volumes. President, William H. Frazer, D.D., Litt.D.

**QUEENSLAND.** A State of the Australian Commonwealth, occupying the northeastern part

of the continent. Area, 670,500 square miles; population estimated at 965,934 (exclusive of full-blood aborigines) on Mar. 31, 1932 compared with 755,972 at the census of 1921. In 1931 there were 17,833 births, 7525 deaths, and 5951 marriages. Brisbane, the capital, had 317,150 inhabitants on Jan. 1, 1932.

Agriculture, stock raising, and manufacturing are the leading industries. The estimated yield of wheat for 1931-32 was 3,851,000 bushels from 290,000 acres. Sugar cane, cotton, wheat, corn, and hay are the principal crops. The 1931 wool clip (as in the grease) totaled 182,061,407 pounds. Livestock for 1931 numbered 20,873,534 sheep, 5,598,627 cattle, and 462,147 horses. The total mineral production for 1931 was valued at £1,265,225 compared with £1,241,125 for 1930. The principal minerals were coal, gold, silver, and lead, copper, and tin.

The value (British currency values) of direct overseas imports was £3,746,018 for 1931-1932 and £5,556,434 for 1930-31; direct overseas exports were valued (Australian currency values) at £16,105,752 for 1931-32 and £16,935,181 for 1930-31. Revenue for 1931-32 amounted to £12,994,113; expenditure, £15,069,293; net public debt, £111,423,409.

Executive power is vested in a governor, who acts through a responsible ministry, and legislative power in a legislative assembly of 72 members elected for three years. Governor, Sir L. O. Wilson who succeeded Sir Thomas Goodwin in June, 1932. Premier, Forgan Smith. See AUSTRALIA under *History* for the result of the State election of June 12, 1932.

**QUICKSILVER.** The world production of quicksilver in 1931 with no reports available from Russia, Algeria, and a few countries of minor production importance, was approximately 96,972 flasks of 76 lbs. each. On the basis of their output for 1930, the additional production of Russia and Algeria (3278 and 325 flasks respectively in 1930) may have raised the total figure for the year to slightly in excess of 100,000 flasks, or a total decrease of about 10 per cent from the 1930 production of 110,108 flasks. In 1931, according to the U. S. Bureau of Mines, Italy was the leading producer with 37,652 flasks (56,069 in 1930); the United States was second with 24,947 flasks (21,553 in 1930); Spain with 19,786, and Mexico with 7292. The domestic production represented an increase of about 15 per cent in quantity, but a decrease of about 13 per cent in value. The nominal value in 1931 was \$2,179,145, as against \$2,428,789 in 1930. The average quoted price of mercury was 24 per cent lower in 1931 than in 1930, and declined from the high monthly average of \$103 a flask at New York in January to \$66 in December.

California was the leading producing State with an output of 13,448 flasks (54 per cent of the total), an increase of 17 per cent over 1930. Oregon registered the largest proportionate increase in production, advancing to second place with an output of 5011 flasks (72 per cent more than in 1930). Nevada dropped from 3282 flasks in 1930 to 2217 in 1931, and Washington dropped from 1079 flasks in 1930 to 560 in 1931. The production for Texas, Arizona, Arkansas, and Alaska amounted to 3711 flasks.

Apparent consumption throughout the world declined approximately one-third in 1931, compared with the preceding year. Production, however, increased rapidly in the United States and

Mexico to the extent that these countries were able to export considerable quantities. These increased supplies on the European market caused further declines in prices which continued during 1932. In January, 1932, the monthly average price in New York declined from the average of \$66.11 of the previous month to \$64.90. The price rose in March and April to over \$72 a flask, declining to an extreme low in August of \$47.44 and closing the year at \$48.50.

**RACE STUDIES.** See ANTHROPOLOGY.

**RACING.** See HORSE RACING.

**RACKETEERING.** See CRIME.

**RACQUETS.** See COURT GAMES.

**RADCLIFFE COLLEGE.** A nonsectarian college for women in Cambridge, Mass., founded in 1879. The enrollment for the autumn of 1932 was 1038 distributed as follows: Regular students, 779; graduate students, 214; special students, 45. Instruction was given to the students of the college by 300 teachers from Harvard University. The productive funds amounted to \$4,517,922, and the income, including tuition, for college purposes, was \$565,563. The library contained approximately 69,500 volumes, exclusive of pamphlets. In the fall of 1932, as the result of a grant of \$500,000 from the General Education Board, the college opened for use a laboratory for chemistry and physics. President, Ada Louise Comstock, A.M., Litt.D., L.H.D., L.L.D.

**"RADIATOR."** See RADIO.

**RADIO.** The most widely discussed item of news of the year was the argument before the Supreme Court and the consent decree by which the General Electric Co. and the Westinghouse Co. withdrew from any connection with the Radio Corporation and distributed their shares of Stock in the Radio Corporation to their individual stockholders. This is said to be one of the most important effects of our anti-trust laws. This leaves the Radio Corporation free to manufacture and to license under the patents assigned to it by the parent companies and to conduct its communication and talking movie business. The presidential campaign brought much activity and business to the broadcasting companies and it is estimated that \$5,000,000 was spent on broadcasting political speeches. In some of the chain hook-ups involving from 40 to 80 stations the charges are from \$10,000 to \$15,000 per hour.

A new type of vertical antenna or "Radiator" was installed by some of the broadcasting stations, for example, WABC. It is claimed that this gives a much more uniform and powerful signal in all directions. The popular style in receiving sets this year was of the super-heterodyne type using screen-grid tubes and included automatic volume control, compensated audio system, automatic noise suppressor and some sets contained as many as 12 tubes. Short-wave converters were also available which made it possible to receive the international broadcasts at about 50 meters wave-length on the standard receivers. A new scheme was announced as practical by which it will be possible to operate as many as 3000 receiving sets from one antenna. This will be desirable for large apartment houses. Stations WGY at Schenectady and WCAU at Philadelphia increased their power to 50 kw. High power seems to be more desired in Europe than in the U.S.A., for instance, a 60-kw. station for 533 meters was installed in Munich and the Duchy of Luxembourg has a new station in 200 kw. which is being used at times although not for-

mally approved by the International authorities. A new short-wave broadcasting station (50 m.) was installed at Daventry, Eng., intended to reach the most outlying portions of the British Empire.

The use of radio broadcasting by the police has greatly increased. New York City has 50 or 60 cars equipped with receivers to receive orders continuously from headquarters while cruising, each in its own assigned territory and prepared to be on the scene of a crime within a few minutes of its commission if reported to the police by telephone.

The Dept. of Commerce operates 2 kw. transmitters at the principal airports in order to transmit weather reports to planes en route. The newer antennæ for these stations are of the vertical type, supplanting the loop type.

Portable radio sets have been supplied to the Coast Guard which rate at 5 watts and weigh only 65 lbs. They operate at wave-lengths from 75 to 120 m. and over a distance as great as 200 miles.

**RADIO BEACONS.** See LIGHTHOUSES.

**RADIO CITY.** See ARCHITECTURE.

**RADIO LAW.** See LAW in 1932.

**RADIOTHERMY.** See ELECTRICAL INDUSTRIES.

**RAILROAD CREDIT CORPORATION.** See RAILWAYS.

**RAILROADS.** See RAILWAYS.

**RAILWAY ACCIDENTS.** The U. S. Interstate Commerce Commission, in its annual statement of railway casualties, reported for 1931 a grand total of 4851 persons killed and 20,057 injured on railways in the United States, as shown in the accompanying classification.

<i>Class of persons</i>	<i>Number of persons killed</i>	<i>Number of persons injured</i>
Trospassers . . . . .	2,334	2,965
Employees . . . . .	514	9,576
Passengers . . . . .	40	2,102
Persons carried under contract, such as mail clerks, pullman conductors, etc. . . . .	9	350
Other nontravellers . . . . .	1,956	5,064
Total . . . . .	4,853	20,057

The corresponding totals for the calendar year 1930 were 5171 persons killed and 25,562 persons injured. In addition, there were 246 persons killed and 15,599 injured in nontrain accidents in comparison with 310 killed and 23,868 injured in such accidents during the preceding calendar year. There were 13 employees killed and 394 injured in coupling or uncoupling locomotives and cars as compared with 30 killed and 604 injured during 1930. Casualties to employees due to coming in contact with fixed structures resulted in 18 killed and 232 injured. There were 31 employees killed and 1906 injured in getting on or off cars and locomotives. The increased safety to the traveling public deserves special mention. During the year covered by this report steam railroads carried 599,226,754 passengers 21,933,344,963 miles with but 40 fatalities or 1 for each 548,333,024 miles traveled.

Serious railway accidents in the United States in 1932 included the following:

*June 7.* A passenger express train of the Pennsylvania Railroad, bound from Atlantic City to New York, plowed into a loaded coal car that with nine others of a 100-car freight train had jumped the track a few moments

earlier. Fifty-six persons, including the crew of the passenger locomotive, were injured.

*June 30.* A fast electric passenger car and a heavily loaded freight car of the Cincinnati & Lake Erie Railroad met in a head-on collision near Hamilton, Ohio. Seven persons were killed and five injured.

*October 26.* An east-bound express train of the Long Island R.R. jumped the track near Montauk, L. I., and turned over. The engineer and fireman were killed. No passengers were on the train at the early hour, and the train crew were all in the last coach which stayed on the track.

*December 21.* At a rail crossing near Lima, Ohio, a west-bound Erie R.R. passenger train was ditched. Three railway employees were killed, and several passengers cut and bruised.

Among serious railways accidents in other parts of the world in 1932 were the following:

*January 7.* Fifty persons were killed and many injured in a double accident near Moscow, Russia, in a collision between a passenger train and a freight train. The casualty list was increased because rescuers placed many of the injured on a parallel track where they were run over by the relief train from Moscow.

*March 22.* A northbound train of the London, Midland & Scottish Ry., left the rails in Bedfordshire at a switch, resulting in the death of the engine crew and four others, and seriously injuring six.

*May 15.* An undetermined, but large number of persons were killed on a Soviet railroad at the Zelonaya station between Kharkov and Dnieperpetrovsk when two crowded passenger trains crashed together. Scores of the passengers were crushed beyond recognition. Intoxication of the station employees was claimed.

*May 23.* Forty persons were killed and more than a hundred injured in a wreck on the Chinese Eastern Railway, a hundred miles southeast of Harbin, when a freight train crashed into a passenger train that had been derailed.

*July 9.* Three persons were killed and 19 injured near Angora, Turkey, when the locomotive and three passenger coaches were derailed.

*September 14.* In Algeria, a train carrying 500 officers and members of the French Foreign Legion, left the track after heavy rains in the mountainous region between Turrene and Zeboun, plunging into a ravine. A hundred and twenty Legionnaires were reported killed and 150 seriously injured.

*October 17.* Eight were killed and 20 injured as the result of collision between a passenger train and a freight train in Manche, France.

Seven miles from Moscow, Russia, a long and crowded passenger train drawn by two locomotives crashed into a freight train. Many people were killed; but, as in earlier railway accidents of the year, the Soviet government made no official announcement of the casualties.

At Entre Rios, Brazil, six were killed, and more than a dozen soldiers injured in the explosion of an ammunition train following a wreck.

In Rumania, a passenger train, derailed by a defective switch, was overturned and caught fire, 17 were killed, 14 seriously injured, and many were painfully hurt.

*November 21.* At Covasna, Rumania, two coaches of the Mountain Cable Ry. ran wild and crashed; two women, flung out, were dashed to death.

*December 13.* A collision at the Guetach Tunnel, Switzerland, caused the death of 10, with 11 seriously injured.

*December 16.* A washout near Perpignan in the French Pyrenees, derailed a train from Paris, causing the death of seven, with 30 injured.

**RAILWAYS.** By October, 1932, loss of credit, loss of earning power, and loss of buying power of the companies owning the steam railways of the United States was generally thought to be so important a factor in the economic situation of the country that the insurance companies, large creditors of the railway companies through the ownership of railway bonds, agreed on a committee to investigate and report on the situation.

The men selected as members of this committee were: Former President Calvin Coolidge, chairman; Alfred E. Smith, Bernard M. Baruch, Alexander Legge, and Clark Howell.

The name of the committee contained in the announcement of its first meeting given out by its Chairman was the National Transportation Committee.

The importance of the subjects to be studied

is indicated by the past record of the members who were selected and consented to serve.

Calvin Coolidge is an ex-president of the United States and has the confidence of a large enough majority of the voters of the country to give him the choice, he and many others thought, of being President of the United States again or not. Bernard M. Baruch was Chairman of the War Industries Board. Alfred E. Smith is an ex-Governor of the State of New York. Alexander Legge is Chairman of the Farm Relief Board. Clark Howell is Editor and Publisher of the Atlanta (Ga.) *Constitution*.

The facts that led to the appointment of this committee are reflected in figures, some of them available to the public later. These facts are:

Pennsylvania Railroad stock was selling at 15 (par 50), New York Central stock was selling at 25 (par 100), Illinois Central stock was selling at 15 (par 100).

Pennsylvania General 4½ bonds were selling at 81, New York Central Refunding 4½ bonds were selling at 46, Illinois Central First Mortgage 3½ bonds were selling at 75.

These prices reflect the credit of a bankrupt. There were 700,000 fewer men employed on railways than there were five years earlier.

The reports of the larger railroads to the Interstate Commerce Commission, combined for the first nine months of 1932 were:

#### NINE MONTHS ENDED SEPTEMBER 30

[Millions of dollars]

	1932	1931
Operating revenues .....	\$2,091	\$2,928
Operating expenses .....	1,662	2,266
Taxes .....	198	219
Net operating income .....	152	354

Net operating income is what the company has available from its operations as a railroad to pay interest on its bonds, largely held by savings banks and insurance companies. According to the last available report of the Interstate Commerce Commission, the total interest charges of the larger railroads amounted to \$496,270,070.

Two items from the combined balance sheet of the larger railroads for the end of July, 1932, as given out by the Interstate Commerce Commission showed:

#### ASSETS AND LIABILITIES, JULY 30

[Millions of dollars]

	1932	1931
Assets:		
Cash .....	\$252	\$373
Liabilities:		
Loans (current) .....	270.8	182.2

The purchases by railroads for the first six months of 1932 as compared with the awful year 1931 were:

#### RAILWAY PURCHASES SIX MONTHS

[Millions of dollars]

	1932	1931
Fuel .....	\$ 84,750	\$122,550
Ties .....	14,850	81,350
Rail .....	11,550	88,750
Other material .....	112,555	193,400
Total .....	\$223,700	\$386,050

The outstanding fact about the Railways of the United States in the year 1932 was that that

year marked the turning point, for Government, for the public, and for bankers, from an attitude they had held for at least 50 years.

In brief, this change of attitude on the part of the government was from one of repression, prosecution—that railroad men felt amounted to persecution—to solicitude.

The change in attitude on the part of the public was from one of mingled resentment of oppression and desire to get something out of the big bully by fair means or foul, to a faint realization that the railways were indispensable for at least three reasons: (1) They were the investment in which a large part of the people's savings had been committed beyond recall; (2) the service, transportation, which they rendered was as fundamentally necessary as earth to the farmer; (3) as an employer of labor and a market for manufactures the railways were vitally important. Lastly, the bankers found it no longer profitable to buy railroad securities and resell them to the public.

The appointment of the Coolidge committee was an expression of these changes.

Those directly in charge of the physical railway properties concentrated their efforts on improvement of service and—radical change—cooperation instead of competition. Under the head of improvement of service is the continuation of the work of electrification of the Pennsylvania Railroad between New York City and Washington, D. C. During 1932 the Pennsylvania Railroad spent about \$28,500,000. The total cost had been estimated at \$55,000,000 of which the Federal Government was to lend the company \$27,500,000, and the companies' bankers were to furnish an equal amount but the sale of railway bonds—even Pennsylvania Railroad bonds—was not considered desirable business and no offering of Pennsylvania Railroad bonds was made to the public.

This was but an example of the loss of credit of the railway companies. It was a result not a cause. The Coolidge committee tried to find the causes. Up to the end of 1932 this committee was engaged in the collection of facts from which to form an opinion. In the New York *Times* of Nov. 10, 1932, Chairman Coolidge is quoted as saying, "we plan to ask various groups interested in the subject of the investigation to submit suggestions in writing." No mention is made of the Interstate Commerce Commission, which at considerable expense to the taxpayer and the railways has been collecting facts since 1887.

The Interstate Commerce Commission, when the railway executives asked for a 15 per cent freight rate increase in 1931, let it be known that the commission would approve of a 10 per cent freight rate increase on condition that the money taken in, in excess of what would have been taken in under the rates previously in effect, be put in a pool for the use of companies unable to earn enough net to meet their fixed charges (bond interest). The railway executives compromised by establishing the Railroad Credit Corporation to which the railway companies paid their earnings from the 10 per cent increase in freight rates, receiving credit for the amounts paid in, the Credit Corporation then lent—not gave—the railway companies making application, money to pay their fixed charges.

Up to November, 1932, the Credit Corporation had lent more than \$40,000,000 and the railway executives made an application to the In-

terstate Commerce Commission to continue to charge the 10 per cent increased freight rates but to discontinue the Railroad Credit Corporation and thus each railway would retain for its own use such additional revenues as accrued from the 10 per cent increased freight rates. It was pointed out that the Reconstruction Finance Corporation had both the resources and governmental authority to make loans to railroad companies in need of money which they could neither earn nor borrow from their bankers.

**DEVELOPMENT.** The Pennsylvania Railroad which had definitely authorized, through a resolution of the board of directors, the electrification of its main line between New York City and Wilmington, Delaware (the northern part of the Washington, D. C.-New York City line), had spent about \$28,500,000, up to the end of 1932 on the electrification of the lines around Philadelphia. The company had received a loan of \$27,500,000 from the Reconstruction Finance Corporation. It had finished the greater part of the work of equipping its lines between New York and Philadelphia, 90 miles, for electric operation. The company has announced that it is planning to begin electric operation between these two cities in February, 1933.

The reasons for making this great expenditure at this time are so important that Gen. W. W. Atterbury, President of the Pennsylvania Railroad, summarized them under six heads:

1. The greater economy of electric traction as compared to steam operation in dense traffic territories;
2. The growth of the southern passenger business;
3. The increasing density of both freight and passenger business on our eastern lines and the probability that in the future more rapid movement would be required;
4. The desirability of utilizing the advantages of electric traction in connection with the construction of our new passenger terminals at Philadelphia and Newark;
5. The desirability of building a locomotive that would meet the requirements from the standpoint of weight of train, speed and reliability that we believe will have to be met in this territory in the next 20 years;
6. The probability that the project, if started now, could be completed with a less total expenditure, all matters considered, than if started at a later date.

The alternating current single-phase system of electric traction is being used. This is the system now in use on the Philadelphia suburban lines of the Pennsylvania Railroad and on the Norfolk & Western and Virginian Railways. The direct current system is in use on the New York Central and on the Chicago, Milwaukee, St. Paul & Pacific. Thus the railway companies are divided as to the merits of the two systems, alternating current and direct current. The alternating current system is being installed by the Westinghouse Electric & Mfg. Co. Both this company and the General Electric Company however offer to install either system and have made equipment for both alternating and direct current systems for use in this country or abroad.

As a matter of fact there are two installations, one of the alternating current system and the other of the direct current system in the eastern United States where conditions appear to be similar, although partisans of both systems dispute this, and the cost of the one is almost the same as that of the other.

Besides the Pennsylvania Railroad electrification there are two others that were mentioned in the 1931 YEAR BOOK and are now in operation, namely the northern New Jersey suburban lines of the Delaware, Lackawanna and Western Railroad, and the suburban lines about Philadelphia,

of the Reading Railroad. The Delaware, Lackawanna and Western electrification involved 70 routes, these routes included 160 track miles. The electrification of this mileage cost \$17,437,537, and the amount was raised by the company itself through a bond issue.

The Reading electrification of the lines about Philadelphia involves 144 stations, the exact

#### R. F. C. LOANS TO CLASS I ROADS

[Railway Companies with one million dollars or more revenue a year]

Road	Amount
Ann Arbor .....	\$ 634,757
Baltimore & Ohio .....	67,125,000
Boston & Maine .....	10,000,000
Central of Georgia .....	3,174,319
Central of New Jersey .....	500,000
Chicago & Alton .....	2,500,000
Chicago & Eastern Illinois .....	5,998,580
Chicago & Northwestern .....	21,061,850
Chicago Great Western .....	1,287,000
Chicago, Milwaukee, St. Paul & Pacific .....	8,000,000
Chicago, Rock Island & Pacific .....	10,000,000
Columbus & Greenville .....	60,000
Denver & Rio Grande Western .....	6,350,000
Erie .....	13,403,000
Florida East Coast .....	918,375
Fort Smith & Western .....	227,434
Georgia & Florida .....	354,721
Gulf, Mobile & Northern .....	861,750
Illinois Central .....	11,000,000
Lehigh Valley .....	4,500,000
Maine Central .....	1,640,000
Minneapolis & St. Louis .....	2,698,630
Minneapolis, St. Paul & Sault Ste. Marie .....	2,300,000
Missouri & North Arkansas .....	400,000
Missouri Pacific .....	17,100,000
Mobile & Ohio .....	1,855,599
New York Central .....	17,999,000
New York, Chicago & St. Louis .....	18,200,000
New York, New Haven & Hartford .....	700,000
Pennsylvania .....	29,500,000
Pittsburgh & West Virginia .....	3,975,207
Pere Marquette .....	3,000,000
St. Louis-San Francisco .....	7,995,175
Southern .....	14,751,000
Tennessee Central .....	147,700
Wabash .....	13,325,000
Western Pacific .....	4,866,000
Total .....	\$327,114,579

#### R. F. C. LOANS TO OTHER THAN CLASS I ROADS

Road	Amount
Aberdeen & Rockfish .....	\$ 127,000
Alabama, Tennessee & Northern .....	275,000
Ashley Drew & Northern .....	400,000
Birmingham Southeastern .....	41,300
Buffalo, Union Carolina .....	53,960
Chicago, North Shore & Milwaukee .....	1,150,000
Cincinnati Union Terminal Company .....	10,398,925
Copper Range .....	53,500
Eureka-Nevada .....	6,000
Fredericksburg & Northern .....	15,000
Fonda, Johnstown & Gloversville .....	170,387
Gainesville Midland .....	25,000
Greene County of Georgia .....	17,165
Hoosac Tunnel & Wilmington .....	28,600
Kentucky & Indiana Terminal .....	800,000
Kansas City, Kaw Valley & Western .....	51,500
Mississippi Export .....	100,000
Meridian & Bigbee River .....	600,000
Missouri Southern .....	99,200
Maryland & Pennsylvania .....	100,000
Puget Sound & Cascade .....	300,000
Salt Lake & Utah .....	200,000
Stockton Terminal & Eastern .....	40,750
Sand Springs .....	162,800
Savannah & Atlanta .....	276,200
Sumpter Valley .....	68,500
Texas, Southeastern .....	30,000
Tuckerton .....	45,000
Wrightsville & Tennille .....	22,525
Wisconsin & Michigan .....	95,530
White River .....	16,000
Total .....	\$ 15,767,642
Grand total .....	\$342,882,221

mileage is not given out by the company. The cost was \$21,500,000.

As further indication of the character of railway development that was taking place in the United States in 1932, the Union Inland Freight Station in New York City was opened Oct. 3, 1932. This station was installed by the Port Authority of New York and serves for the collection and distribution of outbound and inbound less-than-carload shipments of freight, business heretofore done by the Railway Express and the U. S. Trucking Company from the various individual stations of the railways reaching the port of New York.

**MECHANICAL REFRIGERATION.** Up to June, 1932, there were in operation 86 cars using mechanical refrigeration. Ever since perishable freight began to move in large quantities, fruit from California to the Middle West and Atlantic Seaboard, dressed beef from Kansas City to New York and Philadelphia, to name only two examples, some satisfactory form of refrigeration has been sought. Manufacture and transportation are only two of many costs of ice refrigeration. The chemical action of brine drippings is a large item of cost that is not obvious; there are others. This start in the development of mechanical refrigeration is worth noting.

**LOANS TO RAILWAYS FROM THE RECONSTRUCTION FINANCE CORPORATION.** A list of the loans made to railways by the Reconstruction Finance Corporation was made public in November, 1932. The grand total of the loans was \$342,882,221, which was the result of loans to the smaller companies of \$15,767,642, and of loans to the larger companies of \$327,114,579. There is then the factor of the Federal Government as a large creditor of the railways which is an accomplished fact, for consideration by the Coolidge Commission. The list of federal relief loans is shown in tables on page 715.

**NEW RAILWAY BUILT.** The mileage of new railway built in 1932 was 163 miles which is the smallest new mileage built in any year since railways were proved to be a desirable form of transportation. The mileage built in 1931 was 748. *The Railway Age* record, from which these figures are taken, goes back to 1893. It is very carefully compiled and is dependable. Prior to 1932 the fewest number of miles built was in 1920 with 314 miles built. The greatest mileage built in one year was in 1902 with 6026 miles built. The longest piece of railway completed in 1932 was that on the line of the Fort Worth & Denver City from Childress, Tex., to Pampa, 110 miles. This line was begun in 1931 and a good part of it built in that year but was completed in 1932. *The Railway Age* record is on a completed basis.

**RAILWAY ABANDONED.** The total mileage abandoned in 1932 was 1452 miles. As was to have been expected, the longest line abandoned was in the South, that from Cliffside, Ky., to West Irvine, 76.42 miles.

**FREIGHT CARS.** The total number of freight cars ordered for use in the United States during 1932 was 1968. The number built was 3336 of which 82 were for foreign service, compared with 10,880 for 1931 and 180,154 in 1922, the record year.

**LOCOMOTIVES.** The total number of locomotives ordered for use in the United States in 1932 was 12. This compares with 235 ordered in 1931 and with 6265 ordered in 1905. The number built in

1932 was 120, this compares with 181 locomotives built in the United States in 1931.

**PASSENGER CARS.** The total number of passenger cars ordered in 1932, exclusive of rail motor cars, was 39, all of which were for use in the United States. This compares with 11 ordered in 1931 and with 4514 in 1909, which is the largest number ordered in one year according to the records of the *Railway Age* going back to 1901. There were 39 passenger cars built also in 1932.

**RAIL MOTOR CARS.** The steam railways of the United States ordered 14 rail motor cars and one trailer during 1932, in addition 4 were ordered for use in Canada and 2 for export, a total of 20 motor cars and 1 trailer. Of the motor cars 10 were gas-electric propelled, 7 were gasoline propelled, and 3 were oil-electric propelled.

C. B. Peck, Mechanical Department Editor of the *Railway Age* who writes on Rail Motor Cars in the Annual Statistical Number of the *Railway Age*, says "Although self-propelled rail motor cars were used with considerable success on several railroads nearly 25 years ago, their use never spread beyond a relatively few installations. The present development of self-propelled rail cars has practically all taken place since 1922." Since 1921 there have been 1121 motor cars (rail) ordered for use in the United States.

**INCOME.** Total operating revenues of the steam railways of the United States amounted to \$3,160,000,000 in 1932, a decrease of over 25 per cent from 1931 and over 50 per cent from 1929. A condensed income account for the three years is given.

#### INCOME ACCOUNT [Millions of dollars]

	1932	1931	1929
Total operating revenues . . .	\$3,160	\$4,237	\$6,360
Total operating expenses . . .	2,430	3,266	4,561
Taxes . . . . .	280	308	403
Net railway operating income	330	531	1,274

NOTE.—The net railway operating income is the amount of return on the investment as defined by the Interstate Commerce Commission, that is, it is the amount the company has available for interest on its bonds and any other borrowed money and for dividends.

#### SOURCES OF REVENUES [Millions of dollars]

	1932	1931	1929
Freight . . . . .	\$2,452	\$3,257	\$4,832
Passenger . . . . .	376	551	874
Mail . . . . .	95	105	152
Express . . . . .	54	83	148
All other . . . . .	183	241	354
Total . . . . .	\$3,160	\$4,237	\$6,360

#### DESTINATION OF EXPENSES [Millions of dollars]

	1932	1931	1929
Maintenance of way . . . . .	\$ 355	\$ 536	\$ 865
Maintenance of equipment . . .	629	829	1,212
Traffic . . . . .	96	118	131
Transportation . . . . .	1,170	1,565	2,113
General and all other . . . . .	180	218	240
Total . . . . .	\$2,430	\$3,266	\$4,561

In 1932 for the first time railway companies were required to report to the Interstate Commerce Commission monthly the net income after the payment of fixed charges, bond interest, etc. The total for all Class I (companies earning a million dollars or more a year) railways for the first ten months of 1932 was a deficit of \$147,-

079,000 as compared with a net income (profit) of \$110,128,000 for the first ten months of 1931.

As a matter of fact most railway companies show a surplus which is a mere bookkeeping item and really means that they have earned more, in the past, than they have paid out in interest and dividends and the surplus is in the form of property rather than cash. Superficially the size of the surplus is a measure of credit, but even the refinements of accounting prescribed by the Interstate Commerce Commission show only the cost of property and not its value (in the case of the railway's earning power). More important than the size of the surplus is the policy which has been pursued towards maintenance. Therefore the record of 1932 from this point of view is important. The course in regard to maintenance of way is more informative than that in regard to maintenance of equipment because in the expenditures for equipment there is not the freedom of choice that there is with maintenance of way. A locomotive often requires some repairs to keep it running, a piece of track may be neglected entirely for a while.

**MAINTENANCE.** The expenditures for maintenance of way by all Class I railways in 1932 was 355 million dollars. This was a reduction of 59 per cent from the 865 million dollars spent by these same railways in 1929 but more significant it was a reduction of over 33 per cent from the 536 million spent for maintenance of way in 1931—more significant because in 1929 more than was absolutely necessary was pretty surely spent but in 1931 it was thought that every possible economy had been made. Anything under the 1931 amount was really under maintenance.

**RECEIVERSHIPS.** There were 13 railway companies that went into receivers' hands with a total mileage of 11,817 and a total of \$427,772,150 funded debt and \$198,805,164 stock outstanding. This was for the year 1932.

The company operating the greatest mileage was the St. Louis-San Francisco with 5890 miles and \$268,178,767 funded debt and \$114,701,326 stock. While the depression may have been a factor in bringing about the receivership there were other factors that, in the past, have brought about railway receiverships without a general depression. The Frisco, as the St. Louis-San Francisco railway was called, paid 10 per cent dividends on its common stock during the period of prosperity that preceded the depression and maintained its property, track, locomotives, cars at a low cost—that is it did not build up a surplus in this way (see remarks under **INCOME**). It is a very nice question as to how much of the stockholders' money shall be withheld from them and put into maintenance as a factor of safety.

The receivership of the Central of Georgia with 1944 miles and \$53,722,000 funded debt and \$20,000,000 stock and the receivership of the Wisconsin Central with 1158 miles and \$44,833,000 funded debt and \$27,392,200 stock are better indications of the seriousness of the railway situation generally, than is the bankruptcy of the St. Louis-San Francisco. The Central of Georgia was controlled by the Illinois Central and was well operated and conservatively managed. Its standards of maintenance were high for the business which it did. Its receivership shows the extent of the general depression in the South. The Wisconsin Central was controlled by the Minneapolis, St. Paul & Sault Ste. Marie and was in fact the Chicago entrance for that road. Its receivership

reflects the depression in the wheat growing States.

There were only eight railways sold under foreclosure during 1932. The total mileage was 394 and the funded debt of the old companies was \$4,265,850 and the stock of the old companies amounted to \$4,309,328. None of them was of more than local importance. The best known was the Ulster & Delaware, serving the Catskill Mountain section.

**DIVIDENDS.** There were five railway companies which continued to pay dividends on their common stocks. These were the Norfolk & Western paying \$8 a \$100 share, the Union Pacific paying \$6 a \$100 share, the Chesapeake & Ohio paying \$2.50 a \$100 share, the Reading Railway paying \$1 a \$50 share and the Pennsylvania Railroad paying 50 cents a \$50 share. In addition the Atchison, Topeka & Santa Fe was paying \$5 a \$100 share on its preferred stock.

**TAXES.** Total railway taxes in 1932 amounted to \$280,000,000. The following table shows the number of cents paid in taxes from each dollar of revenue by the railways over a series of years.

Year	Taxes in cents per dollar of revenue	Year	Taxes in cents per dollar of revenue
1932 . . . . .	8.9	1927 . . . . .	6.1
1931 . . . . .	7.8	1926 . . . . .	6.1
1930 . . . . .	6.6	1925 . . . . .	5.9
1929 . . . . .	6.3	1924 . . . . .	5.8
1928 . . . . .	6.4	1923 . . . . .	5.3

**EMPLOYEES.** In August 1932 the number of employees of Class I railways had declined to 996,317. Normally the number of employees of the railways is smaller in the last three months than in the first part of the year but in 1932 it increased to 1,010,440 in September, to 1,033,225 in October and was 1,013,178 in November.

**CLASSES OF FREIGHT TRAFFIC.** It is important that a comparison of railway traffic by classes be made, comparing 1932 and 1931. For passenger traffic revenue is a good measure. The loss in passenger revenue in 1932 as compared with 1931 was 175 million dollars or over 30 per cent. The best comparison for freight is carloading of commodity groups given in the accompanying table.

	Carloads number (thousands)	Per cent of decline, 1931-32	Per cent of years, total 1932 1931
Grain, flour . . .	1,653	18.3	5.9
Livestock . . . .	949	18.3	3.4
Coal . . . . .	5,339	17.8	18.9
Coke . . . . .	224	31.1	0.8
Forest products .	900	38.9	3.2
Ore . . . . .	211	75.9	0.7
Merchandise . .	9,079	17.1	32.2
Miscellaneous . .	9,840	29.0	34.9
Total . . . . .	28,195	24.1	100.0

The commodity figures indicate a cessation of expansion (new construction) in the United States with the loss of iron ore traffic and lumber traffic to the Railways.

**RAINFALL.** See **METEOROLOGY**.

**RAMIE.** See **CHEMISTRY, INDUSTRIAL**, under *Cloth from Grass*.

**RANDOLPH-MACON WOMAN'S COLLEGE.** An institution for the higher education of women in Lynchburg, Va., under the auspices of the Methodist Episcopal Church, South, founded in 1893. The enrollment for the autumn



of 1932 was 562. The faculty numbered 69. The endowment amounted to \$1,203,565, while the income for the year was \$558,671. The library contained over 37,000 volumes. Acting President, N. A. Pattillo, A.M., Ph.D.

**RANGER FUND.** See ART MUSEUMS.

**RAPID TRANSIT.** On September 10, seven years after the first contract was let, the first section of New York City's new Independent Subway was placed in operation. The Board of Transportation, under whose direction this work has been designed and built, called for bids for operation on April 26. Failing to secure satisfactory tenders the board authorized city operation on June 14 and proceeded to organize an operating division. Actual operation under this organization began as noted above. It is understood that the receipts have been below estimates and it seems probable that New York will continue the five-cent fare, which has been the basis for so much political agitation, only by meeting deficits by taxes as has been the case in the past.

The Independent System will embrace, when completed, 54.3 miles of subway and will cost almost \$650,000,000. The first section opened is the main line in Manhattan from Chambers Street north, mainly under 8th Avenue, to 211th Street. The branches under the Grand Concourse to the Bronx, the Queens branch, and the loops and branches in Brooklyn, are all under contract and rapidly nearing completion. The only section yet to be let is the 6th Avenue connection which has been held up pending the completion of water supply Tunnel No. 2, so that Tunnel No. 1 can be shut off during the construction of this line. Apparently the end of major subway construction in New York is at hand—at least for some years to come.

In Philadelphia, the subway extensions, primarily the Broad Street line to South Philadelphia, the northern extension and the straightening under City Hall, have been going forward. The City Hall work has progressed slowly due to difficulties with existing building foundations. These have been outlined in previous YEAR BOOKS.

An interesting and novel piece of subway construction is going forward in Newark, N. J. The famous old Morris Canal meandered through the city and a subway, built in the abandoned canal bed, forms the main artery for Newark's transit-relief plan. The construction in general follows well established subway standards.

With subway construction in New York nearing completion and so many municipalities in financial difficulties, it would appear that we are liable to experience a lull in subway construction which may continue for several years or more. There are certainly cities where rapid transit facilities are demanded, however, and it will simply be a question of time before public pressure will force a renewal of this most costly type of railroad construction.

**RAYON.** Although the production of rayon during 1932 in the United States fell off about 9 per cent from the peak production of the year previous, nevertheless it showed a distinct gain over all previous years, as the accompanying table, compiled by the *Textile Organon* of the Tubize Chatillon Corporation, indicates. World production of rayon during 1931 was the highest on record, with an estimated total production of 467,500,000 lbs., a gain of 40,000,000 lbs. over

1929. Of the total output, the estimated percentage of the leading producing countries were: United States, 31 per cent; Italy, 16 per cent; Germany, 11.5 per cent; Great Britain, 11.5 per cent; Japan, 8 per cent; and France, 8 per cent. See CHEMISTRY, INDUSTRIAL.

Domestic consumption of rayon in 1932, according to the above publication, was again ahead of production. At the end of the year stocks were in a sound position with only a 3-week supply in sight.

#### ANNUAL RAYON PRODUCTION AND CONSUMPTION

[Units are thousands of pounds]

Year	Domestic production	Imports	Exports	Est. chg. in Dom. stocks prev. Dec. to current Dec.	Domestic consumption
1928	97,900	12,734	196	+ 6,000	104,500
1929	119,500	15,950	223	+ 3,000	132,250
1930	110,000	5,649	345	+ 15,000	100,300
1931	144,800	1,580	314	— 5,000	151,000
1932	131,000	165	690	— 19,000	149,500

The use of rayon in the textile industry is indicated in the accompanying tabulation from *Textile Organon*.

#### DISTRIBUTION BY TRADES

[In per cent]

Product	1930	1931	1932
Hosiery .....	17	12	12
Underwear .....	40	29	22
Other knit goods .....	5	4	4
Total knit goods .....	62	45	38
Cotton .....	18	34	38
Silk:			
Broad .....	9	15	19
Narrow .....	(*)	1	1
Wool .....	1	..	..
Braids .....	5	2	1
Miscellaneous .....	5	3	3
Total .....	100	100	100

\* Included in broad silks before 1931.

**RAYS, RADIATION.** See PHYSICS.

**REAL WAGES.** See STATISTICS.

**REAPPORTIONMENT.** See LAW IN 1932.

**RECALL.** See MUNICIPAL GOVERNMENT.

**RECLAMATION.** The situation as relates to the greatest American organization engaged in this field, the U. S. Bureau of Reclamation, has been outlined in previous YEAR BOOKS. With practically all their capital tied up in unproductive projects it has been obvious for several years that the activities of this bureau would either have to be radically curtailed or new sources of funds provided. Apparently no new funds can be expected and the great era of government reclamation construction in the United States may thus be drawing to a close.

There, of course, remains the Hoover Dam project, which is under the direction of the bureau, and it seems particularly fitting that this great era of dam and irrigation construction, unparalleled in the history of the world, should be brought to a close by the construction of the greatest dam man has ever attempted to build.

A paper by Herman Stabler, Chief of the Conservation Branch of the U. S. Geological Survey, presented at the American Society of Civil Engineers Convention in Yellowstone Park, has an interesting bearing on the reclamation of public lands in the United States. It was abstracted in *Civil Engineering* for September, 1932.

The combined irrigation and power development of a section of the Rio Grande near Eagle Pass, Tex., the scene of a recent flood, is one of the few projects now under way. The Reconstruction Finance Corporation has assisted in making this plan financially possible and the construction involves one or two features of more than usual interest.

The Zuider Zee project in Holland passed its crucial stage in the completion of the great 18½ mile dike or sea wall which closes the Zuider Zee to the North Sea. Finances may delay the completion and drainage of the enclosed "polders" but the major construction item has been practically completed. It will be remembered that the first section of the work, adjacent to the Island of Wieringen, was completed in 1924. The great dike, however, still remained to be completed. The details of this work, the greatest of its kind in the history of the world, were illustrated and described in the *Engineering-News-Record* of December 1, 1932.

**RECONSTRUCTION FINANCE CORPORATION.** See RAILWAYS; UNITED STATES; WELFARE WORK; BANKS AND BANKING; FINANCIAL REVIEW; PUBLIC FINANCE.

**RED CROSS, THE AMERICAN NATIONAL.** A semi-governmental organization, chartered by Congress in 1905. The charter designates its obligations as follows: "To furnish volunteer aid to the sick and wounded of armies in time of war . . . to perform all duties devolved upon a national society by each nation which has acceded to the treaty of Geneva . . . to act in matters of voluntary relief and in accord with the military and naval authorities as a medium of communication between the people of the United States and their Army and Navy . . . to continue and carry on a system of national and international relief in time of peace and to apply the same in mitigating the sufferings caused by pestilence, famine, fire, floods, and other great national calamities, and to devise and carry on measures for preventing same."

The year 1932 witnessed a still wider departure in the efforts of the Red Cross to relieve the great distress resulting from widespread unemployment. Of its 3639 chapters 2276 participated in unemployment relief activities under a policy that Red Cross chapters would undertake relief work "where there is suffering and want from any cause and the fundamental local needs are not being met, and there is no duplication of work of other agencies." These chapters in their service to civilians and veterans dealt with more than 2,000,000 persons. More than 90,000 families in 143 counties where coal mining is the chief industry received aid at a cost of \$522,000. There was also carried on the drought relief in Montana, North and South Dakota, Iowa, Nebraska, and Washington, begun in August, 1931; 53,517 farm families were reached at a cost of \$2,266,860, the chief expenditure being for food, \$1,612,584.

In addition to these heavy burdens of relief the Red Cross gave emergency aid in 62 disasters in the continental United States, 28 disasters in insular possessions, and five disasters in foreign countries. There were two major disasters in the United States during the year. One was caused by a series of severe tornadoes in Georgia, Alabama, Tennessee, and isolated sections of other nearby States, killing 370 persons and injuring more than 2000; the Red Cross gave help to 13,-

000 persons, with an expenditure of \$260,068. The other disaster was caused by floods in the tributaries of the Mississippi River in Louisiana and Mississippi, 53,000 persons receiving food, clothing, and shelter from the Red Cross at a cost of \$118,179. The total disaster relief expenditure by the Red Cross in the United States was \$3,597,282; for insular and foreign disasters it expended \$140,870.

Another departure in relief-giving in the history of the United States was when Congress voted a quantity of Farm Board wheat for distribution to the needy and distressed by the Red Cross. Through Congress's first action on Mar. 8, 1932, 40,000,000 bushels of wheat were made available for distribution as flour and bread to the needy and as feed for stock in the drought-stricken counties west of the Mississippi. In July, 1932, Congress voted an additional 45,000,000 bushels of wheat from the Farm Board stocks and also 500,000 bales of cotton to be made into clothing for the needy.

Applications from Red Cross chapters were received for 6,155,618 barrels of flour, and this flour up to Nov. 28, 1932, had been distributed to 4,362,823 families. Prior to June, 1932, feed had been given to 184,188 farmers to the total of 223,903 tons. To supply this flour and feed the Red Cross had used 53,780,866 bushels of the Farm Board wheat.

Distribution of the cotton did not begin until the new fiscal year, but up to Nov. 28, 1932, 3345 chapters and other Red Cross units had received cotton cloth and ready-made clothing from the 500,000 bales of Farm Board cotton appropriated by Congress. This was to be distributed to the 4,150,961 families reported to be in need of clothing. The Red Cross had approved applications up to that time for 49,382,272 yards of cotton goods and 855,791 dozen ready-made garments, chiefly overalls, stockings, and knit underwear.

In addition to these various relief activities, the Red Cross carried on its regular programme of aid to veterans, health, safety, and educational services. Workers in 3126 chapters dealt with the problems of 397,591 ex-service men or their families; and in hospitals, regional offices, etc., aid was given to 83,760 ex-service men or their families. The chapters aided 9782 men in the regular service, and field directors aided 30,009 men at stations and in hospitals. The Nurses' Reserve had an active-list enrollment of 31,545 nurses for disaster or war service. Public Health nurses employed by the Red Cross numbered 745; they made 1,357,355 nursing visits and inspected 949,025 children in schools during 1932. During the year 58,453 persons received instruction in home hygiene and care of the sick; 68,541 in first aid; and 72,780 in life saving, the latter receiving certificates entitling them to wear the Red Cross life saving insignia.

The Junior Red Cross membership numbered 6,775,508 boys and girls in schools, who engaged in varied services to others. The volunteer service rendered by women resulted in 296,406 garments made and 3,810,157 surgical dressings rolled; 76,200 calls were answered by the motor corps and 240,529 persons were fed by the canteen service. Books transcribed into braille for reading by the blind numbered 6351. In the annual roll call in November, 1932, the Red Cross enrolled 4,004,459 members. There are 3639 chapters, with 10,000 branches.

The President of the United States is president of the Red Cross. It is governed by a board of 18, of whom six are appointed by the President. John Barton Payne is chairman of the board; and James L. Fieser, Ernest P. Bicknell, and James K. McClintock vice-chairmen. National headquarters are in Washington, D. C., with branch offices in St. Louis and San Francisco.

**REDFIELD, WILLIAM COX.** An American manufacturer and cabinet officer, died in Brooklyn, N. Y., June 13, 1932. He was born in Albany, N. Y., June 18, 1858, and received a public school education in Pittsfield, Mass. In 1885 he entered the employ of J. H. Williams & Co. of Brooklyn, manufacturers of steel drop forgings, as an accountant. Two years later he became treasurer of the firm and in 1905 president. In 1907 he founded the Sirocco Engineering Co., which was merged the following year with the American Blower Co. He served as vice-president of the latter during 1909-13. From 1905 to 1913 he was also a director of the Equitable Life Assurance Society. His public career began in 1902 when he was appointed commissioner of public works for the borough of Brooklyn during Seth Low's administration as mayor of New York. In 1910 he was elected to Congress as representative from the fifth New York District, and gained a national reputation in that body through his advocacy of a reduced tariff. President Wilson, on his inauguration in 1913, appointed him Secretary of Commerce, which office he held until his voluntary retirement Nov. 1, 1919. He not only reorganized and enlarged the bureau of foreign and domestic commerce of this department but worked for the expansion of American shipping, advocated the Ship Purchase Bill, and sought to increase safety at sea. During the World War he was active in developing the War Trade Board and also mobilized the bureau of standards and the census bureau to aid the Council of National Defense. He was president of the American Manufacturers' Export Association in 1912 and again in 1920, of the National Society for the Promotion of Industrial Education in 1912-16, and at the time of his death of the National Institute of Social Sciences. Also, he was an advocate of trade with Soviet Russia and had served as president of the American-Russian Chamber of Commerce. In 1931 the decoration of the Order of Orange-Nassau was presented to him, on behalf of Queen Wilhelmina, because of his services as president of the Netherlands Chamber of Commerce in New York and as vice-president of the Netherlands-American Foundation. He was the author of *The New Industrial Day* (1912); *With Congress and Cabinet* (1924); *Glimpses of Our Government* (1924-25); *Dependent America* (1926); and *We and the World* (1927).

**REDWOODS.** See **FORESTRY.**

**REED COLLEGE.** A nonsectarian, liberal college of arts and sciences for men and women in Portland, Ore., founded in 1911. The enrollment for the autumn term of 1932 totaled 454 students. The faculty numbered 35, with 12 graduate assistants. The productive funds for 1931-32 amounted to \$1,885,000, while the net income as of Aug. 31, 1932, was \$73,673. The library contained approximately 46,203 volumes. President, Norman Frank Coleman, LL.D.

**REEVES, WILLIAM PEMBER.** A British economist, died in London, May 15, 1932. He was born in Canterbury, New Zealand, Feb. 10, 1857, and

attended Christ's College Grammar School, Christchurch. He studied law but abandoned this profession for journalism, becoming editor of the *Canterbury Times*, and later of the *Lyttelton Times*. As a member of the New Zealand Parliament during 1887-96 he was responsible for the passage in 1894 of the Industrial Conciliation and Arbitration Act, whose outstanding feature was state intervention in the settling of quarrels between capital and labor through boards of conciliation and a court of arbitration. He was Minister of Education, Labor, and Justice during 1891-96, Agent General of New Zealand during 1896-1905, and High Commissioner during 1905-08. He then became director of the London School of Economics, which position he held until 1919. He was also a member of the Senate of the University of London from 1902 to 1919. After 1917 he was chairman of the National Bank of New Zealand. His activity in the politics of New Zealand gave particular value to his books: *The Long White Cloud: A History of New Zealand* (1898), *State Experiments in Australia and New Zealand* (1902), and to his contributions to Kennedy's *Story of the Empire* (1897), and Ashley's *British Dominions* (1911). In verse he wrote *New Zealand and Other Poems* (1898).

**REFORMED CHURCHES** THROUGHOUT THE WORLD HOLDING THE PRESBYTERIAN SYSTEM, ALLIANCE OF. An organization formed in London, Eng., in 1875 with the one great purpose, to encourage comity, coöperation, and efficiency in the accomplishment of Christian work. In 1932 there were 106 churches connected with the alliance. The members and adherents of the Presbyterian and Reformed churches throughout the world numbered about 60,000,000 including members of the Evangelical Church in Germany. The general secretary is the Rev. W. H. Hamilton of Edinburgh, Scotland, and the American secretary is the Rev. Henry B. Master, D.D., whose offices are at 1012 Witherspoon Building, Philadelphia. The Fourteenth Council of the Alliance is to be held in Belfast, North Ireland, in 1933.

**REFORMED CHURCH IN AMERICA.** Composed originally of settlers from the Netherlands, and known until 1867 as the Reformed Protestant Dutch Church in North America, the denomination has since become largely intermixed with elements from many other nationalities. Its doctrinal standards are the Belgic Confession, the Heidelberg Catechism, and the Canons of the Synod of Dort. In 1839 it endorsed the Westminster Catechism. The form of government is of the Presbyterian type.

In 1932 the Reformed Church in America reported 727 churches, 848 ministers, 87,539 families, 160,198 communicants, and approximately 170 foreign, and 230 domestic missionaries. The value of property used for worship was placed at more than \$38,000,000 in the Federal census of religious bodies in 1926. There are foreign missions in China, India, Japan, Arabia, and Mesopotamia, the last named being a joint enterprise with the Presbyterian Church in the United States, and the Reformed Church in the United States. There is also a mission in the state of Chiapas, Mexico, administered by the boards of domestic missions. Missions to the American Indians are located in Nebraska, Oklahoma, and New Mexico. Schools are maintained among the mountain people of Jackson Co., Ky., and for the Negroes in Brewton, Ala.

There are theological seminaries in New Bruns-

wick, N. J., and Holland, Mich. The church colleges are Hope, at Holland, Mich.; Central, at Pella, Iowa; and the Northwestern Junior College, at Orange City, Iowa. Rutgers University in New Brunswick, N. J., is historically affiliated with the denomination, although entirely independent of ecclesiastical control.

Contributions reported in 1932 were \$3,613,000 for congregational expenses, \$798,000 for denominational benevolences, and \$160,900 for other benevolent objects. The General Synod met in June, 1932, at Kingston, N. Y. The Rev. Edward Dawson, D.D., of Passaic, N. J., was elected president. The centenary of the board of foreign missions was celebrated and plans were made for the observance of the fiftieth anniversary of the women's board of domestic missions in the year 1932-33. The headquarters of the denomination are at 25 East 22d Street, New York City, where the official paper, *The Christian Intelligencer*, is published.

**REFORMED CHURCH IN THE UNITED STATES.** This church, earlier known as the German Reformed Church in the United States, traces its origin chiefly to the German, Swiss, and French Protestants who settled in America early in the eighteenth century. These pioneers were practically religious in character and made immediate provision for churches and parochial schools. Samuel Guldin, generally acknowledged to be the first German Reformed minister in the United States, preached at Germantown, Pa., in 1718, and John Philip Boehm held the first recorded communion service at Falckner Swamp, Oct. 15, 1725.

Both in doctrine and polity the Reformed Church in the United States is in hearty accord with the other Reformed and Presbyterian Churches. The Heidelberg Catechism is in universal use as the basis of religious doctrine and Christian nurture.

In 1931 the denomination reported 1713 churches, 1346 ministers, and 346,945 communicant members. In the three foreign mission fields—Japan, China, and Mesopotamia—there were 88 missionaries and 408 native workers. There were also 238 home missions, with a communicant membership of 28,886, the work being conducted principally among the Hungarians, Bohemians, Japanese, and Indians of Wisconsin, while higher education was fostered among Negroes in Bowling Green, Ky. The value of church property in the United States, including both churches and parsonages, was \$54,334,862.

The Reformed Church has theological seminaries in Lancaster, Pa., Dayton, O., and Plymouth, Wis. The principal church colleges are Franklin and Marshall College in Lancaster, Pa., Heidelberg University in Tiffin, O., Ursinus College in Collegeville, Pa., Cedar Crest College in Allentown, Pa., Hood College (for the women of the church) in Frederick, Md., and Catawba College in Salisbury, N. C. The official periodicals of the denomination are *The Messenger*, *The Christian World*, *The Kirchenzeitung*, and *The Outlook of Missions*.

At the twenty-fourth triennial sessions of the general synod at Akron, O., June 21, 1932, the Rev. Henry J. Christman, D.D., was elected president. The Rev. J. Rauch Stein, D.D., has been the stated clerk of the general synod since 1908. Headquarters are at 304 Schaff Building, Philadelphia, Pa.

**REFORMED EPISCOPAL CHURCH.** A denomination formed in December, 1873, by clergymen and laymen who had withdrawn from the Protestant Episcopal Church. It is liturgical and evangelical but possesses the historic episcopate. The two synods are New York and Philadelphia, and Chicago, the former comprising churches from New York to Virginia, the latter Illinois and Ohio. (The Synod of Canada was transferred to the Free Church of England in 1930.) Statistics are published triennially, following the meeting of the general council, which will convene for the twenty-seventh sessions in Germantown, Pa., May 17, 1933. The church paper, the *Episcopal Recorder*, has been published continuously in Philadelphia for over a century. Its theological seminary, also in Philadelphia, was founded in 1886. The foreign mission field is the Lalitpur district in India, with over 200,000 inhabitants. The home mission field is among the Negroes in South Carolina, with 35 parishes and missions. The president is Bishop Robert Westly Peach, D.D., of Philadelphia, and the general secretary the Rev. Howard D. Higgins of New York City.

**REFRIGERATION.** See RAILWAYS.

**REFUSE DISPOSAL.** See GARBAGE AND REFUSE DISPOSAL.

**REGIONAL PLANNING.** See CITY AND REGIONAL PLANNING.

**REINACH, SALOMON.** A French archaeologist, died in Boulogne-sur-Seine, Nov. 4, 1932. He was born in Saint-Germain-en-Laye, Aug. 29, 1858, and attended the lycée Condorcet and the École Normale Supérieure. Appointed a member of the French School of Athens in 1879, he made interesting excavations and discoveries at Myrina, near Smyrna, and elsewhere. In 1882 he became secretary of the archaeological commission of Tunis; in 1886 attaché to the National Museums of France; and in 1888 assistant professor of archaeology at the École du Louvre, Paris. He was appointed associate curator of the National Museum of Antiquities at Saint-Germain-en-Laye in 1893 and curator in 1902. In the latter year he was also made full professor at the École du Louvre and editor of the *Revue archéologique*. He was elected to the Académie des Inscriptions et Belles Lettres of the Institut de France in 1896, and in 1902 was made an officer of the Legion of Honor. He was also a member of the Royal Society of Antiquarians of Ireland, of the Swedish Academy, and of the Archaeological Society of Athens. Outstanding among the 70 volumes which he published are: *Répertoire de la statuaire grecque et romaine* (4 vols., 1897-1910); *Répertoire des vases peints grecs et étrusques* (2 vols., 1899-1900); *Répertoire de peintures du moyen âge et de la renaissance* (5 vols., 1905-22); *Répertoire des reliefs grecs et romains* (3 vols., 1909-12); *Répertoire de l'art quaternaire* (1913); *Apollo, histoire générale des arts* (1904); *Oultes, mythes et religions* (4 vols., 1905-12); and *Orpheus, histoire générale des religions* (1909).

**RELIGION.** See LITERATURE, ENGLISH AND AMERICAN.

**RELIGIOUS DENOMINATIONS.** See Articles on respective churches and denominations.

**REMBRANDT EXHIBITION.** See ART EXHIBITIONS.

**RENSELAER POLYTECHNIC INSTITUTE.** A nonsectarian institution for the technical training of men in Troy, N. Y., founded in

1924. In 1932 there were 1485 students enrolled. The teaching staff numbered 141. The productive funds amounted to \$8,600,000, and the income for the year to \$786,300. The total value of the property of the institute, including market value of securities and value of buildings and equipment, was more than \$13,200,000. The gifts for endowment during the year amounted to \$383,800, including a legacy of \$205,000 for dormitories. The library contained 23,785 bound volumes and 23,802 pamphlets. During 1932 six new freshman dormitories and two dormitories for upper classmen, and a new club house for students, were finished at a cost of about \$650,000. President, Palmer C. Ricketts, E.D., LL.D.

**REORGANIZED CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS.** See LATTER-DAY SAINTS, REORGANIZED CHURCH OF JESUS CHRIST OF.

**REPARATIONS AND WAR DEBTS.** The alarming economic deterioration in Europe during 1931 and the possibility of further collapse caused the British government on Dec. 30, 1931, to summon a conference to consider the problem of German reparation at Lausanne, Switzerland, in January, 1932. The necessity for the reduction of German reparation payments called for under the Young Plan was generally admitted in Europe. However the difficulties of such revision were greatly enhanced by the intimate connection between reparation, the problem of inter-governmental war debts, and the general political situation in Europe. It proved impossible to reach the preliminary understandings essential to the success of the January conference. Accordingly representatives of the French, German, Belgian, British, Italian, and Japanese governments issued in Geneva on February 13 a statement convoking the reparation conference in Lausanne in June. It was stated that the object of the conference was to reach a "lasting settlement" of the reparation problem and an agreement on "measures necessary to solve the other economic and financial difficulties which are responsible for and may prolong the present world crisis." The stage was thus set for the consideration of war debts and other related problems.

In the six months previous to the convening of the Lausanne Conference, there was intensive diplomatic negotiation accompanied by the issuance of statements by the respective governments designed to build up their positions. On January 9, Chancellor Brüning of Germany announced that his country could not pay further reparation. Four days later, Premier Mussolini in Rome suggested the cancellation of inter-governmental debts by the European nations and the establishment of a united front to force concessions from the United States on the war debts owed that country.

Pressure was brought upon the United States government to make debt concessions to Great Britain, France, and Italy which would lessen the burden upon their treasuries incident to the cancellation or reduction of German reparation payments. To this Secretary Stimson responded (January 21) in a memorandum to the French Ambassador reiterating the American thesis that there was no connection between reparations and war debts and that reparations were a purely European concern. The Fascist Grand Council on April 9 declared for definite cancellation of reparations and war debts. Meanwhile elections had been held in Germany and France. These

showed a trend to the Right in Germany, where Lieut.-Col. Franz von Papen succeeded Chancellor Brüning on May 30, and a swing to the Left in France, where Edouard Herriot replaced Premier Tardieu (see FRANCE and GERMANY under *History*). It was the elevation of Herriot which made possible the subsequent agreement at Lausanne.

Unlike Tardieu, Herriot was reconciled to the scrapping of the Young Plan. But he was determined that France's consent would not be given until an understanding was reached with Great Britain concerning the war debts owing to the United States. He also insisted that any agreement must preserve the framework of the Versailles Treaty—a stand designed to head off the German demand for revision of the disarmament and territorial clauses of the peace settlement. The British, in turn, wanted complete cancellation of reparations as a step toward European recovery. En route to the Lausanne Conference, Prime Minister MacDonald and Sir John Simon, British Foreign Secretary, stopped at Paris (June 8) and conferred with Premier Herriot.

**THE LAUSANNE AGREEMENTS.** The Lausanne Conference, which continued from June 16 to July 8, was attended by more than 600 delegates from 13 countries. On its second day, the conference postponed until after its adjournment any European payments on inter-governmental debts due at the expiration of the Hoover Moratorium. The final agreement reached by the conference on July 8 consisted of three parts: (1) A financial agreement with Germany; (2) a political understanding, called the "Gentlemen's Agreement," among France, Great Britain, Italy, and Belgium; and (3) an Anglo-French accord.

The financial agreement with Germany provided for the final settlement of her reparation obligations by the payment of a lump sum of 3,000,000,000 reichsmarks (\$714,000,000). This was to be issued in the form of 5 per cent bonds, guaranteed by the Reich, and delivered to the Bank for International Settlements to be placed in a general fund for European reconstruction. It was stipulated that the bonds were to be issued at 90, not less than three years or more than 15 years after 1932. The allocation of the funds obtained from the sale of bonds was left for future decision by the governments, other than Germany, which signed the agreement. The Lausanne settlement left undisturbed the following German obligations (the annual payments, in millions of reichsmarks, for the year ending June 30, 1933, are shown in parentheses): Service of the Dawes loan (85.2); service of the Young loan (63.8); payments provided under the Belgian Mark Settlement (22.6); mixed claims (40.8); costs of the U. S. Army of Occupation (25.3); total (237.7). In effect, the termination of reparation payments constituted a withdrawal of the German war-guilt charge in the Versailles Treaty which served as the legal justification for the reparation claims of the Allies.

The so-called Gentlemen's Agreement, signed on July 2, involved the war debts owed to the United States. The text was as follows:

The Lausanne Agreement will not come into final effect until after ratification as provided for in the Agreement. So far as the Creditor Governments on whose behalf this *Procès-Verbal* is initialed are concerned, ratification will not be effected until a satisfactory settlement has been reached between them and their own creditors. It will be open to them to explain the position to their respective Parliaments, but no specific reference to it will appear

in the text of the agreement with Germany. Subsequently, if a satisfactory settlement about their own debts is reached, the aforesaid Creditor Governments will ratify and the agreement with Germany will come into full effect. But if no such settlement can be obtained, the agreement with Germany will not be ratified; a new situation will have arisen and the Governments interested will have to consult together as to what should be done. In that event, the legal position, as between all the Governments, would revert to that which existed before the Hoover Moratorium.

The German Government will be notified of this arrangement.

The document was not published until nearly two weeks after the conclusion of the conference. This secrecy, together with the conflicting interpretations placed upon the agreement by British and French spokesmen, aroused much criticism in Europe and America. Premier Herriot's stand was that Great Britain, Italy, and Belgium must consult France before reaching debt settlements with the United States. The displeasure in the United States was voiced by President Hoover, who in a letter to Senator Borah, Chairman of the Senate Committee on Foreign Relations, said that the United States was "not a party to, nor in any way committed to" the Lausanne Agreements. He added:

While I do not assume it to be the purpose of any of these agreements to effect combined action of our debtors, if it shall be so interpreted, then I do not propose that the American people shall be pressed into any line of action or that our policies shall be in any way influenced by such a combination, either open or implied.

The Anglo-French Accord was the third, and in some respects the most important, agreement reached at Lausanne. It was made public in the form of a declaration July 13. The agreement stated that, in accordance with the spirit of the Covenant of the League of Nations, the signatories "intend to exchange views with one another with complete candour concerning, and to keep each other mutually informed of, any questions coming to their notice similar in origin to that now so happily settled at Lausanne which may affect the European régime." The signatories pledged their mutual coöperation to find a solution of the disarmament question "which will be beneficial and equitable for all the powers concerned." The agreement applied also to coöperation in preparation for the World Economic Conference and stated that the signatories would "avoid any action of the nature of (economic) discrimination by one country against the interests of the others." Other European governments were invited to adhere to the agreement.

In France this agreement was regarded as a revival of the *Entente Cordiale*, assuring a united Anglo-French front against the German demand for territorial revision and against the United States on the war debt issue. The British, however, were less enthusiastic about the accord. On July 14, the London government formally declared that "there is no truth in any statement that it (the accord) is applicable to the question of the British debts to the United States. The use of the words 'European régime' expressly excludes from its purview any questions affecting non-European countries."

The Lausanne Agreements provided for the continuation of the Hoover Moratorium on German and non-German reparation and on the war debts which the various European governments owed to one another. The question of non-German reparation was referred for final settlement to a committee consisting of one representative of

each government concerned. The conference also initiated preparations for two further international meetings. A committee was named to formulate proposals for the economic reconstruction of Central and Eastern Europe and to submit them to the Commission of Inquiry for European Union. Under the auspices of this committee a conference was held at Stresa, Italy, September 5-20, attended by 80 delegates from 15 nations (see UNITED STATES OF EUROPE; PEACE).

The second conference provided for was a world economic and financial conference to consider measures for meeting the world crisis. A committee of experts, in which the United States was represented, was appointed to prepare for the Economic Conference. This was scheduled to be held during 1933.

THE WAR DEBT NEGOTIATIONS. After the Lausanne Conference, there was little official discussion, in Great Britain, France, or the United States, of the war debt payments to the United States falling due on December 15. It was considered unwise to inject the issue into the American Presidential campaign. However, the Democratic platform adopted at Chicago came out flatly against cancellation. Premier Herriot on July 10 said in an interview that "the link is now clearly established between the settlement of reparations and the solution of the debt problems with relation to the United States." The British government made no provision in its budget for the December 15 payment to the United States.

A number of the smaller European countries did not await the end of the Presidential campaign to commence postponements on debt payments. The day before the Hoover Moratorium expired (June 30), Greece postponed for two and one-half years the payment of \$130,000 in principal due July 1. Shortly afterwards, Latvia, Estonia, and Poland postponed for two years payments of principal due December 15, amounting to \$37,000, \$90,000, and \$1,125,000, respectively. The German government followed suit late in September, announcing postponement of \$7,800,000 due September 30 in payment of war claims and the costs of the American army of occupation. All these postponements were in accordance with debt-treaty provisions and bore interest at varying rates.

Immediately after the election, legal postponements gave way to outright default by the Greek government on a \$444,920 non-postponable payment (November 10). A series of notes from other debtors informed the United States government that payments could not conveniently be made on debts coming due and asked suspension of such payments. The British and French governments urged the suspension of the December 15 payments pending a reconsideration of the entire debt agreements. Other countries stated that the difficulties of transferring payments into dollars were insuperable. To all these appeals, Washington replied that the Administration had no authority to grant extensions and that payment of the sum due December 15 would increase "prospects of a satisfactory approach to the whole question." To Great Britain, the United States suggested means of surmounting the transfer difficulty. It was recalled that the hands of the Executive were tied by the anti-cancellation resolution adopted by Congress in December, 1931.

In the face of these developments, the united

front among the European debtors failed to materialize. Six nations paid their December 15 installments in full, as follows: Great Britain, \$95,550,000; Czechoslovakia, \$1,500,000; Italy, \$1,245,437; Finland, \$186,235; Latvia, \$111,852; Lithuania, \$92,386; total, \$98,685,910. Five nations defaulted, as follows: France, \$19,261,432; Poland, \$3,302,980; Belgium, \$2,125,000; Estonia, \$266,370; and Hungary, \$40,729. The French government was overthrown (December 13) when the Chamber of Deputies rejected Premier Herriot's request for authority to make the payment, the vote being 402 to 187 (see FRANCE under *History*). The countries which met their obligations made it plain that they desired a revision of their war-debt agreements with the United States before the next semi-annual installment was due.

The status of the foreign debts, excluding those of Germany, owed to the United States government, as of Jan. 1, 1933, is shown in the accompanying table compiled by the New York Times from Treasury records.

# GOVERNMENT DEBTS OWED TO THE UNITED STATES, JAN. 1, 1933

Country	Amount owed	Paid Dec. 15, 1932	Due June 15, 1933
Armenia . . .	\$19,617,103	(Govt. ceased to exist)	
Austria . . .	23,752,217	(Postponed by international agreement.)	
Belgium . . .	406,555,000	Defaulted	\$6,325,000
Czechoslovakia	165,571,023	\$1,500,000	1,500,000
Estonia . . .	17,203,743	Defaulted	284,322
Finland . . .	8,803,295	186,235	148,592
France . . .	3,921,547,932	Defaulted	40,738,568
Great Britain	4,499,520,000	95,550,000	75,950,000
Greece * . .	32,183,000		28,260
Hungary . . .	1,977,917	Defaulted	18,545,438
Italy . . .	2,007,406,125	1,245,437	118,961
Latvia . . .	7,085,454	111,853	132,091
Lithuania . .	6,383,612	92,386	3,559,062
Poland . . .	215,289,815	Defaulted	1,000,000
Rumania . . .	63,860,560		
Soviet Union .	327,583,071		
Yugoslavia . .	61,625,000		275,000
Total . . .	\$11,794,964,867	\$98,685,910	\$144,179,674

\* The Greek 4 per cent loan of 1929, amounting to \$12,167,000, was funded separately over a 20-year period. Payments from Greece are June 1, July 1, May 10, and Nov. 10, 1933.

Also see GERMANY, FRANCE, GREAT BRITAIN, POLAND, ITALY, and other European countries under *History*; UNITED STATES under *Administration*.

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**REPTILIA.** See ZOOLOGY.

**RESEARCH COUNCIL, NATIONAL.** See NATIONAL RESEARCH COUNCIL.

**REUNION, rē'un'yōn'.** An island colony of France in the Indian Ocean, situated 420 miles east of Madagascar. Area, 970 square miles; population (1926 census), 186,637; St. Denis,

the capital, had 23,390. Pointe des Galets is the chief port. The island sends one representative to the French Senate and two to the Chamber of Deputies. Governor in 1932, M. J. Repiquet.

**RHENIUM.** See PHYSICS.

**RHODE ISLAND. POPULATION.** According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 687,497, as against 604,397 in 1920. Providence, the capital had (1930) 252,981 inhabitants.

**AGRICULTURE.** The accompanying table shows the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod. Bu.	Value
Hay . . . . .	1932	85,000	42,000*	\$736,000
	1931	35,000	45,000*	864,000
Corn . . . . .	1932	9,000	351,000	176,000
	1931	8,000	344,000	210,000
Potatoes . . . . .	1932	2,000	320,000	237,000
	1931	2,000	300,000	273,000

\* Tons.

**MINERAL PRODUCTION.** The total value of the State's mineral product was \$1,209,227 for 1930; for 1929, \$939,602. These totals did not include the production of coke in relatively large totals for either year, as the coke was made from coal not native to the State. The output of the chief native mineral, stone of divers grades, rose to 201,110 short tons for 1930, from 141,290 for 1929; by value, to \$757,306 (1930), from \$590,627 (1929). Except for sand and gravel the only other products contributing to the yearly total of production were lime, amorphous graphite, and clay products.

**FINANCE.** State expenditures in the year ended June 30, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments, \$8,124,576 (of which \$474,320 was for local education); for interest on debt, \$859,170; for permanent improvements, \$5,947,820; total, \$14,947,925 (of which \$6,616,928 was for highways, \$1,477,193 being for maintenance and \$5,139,735 for construction). Revenues were \$12,865,270. Of these, property and special taxes furnished 38.4 per cent; departmental earnings and compensation to the State for officers' services, 5.0; sale of licenses, 42.3 (in which was included a gasoline sale tax that produced \$1,732,497). Funded debt outstanding on June 30, 1931, totaled \$21,654,000, of which \$6,241,000 was for highways. Net of sinking-fund assets, the debt was \$16,721,679. On an assessed valuation of \$1,447,034,201 the State levied in the year ad-valorem taxes of \$1,223,545.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 193.95. In the year previous, about 3 miles of new line had been put in operation.

**EDUCATION.** A feature of the era of widespread unemployment was an increase of the enrollment in the secondary grades of the public schools of the State; evening schools for adult education and summer schools were likewise active. Retrenchment of expenditure was reported as having occurred only in minor degree. The number of children of school age (reckoned as from 4 years to 21) in January was reported as 212,396. For the academic year ending June 30, 1932, there were enrolled in the public schools of the State and in private and parochial schools 157,260 pupils. Of those enrolled in the public day schools, 6389 were pre-elementary pupils, 51,887



elementary, 18,153 in junior high school grades, 11,964 in upper high schools; other groups were 14,090 primary school pupils, 12,374 grammar school pupils, 1802 in mixed schools, 4301 in 4-year high schools, 1631 in special schools, and 648 in vocational schools. Despite isolated curtailments of expenditure, the total expenditure for public-school education in the State was reported to have increased by \$352,949 for the academic year.

**CHARITIES AND CORRECTIONS.** The chief of the central functions of the State, with regard to the care and custody of persons, under the system in operation in 1932, rested in the Public Welfare Commission. As reorganized in 1929, the commission was composed of three members, serving terms of six years, by appointment of the Governor, confirmed by the State Senate. The commission directed what was described as probably a more centralized institutional system than that of any other State. This included the administration of institutions and centralized purchasing and engineering operations, and also the work of a State Probation Department, a Children's Bureau, a Bureau for the Blind, a Mothers' Aid Bureau, a Bureau of Child Guidance, and a Psychological Bureau. The position of director of State institutions was abolished by a State act of 1932, and the duties of this former chief executive officer of the commission were distributed among its members and its other executive aids. The institutions under the commission, with their populations of December 1, 1932, were: State Hospital for Mental Diseases (2164); State Prison and Jail (758); Reformatory for Women (22); State Infirmary (925); Sockanosset School for Boys (delinquents, 186); Oaklawn School for Girls (delinquents, 53); Exeter School (mental defectives, 588); State Home and School (neglected and dependent, 281); Reformatory for Men (136).

**LEGISLATION.** The General Assembly, in regular annual session, enacted a measure dividing the State into two districts, instead of three, for the election of the reduced number of Federal Representatives allowed it under the Federal reapportionment of 1930. The State's law for the enforcement of prohibition (Sherwood act of 1922) was superseded by legislation exempting from State prosecution the manufacture, transportation, and possession of beer containing not more than 3 per cent, by weight, of alcohol, and likewise of other alcoholic beverages for the possessor's own use. A budget-director was authorized for Pawtucket, and authority was granted that city to refund \$1,200,000 of its outstanding notes. Adjournment was on April 19.

**POLITICAL AND OTHER EVENTS.** A commission appointed by Governor Case to study the commerce of the State made a recommendation in November that railroads throughout New England be allowed to convert unprofitable lines into highways and either to operate these as private routes for motor traffic or to dispose of them to the States, for operation as toll highways.

**ELECTION.** The popular vote of November 8 was cast for the Democratic National ticket by about 5 to 4. For President, the officially reported totals were: Roosevelt (Dem.), 146,004; Hoover (Rep.), 115,366. Two Democrats were elected Representatives to the Seventy-third Congress. Theodore F. Green (Dem.) was elected

Governor, defeating Norman S. Case (Rep.), who ran for reelection. A slight Republican majority was reported to have been elected to the lower house of the State Legislature.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, Norman S. Case; Lieutenant-Governor, James G. Connolly; Secretary of State, Ernest L. Sprague; General Treasurer, George C. Clark; Comptroller, Albert E. Godfrey; Attorney-General, Benjamin M. Mc Lyman.

**Supreme Court:** Chief Justice, Charles F. Stearns; Associate Judges, Elmer J. Rathbun, John W. Sweeney, John S. Murdock, J. Jerome Hahn.

**RHODESIA**, rō-dē'zhī-ā or zī-ā. A British territory in south central Africa, extending northward from the Transvaal to the borders of the Belgian Congo and Tanganyika Territory. It is divided into Northern Rhodesia and Southern Rhodesia by the Zambezi River; Southern Rhodesia comprises Matabeleland and Mashonaland.

**NORTHERN RHODESIA.** This territory was taken over by the British Crown from the British South Africa Company on Feb. 20, 1924. With an area of 287,950 square miles, mostly high plateau country, it had a permanent European population (1931 census) of 13,630 and a native population estimated Jan. 1, 1931, as 1,331,229. Livingstone, the capital, had 1596 Europeans in 1931.

Mining is the primary occupation, the total value of mineral production in 1930 was £806,446. Tobacco, wheat, fruits, and maize are the chief agricultural crops. Imports in 1930, including specie, were valued at £4,953,716 and exports, including specie, at £909,541. Revenue for 1930-31 was £830,254; expenditure £704,986. The gold standard was abandoned on Oct. 12, 1931.

The territory is administered by a governor, assisted by a nominated executive council of 5 official members, and by a legislative council of 16 members with a majority of official members. Governor, Sir Ronald Storrs, appointed in 1932.

**SOUTHERN RHODESIA.** Formally annexed by the British Crown from the British South Africa Company in October, 1923, Southern Rhodesia has an area of 150,344 square miles and a population (1931 census) of 1,108,949 (preliminary), including 49,904 Europeans. Salisbury, the capital, had about 28,000 inhabitants; Bulawayo, about 31,000.

The country is well suited to agriculture and European settlement. In 1930, the acreage devoted to the chief crops was: Maize, 317,700; tobacco, 10,500; ground-nuts, 7500; legumes and fodders, 58,000. Exports of oranges and lemons increased from 53,000 boxes in 1923-24 to 165,000 boxes in 1930. Livestock (1930) included 2,468,400 cattle, 360,400 sheep, and 66,500 swine. The mineral output for 1931 was valued at £2,273,875; gold, chrome ore, asbestos, and copper are the chief minerals exploited. Imports, including bullion and coin, were valued at £7,529,439 in 1930; exports, including gold and reexports, amounted to £7,490,955. In 1930-31, revenue amounted to £2,449,300; expenditure was £2,995,000; public debt stood at £6,334,492. The gold standard was abandoned on Oct. 12, 1931.

Railways provide through communications with Beira on the east coast, Capetown on the south, and Lobito Bay on the West coast. There is a highway motor service system covering 1521 miles. Executive power is vested in a governor, aided by an executive council; legislative power

in an elected legislative assembly. Governor and Commander-in-Chief in 1932, Sir Cecil H. Rodwell, appointed 1928. Premier and Secretary for Native Affairs, H. U. Moffat.

**RHODES SCHOLARSHIPS.** See UNIVERSITIES AND COLLEGES.

**RICE.** The rice producing countries reporting to the International Institute of Agriculture not including the United States estimated their yields for the crop year 1932-1933 as follows: Japan 533,145,000 bushels, Formosa (first annual crop) 35,528,000 bushels, Italy 30,517,000 bushels and Bulgaria 675,000 bushels. In area devoted to rice India ranked first with 75,531,000 acres followed by Japan with 7,976,000 acres, and Korea with 3,824,000 acres. India in the preceding crop year produced 2,512,033,000 bushels and Korea 140,625,000 bushels. No data on the large production of China were available.

As reported by the Department of Agriculture the rice production of the United States was estimated at 39,356,000 bushels or 10,932,000 barrels which was nearly 15 per cent less than in 1931. The rice area of 869,000 acres was about 10 per cent smaller than that of either 1930 or 1931. The California crop was reported as 17 per cent below, and the crop of the three Southern States as 14 per cent below that of the preceding year. The average yield per acre for all these States was 45.3 bushels only slightly below that of the two preceding years. The production of the different States was placed as follows: Louisiana 16,536,000 bushels, Texas 8,880,000 bushels, California 7,040,000 bushels, and Arkansas 6,900,000 bushels. The acreage of these States was 424,000; 185,000; 110,000; and 150,000 acres and the average yield per acre 39; 48; 64; and 46 bushels respectively.

The exports of the United States in the fiscal year ended June 30, 1932, were recorded as 214,473,000 pounds of rice grain and 60,243,000 pounds of rice flour, meal and broken rice. The imports for the same period included 17,157,000 pounds of cleaned and 1,884,000 pounds of uncleaned rice, 1,087,000 pounds of patna rice for used in canned goods and 556,000 pounds of rice flour, rice meal, and other rice products. The United States and the insular possessions consume about 1,000,000,000 pounds of the rice crop of the country. The artificial drying of rice has been found to be a practical means of raising the grade and market value of the product.

**RICE INSTITUTE.** A coeducational institution for higher education in Houston, Texas, opened in 1912. The enrollment in the autumn of 1932 was 1386, and the faculty numbered 93. The plant equipment and productive funds of the institution were estimated at \$15,000,000, and the income from endowment for the fiscal year 1931-32 was in excess of \$600,000. The library contained approximately 93,000 volumes. President, Edgar Odell Lovett, Ph.D., Sc.D., LL.D.

**RIFLE SHOOTING.** See SHOOTING.

**RIJOUW-LINGGA.** See NETHERLAND INDIA.

**RIVERA, DIEGO.** See PAINTING.

**ROAD CONSTRUCTION.** See ROADS AND STREETS.

**ROADS AND STREETS.** United States Federal-Aid road construction in the year ending June 30, 1932, totaled 15,997 miles or nearly one-sixth of the total mileage improved since the Federal-Aid Act was passed in 1916. A similar increase occurred in the case of national-forest highways. Both increases were due mainly

to increased appropriations authorized in 1930 to stimulate new construction and decrease unemployment. A total of \$80,000,000 for Federal Aid alone was authorized late in 1930, all of which except \$8,000,000 had been spent by June 30, 1932. The money was allotted to the 48 States and Hawaii on the same basis of population and road mileage as holds for other Federal Aid, but was to be deducted from the normal total allowance of \$125,000,000 a year. To June 30, initial or final improvements with Federal Aid had been made on 103,659 miles of road but 2627 miles were undergoing "stage construction or reconstruction," leaving 101,032 miles open to traffic.

Under Virginia legislation of 1932, State administration and financing had been accepted by 96 of the 100 counties in Virginia, 85 without referendum votes and 11 by such votes cast. On August 9 the plan was voted down by 4 of the 96 counties, all but one of which were adjacent to cities of considerable population and receive a large part of the State gasoline taxes. At a special session of the Indiana Legislature an act was passed transferring all township roads to the counties.

State funds otherwise available for road construction, with or without Federal Aid, are being lessened by a diversion to other objects of gasoline taxes and motor license fees originally devoted to road work. These diversions were begun to lighten direct taxation. They have been increased by the need of money for unemployment relief. In addition, bonds originally authorized for highway building have been diverted to unemployment relief, notably \$20,000,000 in *New Jersey* by referendum vote in November. In *Massachusetts*, at the close of the year, a special committee on public expenditures advised the Legislature to stop all State highway construction in 1933 and devote the funds to relief work. Notable among recent highway improvements at State expense is the high-level viaduct from Jersey City to Newark and Elizabeth, the last link of which was opened in November. This is really a super-example of grade crossing elimination to afford high speed for vehicles. Viaduct and subway combined, New Jersey has built 13 miles of 50-foot roadway—virtually a vertical bypass of city streets, railways, and waterways, the latter including the Hackensack and Passaic rivers. The viaduct connects with the Holland Tunnel from New York on the east and further north it gives an outlet for traffic across the George Washington Bridge. See BRIDGES.

Limitations of width, height, length, axle loads, gross weight and speed of highway vehicles were adopted late in the year by the American Association of State Highway Officials (see *Engineering News-Record*, Dec. 1, 1932, p. 660). The speed restrictions include minimum as well as maximum rates, the former expressed in general terms related to traffic blocking, except that "vehicles equipped with solid-rubber or cushion tires shall be operated at a speed not in excess of 10 miles an hour." The speed of busses and trucks is limited to 45 miles an hour. The only limitation on the speed of passenger automobiles is consideration for "safety and the proper use of the roads."

*Russia* has about 1,864,000 miles of roads, says *Foreign Highway News*, U. S. Department of Commerce, June 20, 1932. Of these 621,329 miles are "under technical supervision." Only

31,000 are maintained by the Soviet. The Five-Year Plan, ending with 1932, called for the improvement of 1,031,364 miles of road, ranging from the making of dirt roads passable to gravel, macadam, and asphalt and cement-concrete roads, the last two to stop short of 2000 miles. To the end of 1931 little of this programme had been executed.

Gregory, *The Story of the Road* (London and New York) covers the period "from the beginning down to 1931."

**ROCHESTER, UNIVERSITY OF.** A nonsectarian institution of higher education for men and women in Rochester, N. Y., founded in 1850. It consists of three schools—the college of arts and sciences, composed of a college for men and a college for women; the Eastman School of Music; and the school of medicine and dentistry. A school of nursing is also maintained in conjunction with the Strong Memorial Hospital, the property of the university. The enrollment for the autumn session of 1932, exclusive of extension division and special music students, totaled 1911, distributed as follows: Arts and science, 1112, of whom 688 were men and 424 women; music, 421; medicine and dentistry, 174; graduate students, 204. For the summer session, 590 were enrolled in the arts college and 321 in the music school. There were 1016 in the extension division. The faculty had 338 full-time members. The productive funds as of June 30, 1932, amounted to \$29,082,941, and the total resources, including land, buildings, equipment, and endowment, were approximately \$50,000,000. President, Rush Rhees, D.D., LL.D.

**ROCKEFELLER, JOHN D., JR., STATEMENT ON PROHIBITION.** See PROHIBITION.

**ROCKEFELLER CITY.** See ARCHITECTURE; PAINTING.

**ROCKEFELLER FOUNDATION, THE.** An institution chartered in 1913 "to promote the well-being of mankind throughout the world." Its plan of work provides for cooperation toward the advancement of knowledge in the fields of public health, the medical sciences, the natural sciences, the social sciences, and the humanities. During the year 1932 approximately \$14,400,000 was expended by the foundation for work in the fields in which its interests lie.

In addition to the new grants made during 1932, enumerated below, the foundation continued to make payments toward many projects initiated in 1931, or earlier years, where support of assistance over a period of years was specified in the original appropriations.

**PUBLIC HEALTH.** In the field of public health, assistance was given for research on yellow fever, malaria, hookworm disease, tuberculosis, undulant fever, yaws, and anemia; for yellow fever surveys and control campaigns; for demonstrations of malaria and hookworm disease control and of local health work; for the organization or maintenance of essential services of State and national health departments; for the development of schools and institutions of hygiene and public health; and toward the advancement of the work of the Health Organization of the League of Nations. Fellowships in public health were provided, and opportunities were given for the training of health workers in connection with health demonstrations and through travel.

**THE MEDICAL SCIENCES.** Appropriations for the advancement of medical education included grants to the following institutions, for the development

of specific departments, for maintenance, for endowment, or for special research projects: to McGill University, toward the development of teaching and research in neurology, neurosurgery, and the physiology and pathology of the nervous system; to the faculty of medicine of the University of Montreal, for the development of laboratories; to Columbia University, toward research on virus diseases and studies of bacteriophage, over a four-year period; to Albany Medical College, toward the support of extension courses in medicine; to the medical school of Johns Hopkins University, toward a study of deafness, over a seven-year period; to the University of Oregon medical school, for a general research fund during a two-year period; to the University of Rochester school of medicine and dentistry for research in dental pathology and toward studies of the effect on general paresis, chronic rheumatism, gonorrheal arthritis, and other diseases, of heat produced by radiation; to Washington University school of medicine, toward research on cytological phases of poliomyelitis and other virus diseases; to Western Reserve medical school, toward studies on whooping cough; to Yale University, for research in dental pathology; to the Carlsberg Foundation, Copenhagen, toward endowment of the research institute of experimental biology; to the Kaiser Wilhelm Institute of Brain Research, for the purchase of apparatus for its chemistry section and for the maintenance of this section during the years 1932-1934; to the Radium Institute of Paris, toward salaries of full-time scientific personnel, over a ten-year period. In addition, a number of small research aid grants were made to schools and institutions in Europe to enable especially qualified workers on their staffs to pursue studies of importance to the advancement of the medical sciences.

Funds were provided for the support of fellowships in the medical sciences administered directly by the foundation and for fellowships administered by the National Research Council, the Medical Research Council (Great Britain), the Notgemeinschaft der Deutschen Wissenschaft, and the Hungarian Scholarship Council.

Two new volumes of *Methods and Problems of Medical Education* (series xx and xxi), and three volumes of reprints from previous series, appeared in 1932.

**NURSING EDUCATION.** For the development and advancement of nursing education, appropriations were made during the year to the following institutions; to the University of Lyon, toward the cost of building and equipping a school of nursing; to the University of Toronto school of nursing, for support over a five-year period; to St. Luke's International Hospital College of Nursing, Tokyo, Japan, for endowment and educational work; to the East Harlem Nursing and Health Service, for general expenses over a four-year period; and to the Committee on the Grading of Nursing Schools, for the cost of printing the final committee report and handbook on the grading of nursing schools. A number of fellowships in nursing were also maintained.

**THE NATURAL SCIENCES.** In the natural sciences, new appropriations were made toward endowments, building programmes, apparatus and equipment, maintenance, or general development, to the following universities and scientific institutions: the International Commission for the Polar Year 1932-1933; Cold Spring Harbor Bio-

logical Laboratory; Ohio Wesleyan University (Perkins Observatory); Princeton University (Palmer Physical Laboratory); University of Göttingen; the Kaiser Wilhelm Institute of Physical Chemistry and Electrical Chemistry; the Zoological Station of Naples; Fukien University, China; and Yenching University, China.

Contributions were also made toward the advancement of knowledge in the natural sciences through appropriations for research, to the following institutions: to Harvard University, for its programme of chemical research; to the California Institute of Technology, for its research programme in physics and chemistry; to the Massachusetts Institute of Technology, for a co-operative programme of aerial research for the year 1932-1933; to the University of North Carolina, for a research fund in the natural sciences over a three-year period; toward the publication, over a five-year period, of the *Annual Tables of Constants and Numerical Data, Physical, Chemical, and Technological*; to the American Institute of Physics, for underwriting a plan for financing scientific publications; to the National Research Council, toward the cost of indexing *Biological Abstracts*; to the American Mathematical Society, toward the publication of the results of scientific research, over a two-year period; toward the support of the *American Annals of Mathematics*; to the National Research Council, for its research aid programme; for continuation of human paleontological research in Asia under the auspices of the Peiping Union Medical College and the Geological Survey of China. In addition, many small grants were made to institutions toward support of important research projects of individual investigators.

Support was continued for fellowships in the natural sciences granted and administered by the foundation itself, and for the natural science fellowship programme of the National Research Council.

**THE SOCIAL SCIENCES.** For the advancement of the social sciences, contributions were made toward the maintenance of the following institutions and departments of universities: the New York School of Social Work; the Behavior Research Fund, Chicago; the Community Council of Philadelphia; the University of North Carolina (Institute of Research in the Social Sciences); the University of Pennsylvania (industrial research department of the Wharton School of Finance and Commerce); Syracuse University (school of citizenship and public affairs); Tulane University of Louisiana (school of social work); Western Reserve University (school of applied social sciences); the German Institute of Politics; and the Jean Jacques Rousseau Institute.

Funds in aid of research were furnished the following organizations: the Council on Foreign Relations, in support of its research programme for three years; the Industrial Relations Counselors, Inc., for a study of the administrative procedures of employment exchanges; Brown University, for a study of the international gold standard; the University of Cincinnati, toward its programme of training for government service; Columbia University, for research and field training in anthropology; Harvard University, Stanford University, and the University of Texas, for research in the social sciences over a five-year period; the University of Minnesota, for studies of unemployment; the Bernice P. Bishop

Museum, toward its programme of research in Polynesian anthropology; the Institute for International Economics and Maritime Trade, Kiel, for its general research programme; the Institute of Industrial Psychology, London, toward its research programme for the years 1933-1936; and the Royal Institute of International Affairs, London, toward its research programme, for five years. Small grants were made to numerous European institutions toward the support of the studies of investigators especially equipped for work in certain social science fields.

Contributions were also made to the Social Science Research Council, for its fellowship and research programmes and for conferences and planning; and additional funds were provided for the support of fellowships in the social sciences administered directly by the foundation.

**THE HUMANITIES.** In the field of the humanities, the foundation made appropriations during the year to the following organizations: to the University of Chicago, toward support of the foreign work of its Oriental Institute; to the University of Michigan, toward the completion of the excavation of the ancient Hellenistic city of Karanis in Fayum Province, Egypt; to Yale University, as a fund for research in the humanities during a five-year period; to the school of oriental studies, London Institution, University of London, toward a programme of research in African linguistics during a three-year period; toward the support of work on the *Thesaurus Linguae Latinae*, which is being compiled under the auspices of four German Academies and one Austrian Academy; to the Prussian State Library, Berlin, toward the preparation of a union catalogue of the 7,000,000 titles in its own library and in the 10 Prussian universities, the State Library of Bavaria, and the National Library of Vienna; and to the American School of Classical Studies at Athens, for fellowships in archaeology in connection with the excavation of the Athenian Agora. Many small grants were made to forward the work of mature scholars in Europe engaged in definite projects in the field of the humanities.

Aid was continued in support of fellowships and research aid in the social sciences, administered by the American Council of Learned Societies.

The executive officers of the foundation in 1932 were: John D. Rockefeller, Jr., chairman of the board of trustees; Max Mason, president; Thomas B. Appleget and Foster M. Dunn, vice-presidents; Alan Gregg, director for the medical sciences; Warren Weaver, director for the natural sciences; Edmund E. Day, director for the social sciences; David H. Stevens, director for the humanities; Frederick F. Russell, director for the international health division; Norma S. Thompson, secretary; L. M. Dashiell, treasurer; and George J. Beal, comptroller. Offices are maintained at 61 Broadway, New York City.

**ROCKS.** See GEOLOGY.

**ROLLINS COLLEGE.** A nonsectarian, co-educational institution of higher learning in Winter Park, Fla., founded in 1885. The enrollment for the fall term of 1932-33 was 450. The full-time faculty members numbered 45 and part-time members 20. The productive endowment in 1931-32 amounted to \$1,287,000, yielding an annual income of about \$56,000. The income from other sources was approximately \$198,000. The

library contained 41,600 volumes. President, Hamilton Holt, Litt.D., LL.D., LL.D.

**ROMAN CATHOLIC CHURCH.** The Pope concluded the official year on Christmas eve by the proclamation of a Holy Year. The announcement was made in an address in reply to Christmas and New Year's greetings delivered by Cardinal Granito Pignatelli di Belmonte, Dean of the Sacred College, in the name of all the cardinals: all Catholics are invited to journey to Rome to benefit by the special indulgences provided for pilgrims who pay the specified number of visits to Rome's four major basilicas. The holy year was to be opened by the Pope on Apr. 2, 1933, and solemnly closed by him on the same date in 1934. Twenty-two cardinals of the Curia and Cardinal Binet, Archbishop of Besançon, France, were present. A small golden microphone at the Pope's side conveyed his voice to the Vatican wireless station, from which it was broadcast to the whole world. Later the papal address was broadcast in all principal languages. The Pope referred to the year's happenings which caused him pain or joy. Among the former he listed the "iniquitous situation" of the Church in Mexico, Spain, and Russia; the differences among nations that often lead to wars, civil strife and aggravation of the worldwide financial and economic depression which causes so much suffering among poor workers. Among the happenings that brought joy were the Eucharistic Congress in Dublin, the "magnificent development" of missionary work, and the heroic faithfulness, often unflinching even in the face of martyrdom, shown by the Episcopacy and clergy, especially in countries where the Church was persecuted. He expressed joy to be able to use the radio to address his good wishes directly to the whole world and sent his good wishes to all peoples of the world. The year was marked by a number of his encyclicals and decrees. On January 24, in public audience, he paid tribute to the Spanish Jesuits, calling them "martyrs of the Vicar of Christ"; February 12 he celebrated the tenth anniversary of his election to the Pontificate and by radio asked the prayers of the world for peace. On the third anniversary of the signing of the Lateran treaty, February 11, Premier Mussolini made his long-expected visit to the Holy See, a call that was regarded as a public gesture denoting the reestablishment of friendly relations between the Vatican and the Italian Government after the recent conflict over Catholic Action. On April 4 he told 200 students of the American College in an audience that the United States offered "great hope for the future in the development of spiritual life." "America is so dear to us," he said, "and has offered us so many consolations, we have great confidence in the future." On May 3, the Encyclical "Caritate Christi Compulsi" called on all peoples to offer prayer and expiation to the Sacred Heart in the present distress. The document enumerated the causes of the present evils crushing humanity. They were, said the Pope, greed, the accumulation of the wealth of nations in the hands of a small group of individuals, exaggerated nationalism, Communism, and the revolt of man against God. An Encyclical titled "Acerba Animi" dealing with the Mexican-Catholic conflict, dated September 29, denounced the persecution of Catholics in Mexico, which it charged was carried on by the Mexican government after an agreement had been reached in 1929 permit-

ting resumption in Mexico of free Catholic worship. He particularly affirmed the point that "forced acceptance of vexations does not mean approval of these laws." Non-coöperation with the persecuting government, the Pope declared, cannot be condemned. The document concluded with an exhortation to the persecuted Catholics to obey their religious leaders and to remain united with them. In this way, the Pope said, they would confound their enemies.

The Congregation of the Holy Office issued on February 5 a decree which ordered that stricter guarantees must be given by persons applying for dispensations for marriages between Catholics and non-Christians, or between Catholics and Christians who do not belong to the Catholic Church. Other decrees relate to the age at which the Sacrament of Confirmation may be received, and procedure in the matrimonial courts. The Pope, in inaugurating the new entrance to the Vatican Museum on December 7, stepped outside Vatican territory, remaining a few moments in the busy streets beyond the walls. This was the fourth time the Pope has left Vatican City since the accord was signed with the Italian government ending the "voluntary imprisonment" of Popes, which began in 1870. Concordats were signed between the Holy See and Baden and Rumania during the year. On August 11 the Pope expressed interest in the American Indian and American Negro by letter to the American bishops recommending the Sisters of the Blessed Sacrament, founded by Mother M. Katharine Drexel.

**STATISTICS.** Statistics relating to the numerical strength of the Church throughout the world show that Catholics number 341,430,900. In Europe there are 208,882,000, in America 109,097,000, in Asia, 16,356,000, in Africa, 5,330,000, and in Oceania 1,585,000. The Catholic population of the United States proper for 1932 is put at 20,236,391, according to the Official Catholic Directory, an increase of 21,293 over 1931. In 1922, the summary shows, the Catholic population was 18,104,804, and in 1912 it was 15,015,569. The increase over ten years is put at 2,131,587 and over twenty years ago at 5,220,822. The Hierarchy number 122 prelates: 17 Archbishops, of whom four are Cardinals, and 105 Bishops. The priests total 28,297, an increase of 433. The number of churches with priests resident increased from 12,475 to 12,484. The total number of churches and missions is 18,152. There are 172 seminaries, an increase of 27. The number of parish schools increased by 127, the present number being 7514. There are three more Catholic hospitals, the total number being 645.

The Catholic population of England and Wales is given in the Catholic Directory for 1932 as 2,253,420, as compared with 2,235,237 in 1931. The number of secular priests increased by 82 to 3057 and the regular clergy by 45 to 1651, making a total of 4708 priests in England and Wales. Fourteen new churches and chapels were opened, the total number now being 2288. Secondary schools show a decrease of three from 519 to 516, but the number of their pupils has risen from 58,278 to 59,859. The elementary schools increased from 1331 to 1376, and attendance in these schools grew from 384,129 to 386,631. There are sixteen dioceses in England with twenty-four Archbishops and Bishops. Six Catholics were elected mayor of their towns in England and Wales for the first time since the

Reformation. Five of them inaugurated their year of office by attending Mass in state, accompanied by the aldermen and councilors, on what is known as "Mayor's Sunday."

According to the Dominion Bureau of Statistics the last census showed there were 4,098,548 Catholics in Canada. There are 186,587 Greek Catholics mainly in the prairie provinces, 66,671 in Manitoba, 44,265 in Saskatchewan, and 37,500 in Alberta. Greek Catholics are in communion with the See of Rome. Catholics in India, Burma, Ceylon, and the Malay States number 3,630,945. The number of converts for the year for only 29 out of the 56 dioceses or missions was 28,544. In the Belgian Congo Catholic missionaries number 891 priests and Brothers and 687 Sisters. The number of Catholics is placed at 662,278 with 417,241 under instruction. Statistics compiled during 1931 show that the Catholics in Japan number 96,323, an increase of about 3000 during the year. Besides the foreign missionaries in Japan there are 63 Native Japanese priests, 224 seminarians, and 230 Japanese Sisters. The labors of Catholic missionaries in China in 1930-31 netted the conversion of 48,974 adults according to statistics prepared by the Apostolic Delegation in Peiping. In the period covered the ecclesiastical divisions in China rose from 97 to 107, an increase of 14 new territories erected under the jurisdiction of Chinese Bishops. Foreign missionaries are now 2176. The number of Chinese priests has risen from 1446 to 1504. In the preparatory seminaries the students have risen from 1463 to 1547; in the minor seminaries from 2745 to 3148, and in the major seminaries from 291 to 1024, of whom 26 are studying at the Urban College of Propaganda in Rome. Catholics in China now number 2,530,843.

Statistics show that there are 8,177,522 communicants in the Eastern Rite of the Church. Of this number 5,162,385 are Ruthenians. There are 28 Congregations of men and 41 of women. These figures do not include the Jesuits, Franciscans, Assumptionists, and Redemptorists.

The Catholic Press Directory for 1932 lists 310 Catholic publications in the United States of which 267 report a circulation of 7,108,456. Twenty-five years ago there were 66 Catholic weekly newspapers published in English. Today there are 62.

The number of Jesuits in the whole world is now 22,936, an increase of 599 during the year. Of these 10,166 are priests, 7889 scholastics, and 4888 Brothers. In the United States there are 4503: 1931 priests, 2067 scholastics, and 505 Brothers.

The bi-centenary of the founding of the Redemptorist Congregation, Nov. 9, 1732, was celebrated. It now numbers 348 houses with 5735 members all over the world.

THE CARDINALS. No new Cardinals were created during the year. Two died: Willem Van Rossum of Holland, Prefect of the Congregation for the Propagation of the Faith, August 30, and Frederick Gustavus Piffi, Archbishop of Vienna, April 20, which reduced the number of Cardinals to 54, and leaving 16 vacancies. There are 26 Italians and 28 of other nationalities—six Frenchmen, four Germans, four Americans, three Spaniards, two Poles, and an Englishman, Belgian, Brazilian, Dutchman, Hungarian, Irishman, Portuguese, and Czech. Ten Cardinals belong to the regular clergy: two Benedictines, the Archbishop of Milan and the Primate of

Hungary; two Dominicans, Cardinals Bogiani and Fruehwirth; a barefoot Carmelite, Cardinal Rossi; a Jesuit, Cardinal Ehrle; a Missionary of the Precious Blood, Archbishop of Naples; a Salesian, the primate of Poland; a Servite, Cardinal Lepicier and a Sulpician, the Archbishop of Paris. Of the Cardinals, one was created by Pope Leo XIII, nine by Pope Pius X, 13 by Pope Benedict XV, and 31 by Pope Pius XI. Cardinal Cerretti was made Cardinal Ponens in the Process of the Cause for the Beatification and Canonization of Catherine Tekakwitha, the Indian maiden who is expected to be the first native of the United States to be canonized.

THE HIERARCHY. The annual meeting of the hierarchy of the United States attended by two Cardinals, seven Archbishops and fifty-eight bishops was held in Washington, November 16-17, at which the reports of the chairmen of the various departments of the National Catholic Welfare Conference were submitted, all of which showed satisfactory progress. Resolutions were passed, pledging support and coöperation to the National Citizens Committee of the Welfare and Relief Mobilization 1932 and condemning "the increasing flood of immoral and unmoral books, periodicals, pamphlets" as "one of the most potent factors in the debasing of the individual and the public conscience." They called on Catholics to maintain standards of clean literature as "part of that crusade of Catholic Action" for which the Pope has pleaded. Archbishop Albert T. Daeger of Santa Fe, died December 2, the result of an accident, and these Bishops: George J. Finnigan, of Helena, Montana, August 14; Daniel J. Curley, Syracuse, N. Y., August 3; Edward J. O'Dea, Seattle, Washington, December 25; Cornelius Van de Ven, Alexandria, La., May 8; John J. McMahon, Trenton, N. J., December 31; and Thomas J. Shahan, former rector of the Catholic University, March 9. Bishop John B. McGinley of Monterey resigned September 30; and the following new Bishops were appointed: Stanislaus V. Bona to Grand Island December 19; James E. Kearney to Salt Lake October 28; Joseph E. McCarthy to Portland, Me., August 24; John B. Peterson to Manchester, N. H., July 14; Daniel F. Desmond to Alexandria, La., December, and as auxiliaries James A. McFadden to Cleveland September 8; and Francis J. Spellman to Boston September 8. Archbishop John G. Murray was installed at St. Paul, Minn., January 27, and Bishop John J. Mitty of Salt Lake was appointed Coadjutor Archbishop of San Francisco, February 3.

There are 1609 resident ecclesiastical jurisdictions divided as follows: Europe, 673; America, 445; Asia, 277; Africa, 140; and Australia, 74. The ecclesiastical jurisdictions in North America are United States, 114; Canada and Newfoundland, 74; and Mexico, 34.

The Holy See has diplomatic representatives in 36 States, and Apostolic Delegations without diplomatic character in 22 States. Thirty-five nations and the Order of Malta have diplomatic representation at the Holy See.

There are 321,000 Catholic priests in the world, of whom 257,000 are secular priests and 64,000 regulars. The distribution follows: Europe, 252,000; the Americas, 51,500; Africa, 4800; Asia, 10,500; Australia, 2200. There are 28,297 priests in the United States and approximately 800 Catholics to each priest. The Religious Congregations of the Church in the

United States are 63 of priests, 15 of Brothers, and nearly 200 of women. The total number of individuals in all of these Congregations was approximately 100,000, of whom 8648 were priests. Four European countries, Norway, Sweden, Denmark, and Finland, have only 24 native priests. Norway has four. There are three in Sweden and about 4000 Catholics. There are 15 in Denmark for 25,000 Catholics, and Finland has two for 1500 Catholics.

EDUCATION. The biennial survey made by the N. C. W. C. Department of Education shows a total of 2,598,669 students enrolled in 10,439 Catholic schools of all classifications, a gain of 203, or approximately 2 per cent, in the total number of Catholic schools; of 476, or 6 per cent, in the total number of instructors; and of 60,097, or 2.4 per cent, in the total number of students in attendance. The report reveals 187 seminaries divided into 99 major seminaries, staffed with 886 instructors for 7632 students and 88 minor seminaries with 1021 instructors and 10,863 students. The enrollment for both classes of seminaries was 18,495 in 1930, or, compared with 1928, a gain of 1158, or 6.7 per cent. The 162 colleges and universities had 7768 instructors, and 105,926 students, an increase of 18,895 students, or 21.7 per cent, between 1928 and 1930. These institutions were attended by 53,929 male and 50,898 female students; 1099 students were not classified. The colleges were divided into 73 men's colleges and 89 women's colleges.

The normal schools totaled 44, staffed with 1075 instructors. The enrollment was 9781 students, 707 male and 9074 female, a loss of 3009 students, or 23.5 per cent compared with 1928. This loss is explained by the attendance of students at universities and colleges. Of the normal schools, 6 were for Religious men, 33 were for Religious women, and 5 offered courses for men and women.

Catholic high schools and academies numbered 2123, staffed with 14,307 instructors, and attended by 241,869 students, of whom 102,094 were boys, 135,120 were girls, and 4655 were not classified, compared with 1928, an increase of 16,024, or 7.1 per cent, in the two-year period. Catholic elementary schools were 7923, staffed by 58,245 instructors, and attended by 2,222,598 pupils, or 884,235 boys, 911,267 girls, and 427,096 unclassified. The enrollment in 1930, compared with 1928, represents an increase of 27,029 pupils, or 1.2 per cent, in the two-year period.

For the ten-year period from 1920 to 1930 schools of all classifications increased 1733 in number, or 19.9 per cent; teachers increased 29,037 in number, or 53.5 per cent; and students 617,618, a gain of 31.2 per cent.

The Xavier University, the first Catholic university for Negroes in the United States, was dedicated on October 12 at New Orleans with leading members of the Catholic hierarchy in the South and Cardinal Dougherty, of Philadelphia, in attendance. It cost \$600,000 and is managed by the Sisters of the Blessed Sacrament of whom Mother M. Katharine Drexel, Philadelphia, is Superior-General and founder.

CONGRESSES AND CONVENTIONS. The Thirty-first International Eucharistic Congress was held in Dublin June 22-26 and was one of the most successful of the series, a million persons crowding into the city for the services. All the

churches put forth their richest adornments and, in the Fifteen Acre tract of Phoenix Park, the high altar turned the huge space into an open-air church. The Papal Legate, Lorenzo Cardinal Lauri, who had been accorded the highest diplomatic honors by the Italian government on his departure from Rome and had been given ovations in London and Chester on his way, was received at Dun Laoghaire, on June 20, by President De Valera and Lord Mayor Byrne. Ten Cardinals, over 200 Archbishops, Bishops, and Lord Abbots, a very large number of Monsignori, about 4000 priests attended the Solemn Pontifical High Mass in the Phoenix Park, on June 26. His Eminence Cardinal Lauri presided. The celebrant was Archbishop Curley of Baltimore. The Pope gave his blessing to the Eucharistic Congress over his own radio station, after a brief address congratulating the Congress for its display of religious faith. Bishop Schrembs of Cleveland had charge of the American section of the Congress. In the preparations for its details it was developed that more than 1000 churches, including 68 non-Catholic, have been dedicated to St. Patrick; and that since 1780, about 250, or more than half of the Bishops of the United States have been of Irish birth or descent.

The Eucharistic Congress in Copenhagen from August 19-21 was the greatest Catholic demonstration in Scandinavia since the Reformation. The programme included Pontifical Mass in the open air, addresses by various Danish Catholics—including Johannes Jørgensen, the author—and foreign visitors, and a procession through the streets of Copenhagen for the first time since the Reformation. Nearly 200,000 Catholics attended the seventy-first session of the German Catholic Congress held at Essen, the great industrial centre of Germany, on August 31. Herr Wilhelm Marx, a former Chancellor, presided. "Christ in the Big Cities" was the general theme of discussion for the Congress. The twelfth annual convention of the National Council of Catholic Women was held at Charleston, S. C., October 8 to 12, inclusive, the first ever held in the South. The Catholic Rural Life Conference had its tenth annual convention of the Conference, at Dubuque, Iowa, October 19 to 21. Four main topics were selected for discussion, "Rural Education," "Economic Welfare of Catholic Farm People," "The Rural Family and the Woman on the Farm" and "Religious Enlightenment in Rural Parishes." There were five Archbishops and Bishops at the seventy-seventh annual convention of the Catholic Central Verein in America and the sixteenth meeting of the National Catholic Women's Union, held at St. Louis, Mo., August 20 to 24. The National Conference of Catholic Charities held their national convention at Omaha, September 25-28. Meeting at the same time was the national conference of the St. Vincent de Paul Society. In Rome, on April 9, a check for \$1,100,000, representing contributions of American Catholics, was presented to Pope Pius XI by Mgr. William Quinn of New York, Director of the Society for the Propagation of the Faith. The money, which will be used in the development of missions, is 20 per cent less than last year's contribution, but the Pontiff said he was grateful for the sum and congratulated Mgr. Quinn on the spiritual progress of the organization. The general council of the society reported total world contributions of \$2,600,000, including the American check, which



represented 42 per cent of the world's donations to Catholic missions. The total was about 15 per cent lower than last year, the Pontiff was informed. "Considering the conditions," the Pontiff replied, "what you have done is marvelous. Wherever we turn we see a vast horizon filled with difficulties which you are obliged to confront at every step of your work. Your accomplishment deserves the admiration of the angels." The total membership of the Knights of Columbus on June 30, 1932, was 547,288 according to the annual report of the Supreme Secretary to the National Convention. There were 61 State and 2 territorial jurisdictions, and 2544 subordinate councils, showing a net membership decrease of 44,136. The total assets of the Order amounted to \$37,447,099.

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**ROMANCE LANGUAGES AND LITERATURE.** See PHILOLOGY, MODERN; FRENCH LITERATURE; ITALIAN LITERATURE; SPANISH-AMERICAN LITERATURES; SPANISH LITERATURE.

**ROME, ANCIENT.** See ARCHAEOLOGY.

**ROME, ANNIVERSARY OF FOUNDING.** See CELEBRATIONS.

**ROOSEVELT, FRANKLIN D.** See UNITED STATES under *Presidential Campaign*; NEW YORK.

**ROSCOE, JOHN.** A British clergyman and anthropologist, died in Ovington, Norfolk, England, Dec. 4, 1932. Born in 1861, he was educated as a civil engineer, but instead of practicing this profession he joined the Church Missionary Society and in 1884 was sent to the Uganda mission where, following his ordination as a minister in the Church of England, he labored for 25 years. While in Africa he distinguished himself also as an investigator of the manners and customs of the Baganda and kindred tribes. On his return to England in 1910 the honorary M.A. degree was conferred on him by the University of Cambridge in recognition of the services which he had rendered to the science of ethnology and anthropology, and for several years he was a lecturer at that institution on the anthropology of Africa for the board of anthropological studies. In 1919-

20 he led the Mackie ethnological expedition to Central Africa. He was made rector of Ovington and honorary canon of Norwich in 1923. His publications include: *The Baganda, an Account of Their Native Customs and Beliefs* (1911); *Twenty-five Years in Central Africa* (1921); *The Soul of Central Africa* (1922); and *Report of the Mackie Expedition* (vol. i, *The Bakitara*; vol. ii, *The Banyankole*; and vol. iii, *The Bagesu*, 1923). He contributed extensively to the *Journal of the Royal Anthropological Institute*.

**ROSENWALD, JULIUS.** An American merchant and philanthropist, died in Chicago, Jan. 6, 1932. He was born in Springfield, Ill., Aug. 12, 1862. After being engaged in the wholesale clothing business with two of his uncles in New York from 1879 to 1885, he went to Chicago where he entered into partnership with Julius E. Weil in a clothing manufacturing venture. The success of this enterprise led to the firm's acquiring a large share of stock in the mail order house of Sears, Roebuck & Co. In 1895 Mr. Rosenwald became vice-president and treasurer of the latter, in 1910 president, and in 1925 chairman of the board. A special innovation which he established in 1916 was the employees' savings and profit-sharing fund, whereby employees might subscribe 5 per cent of their earnings and receive 5 per cent of the company's net earnings. During the World War he was a member of the advisory commission of the Council of National Defense and was chairman of the committee on supplies. He also was a member of the second National Industrial Conference held in Washington in 1919.

In 1917 Mr. Rosenwald established the Julius Rosenwald Fund, whose chartered purpose was "the well-being of mankind" and whose capital at the time of his death amounted to \$35,000,000. Through this fund he contributed \$5,000,000 to the University of Chicago and pledged \$5,000,000 for a Museum of Science and Industry to be housed in the remodeled fine arts building of the Columbian Exposition in Jackson Park, Chicago. Also, he contributed to the uplift of the Negro race through donating \$2,700,000 toward a model housing project for Negroes in Chicago, \$3,660,000 toward the erection at a total cost of \$23,200,000 of 4500 Negro schools in the rural sections of the South, \$250,000 to Tuskegee Normal and Industrial Institute, and \$625,000 for the construction of Y.M.C.A. and Y.W.C.A. buildings in the Negro quarters of 25 cities. For these benefactions he received in 1927 the William E. Harmon award for distinguished achievement in race relations. His contributions to Jewish education and charity included \$6,000,000 for Jewish colonization work in Russia, \$6,000,000 to the American-Jewish Joint Agricultural Corp., \$500,000 each to the Jewish Theological Seminary and the Hebrew Union College, and \$250,000 for the construction of a building to house Jewish philanthropic agencies in Chicago. Following the World War he contributed \$500,000 to aid German war widows, orphans, and prisoners.

**ROSICKYTE.** See MINERALOGY.

**ROSICRUCIAN ORDER.** An international fraternity, known as the Ancient, Mystic Order Rosæ Crucis, whose name is derived from the emblem, a cross with a single rose in its centre, adopted by Johann Valentin Andreae, erroneously regarded as the restorer of the order in Germany in the seventeenth century. It had its traditional

origin as the Great White Brotherhood in Egypt about 1500 B. C., and was introduced into Palestine by Solomon, into Greece by Solon, and into Italy by Pythagoras. During the Christian era the order found its greatest welcome in France under Charlemagne; from there it spread to Germany, the Netherlands, and England. It was first established in the United States in 1693, its supreme temple being located in Philadelphia. From 1801 to 1909, in accordance with the order's principle that 108 years of public activity should be followed by a corresponding period of retirement and secret activity, the members carried on their work in silence. On the reestablishment of the American order in 1909 its jurisdiction was extended to include not only the United States and its dependencies but the Dominion of Canada, the West Indies, and the Central American states.

In 1932 the Rosicrucian Order had throughout North America 9 grand lodges, 136 local lodges, and 3 colleges. The national congress was held in San Jose, Calif., July 9 to 16, and the secret international congress in Geneva, Switzerland, August 4 to 9. The organization conducts much public welfare work and contributes to the advancement of all the fine arts and sciences, including excavations in Egypt to bring to various national museums some of the art of that land. During 1932 it was especially interested in the development of the "Luxatone" master color organ, which was devised and constructed by the order's emperor, H. Spencer Lewis, to demonstrate the relationship between color harmony and sound harmony as taught by the Rosicrucians in the middle ages. The instrument demonstrates also, in connection with the Rosicrucian doctrine of transmutation, that the rates of vibration of all atomically constructed matter are related by harmonic cycles and periods and that by changing the rates of vibrations of one element or one manifestation the element or manifestation may be changed in nature. National headquarters are in San Jose, Calif., where there are also located the grand college of rites, the Rosicrucian research department and laboratories, and the Rosicrucian museum. H. Spencer Lewis has been emperor or chief executive of the order since its reestablishment.

**ROSS, SIR RONALD.** A British physician and bacteriologist, died in Putney, Sept. 16, 1932. Born May 13, 1857, he studied medicine at St. Bartholomew's Hospital, London, and in 1881 entered the Indian medical service. In 1895, after having spent three years in a special study of malaria, he undertook at Burma the experimental verification of the malaria-bearing mosquito theory, and two years later discovered the ætvo-autumnal parasite, the various stages of whose life history he observed within the body of the mosquito. He received in recognition the Nobel Prize for medicine in 1902. In 1899 he led an expedition to west Africa which found there the malaria-bearing mosquito and laid down methods for large-scale reduction of the disease. On retiring from the Indian service with the rank of major the same year he was appointed professor at the Liverpool School of Tropical Medicine. In 1913 he was made physician for tropical diseases at King's College Hospital, London. During the World War he was consultant in malaria for the War Office and after the war for the Ministry of Pensions, holding the rank of colonel in the Royal Army Medical Corps. At the time of his death he was director-in-chief of the Ross

Institute and Hospital for Tropical Diseases at Putney Heath. He was a past president of the Society of Tropical Medicine, a past vice-president and medallist of the Royal Society (of which he had been elected fellow in 1901), and editor of *Science Progress* and the *Annals of Tropical Medicine*. Among his publications are: *Mosquito Brigades and How to Organize Them* (1901); *The Prevention of Malaria* (1910); *The Revels of Orsera* (novel, 1920); *Memoirs* (1923); *Studies on Malaria* (1928); and *Fables and Satires* (1930). He was created Knight Commander of the Bath in 1911 and Knight Commander of St. Michael and St. George in 1918.

**BOTA.** See **LAW** in 1932.

**ROTARY CLUBS.** Organizations established for the purpose of developing the highest ideal of unselfish service; of making practical application of that ideal to the business and professional life of the individual members, to organizations of which they may be members, and to the communities and countries in which they live; and of advancing international peace and goodwill through a fellowship of business and professional men of all nations united in the ideal of service. Membership in the clubs is limited to one representative of each business, profession, or institution in a community.

The twenty-third annual convention of Rotary International was held June 20-24, 1932, in Seattle, Wash. There were 5159 Rotarians and members of their families present, representing Rotary clubs in 55 countries. The 1933 convention is to be held in Boston, Mass., June 26-30. On Nov. 1, 1932, Rotary International consisted of 3537 clubs, with an approximate membership of 149,000. There were 2,443 clubs in the United States, 111 in Canada, 368 in Great Britain and Ireland, and 615 in other parts of the world.

Officers for 1932-33 were: president, Clinton P. Anderson, Albuquerque, N. M.; first vice-president, Biagio Borriello, Naples, Italy; second vice-president, G. Fred Birks, Sydney, Australia; third vice-president, Allen H. Bagg, Pittsfield, Mass.; secretary, Chesley R. Perry, Chicago, Ill.; treasurer, Rufus F. Chapin, Chicago, Ill. Headquarters of Rotary International are at 211 West Wacker Drive, Chicago, Ill., with a branch office at 74 Bahnhofstrasse, Zurich, Switzerland.

**ROUMANIA.** See **RUMANIA**.

**ROUND-TABLE CONFERENCE.** See **INDIA** under *History*.

**ROWING.** The trail of eight-oared rowing in 1932 led from early April through the Olympic games. It was the saga of a great University of California boatload that started its campaign in April, on the Oakland Estuary, by leading the University of Washington crew to the finish line, three miles away, by three hundred yards. The next step was training for the four-mile grind at Poughkeepsie, the intercollegiate championship regatta, and, with the slogan "A California Crew for the California Olympics" always before their eyes, the oarsmen kept in trim and in June, with that stroke that baffled the experts, swept under the bridge a good length ahead of Cornell with Washington in third place. The next step was the Olympic trials on placid Lake Quinsigamond at Worcester, Mass., where the Californians had to battle the Columbia alumni crew, and then the grand Penn A.C. eight, to the last inches to win the right to follow the ripples of that other California crew that had gone on to Olympic victory in the 1928 games at Am-

sterdam. The feat of the Golden Bears on the 2000 meters course at Long Beach for a thrilling Olympic triumph is well known and is described under OLYMPIC GAMES.

California dominated the rowing scene so thoroughly that the activities of other crews were almost forgotten. At New London, in the famous annual four-mile race on the Thames, a Harvard crew that had been only moderately successful in early season regattas, scored a decisive victory over Yale for the second season in succession. In the other early spring races Cornell, Syracuse, Pennsylvania had been powerful, the Quakers leading Wisconsin and Marietta over the new Marietta College course on the Ohio River, the scene of the first mid-America regatta. Yale, a good sprint crew, won the Blackwell and Carnegie Cups, and the Childs Cup fell to the Pennsylvania eight. Syracuse won both the junior varsity and the freshman races at Poughkeepsie; the Harvard junior varsity beat Yale, but the Yale freshman gave signs of embryo greatness in leading Harvard.

Cambridge maintained its long-lived superiority over Oxford in the annual race from Putney to Mortlake on the Thames. The Leander Club took the Grand Challenge Cup, the eight-oared prize at the Henley regatta. The world's professional singles sculls championship was won by Ted Phelps of Great Britain and the Diamond Sculls fell to Herbert Buhtz of Germany, a country progressing with amazing rapidity in rowing, as is Italy, second in the Olympics to California. The national eight-oared championship went to the veteran Penn A.C. crew which was trimmed by an inch by California in the Worcester trials. William Miller of the Penn A.C. won the national singles sculls and Kenneth Myers and W. E. Garrett Gilmore of the Bachelors Barge Club, Philadelphia teamed to win the double sculls title.

**RUANDA-URUNDI.** See CONGO, BELGIAN.

**RUBBER.** World rubber shipments for 1932 amounted to 704,127 long tons, as against 792,222 long tons in 1931; absorption amounted to 661,913 long tons as against 675,326 in the previous year. Foreign absorption showed a considerable increase, rising from 323,279 long tons in 1931 to 347,658 in 1932; while in the same period consumption in the United States declined from 352,047 long tons to 314,255. These figures are shown in the accompanying table furnished by the Rubber Division of the U. S. Department of Commerce.

	(Long tons)		
	1930	1931	1932
World shipments .....	816,133	792,222	704,127
World absorption .....	707,270	675,326	661,913
Foreign absorption .....	331,163	323,279	347,658
U. S. consumption .....	376,107	352,047	314,255
World stocks, December 31	486,928	619,906	698,595
U. S. stocks, December 31	201,000	322,000	399,303
U. K. stocks, December 31	118,562	127,149	92,674

The decline in the consumption of rubber in the United States and the increased absorption in foreign countries were traceable in part to lower prices, to an almost complete loss of footwear export trade to Japanese and Czechoslovak producers, and to the shift of tire export business from American to British and other foreign branch factories, which combined with foreign quota systems, exchange restrictions, and depreciated currencies to make exportation from

the United States more difficult. Although employment, numerically, was comparatively well maintained in American tire and footwear manufactures, imports of finished rubber goods were increased during 1932.

The world production based on the net exports from the leading rubber producing countries of the world in 1932 is indicated below.

WORLD PRODUCTION, 1931 AND 1932  
(Long tons)

	1931	1932
British Malaya .....	394,234	385,713
Ceylon .....	61,769	48,973
India and Burma .....	8,470	3,721
Sarawak .....	10,451	6,960
British North Borneo .....	6,247	4,664
Siam .....	4,218	3,451
Java and Madura .....	75,952	61,312
Sumatra, East Coast .....	87,747	79,837
Other Dutch East Indies .....	116,009	85,871
Indo-China .....	11,696	13,883
Amazon Valley .....	12,121	6,126
All other .....	3,292	1,816
Total .....	792,203	702,327

Rubber absorption in the United Kingdom in 1932 registered an increase of 10.5 per cent over that for 1931 and reached the highest point in the history of the British rubber industry, and quadrupling in nine years from 21,914 long tons in 1924 to 84,639 tons in 1932. Each year in the period showed an increase over the previous year, the largest jump occurring in 1929 with a total absorption of 72,023 tons as compared with 48,509 in 1928. To a large extent the increase resulted from the activities of branch manufactures of American rubber companies which brought the United Kingdom into the position of the second largest consumer of rubber, the United States still holding the lead.

The absorption of rubber for the years 1930, 1931, and 1932 by the leading import countries is indicated in the table below, and shows the trend of increase or decrease, although the amount in 1932 for Australia is not available.

CRUDE RUBBER ABSORPTION OF PRINCIPAL  
MANUFACTURING COUNTRIES  
(Long tons)

	1930	1931	1932
United States .....	376,107	352,047	314,255
United Kingdom .....	74,760	76,583	84,639
Canada .....	28,793	25,261	19,000
France .....	68,503	46,466	60,000
Germany .....	45,488	39,688	41,000
Russia .....	16,229	30,671	25,000
Japan .....	32,731	43,483	53,000
Australia .....	5,354	7,649	...
Czechoslovakia .....	4,582	7,717	9,463

The rubber requirements of individual foreign countries were influenced in various directions by the events of the year. American exports of every class of finished rubber products declined more than average for countries engaged in international trade in similar lines, as a result of the protectionist policy increasingly in vogue among the nations of the world. Foreign factories made up the deficiency. French absorption declined, while that of Germany increased—Germany reduced imports of rubber goods and maintained exports fairly well, while France was affected more by loss of exports in competition with countries having depreciated currencies. The sharp drop in Russian takings toward the end of the year made it unlikely that they will equal the 1931 total in 1932. Rubber requirements of Japan

increased as a result of the predominant position gained by that country in international trade in rubber footwear, and the Czechoslovak rubber industry was increasing its requirements steadily. The transfer of export business from Canadian to British factories by some American companies, and the further decline in Canadian domestic business, account for the decline in Canadian rubber imports.

The consumption of rubber in the manufacture of tires and tire sundries in the United States in 1932, compiled by the statistical department of the Rubber Manufacturers' Association and comprising 80 per cent of the industry indicated a further decrease in output over preceding years. The following tabulation covers consumption by long tons for the past three years:

**CRUDE RUBBER CONSUMED IN THE MANUFACTURE OF TIRES AND TIRE SUNDRIES**

[The Rubber Manufacturers Association]

(Long tons)

	1932	1931	1930
Automobile and Motor Truck Pneumatic Casings . . .	194,570	212,861	224,211
Automobile and Motor Truck Pneumatic Tubes . . . . .	32,371	40,008	46,224
Motorcycle Tires (Casings and Tubes) . . . . .	(*)	254	280
Bicycle Tires (Single Tubes, Casings and Tubes) . . . .	1,102	924	1,100
Aeroplane Casings and Tubes	52	88	78
Solid and Cushion Tires . . .	1,889	2,978	4,685
All other Solid Tires . . . .	204	303	298
Tire Sundries and Repair Materials . . . . .	3,288	3,600	4,113
<b>Total Tires and Tire Sundries . . . . .</b>	<b>233,476</b>	<b>260,516</b>	<b>280,989</b>

\* Included in Automobile and Motor Truck Pneumatic Casings.

The total value of tires and tire sundries, as shown in the foregoing table indicate greater shrinkages than do the consumption figures. The total production of 1930, involving a rubber consumption of 280,989 long tons, was valued at \$518,786,000; the production of 1931 had a valuation of \$402,927,000; while that for 1932 shrank to \$292,201,000.

The consumption of rubber by other rubber products in long tons, from the same statistical source, is shown below:

**CRUDE RUBBER CONSUMED IN OTHER RUBBER PRODUCTS**

[The Rubber Manufacturers Association]

(Long tons)

	1932	1931	1930
Mechanical Rubber Goods . . .	14,912	17,985	18,719
Boots and Shoes . . . . .	12,482	11,269	14,766
Insulated Wire and Insulating Wire Compounds . . . . .	2,276	3,678	4,009
Druggist Sundries, Medical and Surgical Rubber Goods . . .	1,780	1,614	1,580
Stationers' Rubber Goods . . .	1,140	1,229	1,332
Bathing Apparel . . . . .	941	831	653
Rubber Clothing . . . . .	848	914	1,051
Automobile Fabrics . . . . .	444	655	883
Other Rubberized Fabrics . . .	2,692	2,476	2,233
Hard Rubber Goods . . . . .	923	1,020	1,134
Heels and Soles . . . . .	10,366	8,989	6,827
Rubber Flooring . . . . .	958	1,060	1,098
Sporting Goods, Toys, and Novelties . . . . .	1,545	2,121	2,222
Miscellaneous, not included in any of above items . . . . .	4,717	4,572	3,934
<b>Total . . . . .</b>	<b>55,974</b>	<b>58,433</b>	<b>60,441</b>

The values of these products showed similar shrinkages: 1930, \$284,342,000; 1931, \$209,650,-

000; 1932, \$146,270,000. See CHEMISTRY, INDUSTRIAL.

**RUINS.** See ARCHAEOLOGY.

**RUMANIA.** A constitutional monarchy of southeastern Europe; bounded on the south by the Danube River and Bulgaria; on the east by the Soviet Union and the Black Sea; on the north by Poland, Czechoslovakia, and Hungary, and on the west by Yugoslavia. Capital, Bucharest; reigning sovereign in 1932, Carol II.

**AREA AND POPULATION.** Rumania has an area of 113,887 square miles, of which 60,643 square miles were added by the treaties of peace of 1919. The population at the census of 1930 totaled 18,025,237, as compared with 7,234,919 at the census of 1912. Births averaged 612,180 annually over the five-year period 1926-30 and deaths 368,357. The birth rate per 1000 inhabitants averaged 34.2 and the death rate 20.6. The population of the chief cities at the 1930 census was: Bucharest (Bucuresti), 631,288; Chişinău (Kishinev), 117,016; Cernăuţi (Czernewitz), 111,122; Galaţi, 101,148; Iaşi (Jassy), 102,595; Cluj (Klausenburg, Kolozsvár), 98,550.

**EDUCATION.** While elementary education is nominally compulsory, there are no schools in many districts. The enrollment in primary schools in 1929-30 was 1,885,783; in secondary schools, 161,502; in universities, 37,604. The four universities are at Bucharest, Iaşi, Cluj, and Cernăuţi.

**PRODUCTION.** Three-fourths of the population derive a livelihood from the soil. In 1931, there were 33,324,000 acres of arable land, or about 46 per cent of the total area; 10,019,000 acres of permanent meadow and pasture; 1,516,000 acres of trees, shrubs, and bushes; and 17,851,000 acres of woods and forests. About 38 per cent of the arable area was devoted to cereals. Agriculture was in a critical condition in 1932, due to low prices and reduced demand. Production of the chief crops in 1931 was: Wheat, 135,295,000 bushels; rye, 13,962,000 bushels; barley, 64,964,000 bushels; oats, 46,175,000 bushels; corn, 250,384,000 bushels; potatoes, 87,302,000 bushels; sugar beets, 310,000 metric tons; beet sugar, 43,000 tons; tobacco, 24,926,000 pounds. Livestock on farms in 1930 included 3,834,000 cattle, 117,000 buffaloes, 2,323,000 swine, 11,921,000 sheep, and 1,820,000 horses, mules, and asses.

Rumania in 1931 ranked fourth among the petroleum-producing countries of the world, the output being 47,600,000 barrels (3.5 per cent of the world total), as against 41,624,000 barrels in 1930. The quantity of oil exports was 30 per cent higher than in 1930, reaching 4,850,000 metric tons, but low prices rendered the industry unprofitable. The total value of mineral and metal production in 1930 was \$62,621,000 (\$72,203,000 in 1929), of which petroleum contributed \$39,313,000, coal and lignite \$10,703,000, salt \$3,960,000, natural gas \$3,382,000, pig iron \$1,560,000, and gold \$1,776,000. Production of coal in 1930 was 299,000 metric tons; salt, 676,662,000 pounds; iron ore, 92,517 metric tons; pig iron, 68,843 metric tons; steel ingots, 161,800 metric tons; copper, 373,109,000 pounds. Manufacturing industries in 1929 employed a total of 201,000 wage earners, and 498,000 horse power, the value of production being \$336,773,000 (converted at par). Lumbering was an important industry. The number of registered unemployed at the end of June, 1932, was 34,000.

**COMMERCE.** Imports in 1931 declined to 15,858,948,000 lei (\$94,361,000), from 22,540,929,000 lei (\$134,119,000) in 1930, while exports fell to 22,085,224,000 lei (\$131,407,000), from 28,525,585,000 lei (\$169,727,000) in 1930. Exports increased 9 per cent in quantity, despite a 23 per cent decline in value; the decline in import values was 31 per cent. There was an export surplus equal to \$37,358,000. The leading imports in 1930, in order of value, were cotton cloth and other textiles, iron and steel, cotton yarn and thread, and machinery. Leading exports, in the same order, were gasoline and benzine, corn, barley, construction wood, gas and fuel oil, kerosene, wheat, and cattle. United States statistics show exports to Rumania in 1931 of \$2,200,000 (\$4,900,000 in 1930), and imports from Rumania of \$600,000 (\$300,000 in 1930).

**FINANCE.** State revenues declined steadily during the 1931 fiscal calendar year and although expenditures were drastically curtailed, a deficit of 1,662,000,000 lei (about \$10,000,000) resulted. Receipts totaled 26,635,000,000 lei (\$159,000,000) and expenditures 28,297,000,000 lei (\$169,000,000), as contrasted with the 1930 revenues of 31,155,000,000 lei (\$186,000,000) and expenditures of 31,591,000,000 lei (\$189,000,000). In line with declining revenues, the 1932 ordinary budget estimates were reduced to 25,429,000,000 lei (\$152,000,000), of which the service of the public debt absorbed 24 per cent. In addition, an extraordinary budget was introduced, with estimated revenues of about 3,089,000,000 lei (\$18,534,000) and proposed expenditures of 11,170,000,000 lei (\$67,020,000). The extraordinary budget was to be administered by a newly created amortization office, whose main function was to liquidate all past due obligations of the Treasury from preceding budgets, aggregating about 10,000,000,000 lei (\$60,000,000). The Cabinet announced Nov. 20, 1932, that the beginning of the 1933 fiscal year would be postponed from January 1 to April 1 and that the 1932 budget would be extended by royal decree for the intervening three months.

According to the official 1930 budget statement, the public debt on Jan. 1, 1930, was \$1,021,690,000, of which \$917,176,000 represented the external debt. The debt due the United States government on Dec. 31, 1931, was \$3,861,000. The unit of currency is the leu (plural, lei), which was stabilized at \$0.00598 U. S. currency on Feb. 7, 1929. The exchange value averaged \$0.00595 in 1930 and 1931.

**COMMUNICATIONS.** In 1931, there were 6971 miles of line in the state railway network; these lines carried 30,944,000 passengers and 20,491,000 metric tons of freight during the year, earning gross revenues equivalent to \$57,924,000. As compared with 1930, freight traffic declined about 15 per cent and revenues from all traffic about 17 per cent. The telegraph system is government owned and operated, but the telephone system was leased to the International Telephone and Telegraph Company in 1930. The merchant marine on June 5, 1931, consisted of 31 steam and motor vessels of 100 gross tons or more, with a total gross tonnage of 65,921. Highways in 1931 extended 66,212 miles, of which 36,458 miles were macadam.

**GOVERNMENT.** The Constitution of Mar. 28, 1923, nationalized the forests and subsoil. It vested executive power in the King and a council

of ministers, the King having a suspensive veto over laws passed by parliament. Legislative power was vested in a parliament, consisting of a senate of 187 elected and various *ex officio* and appointed members and a chamber of deputies of 388 elected members. The term of elected senators and deputies is four years. The composition of the Chamber of Deputies following the elections of June 1 and 4, 1931, was: National Union (government bloc), 211; National Liberals, 80; National Peasant party, 30; Liberals (George Bratianu), 12; Hungarians, 11; People's party (Marshal Averescu), 10; National Christian Defense League, 9; Peasants (Dr. Lupu), 7; Socialists, 7; Stere and Anti-Usury League, 6; Jews, 5. The composition of the Senate (elected members) was: National Union, 129; National Liberal, 39; National Peasant, 8; Hungarians, 4; Liberals (George Bratianu), 1; Independents, 6. The Cabinet formed Apr. 19, 1931, was headed by Professor Nicholas Jorga as Prime Minister and Minister of Education and of the Interior. Other members included: Finance, Dr. C. Argetoianu; Foreign Affairs, Prince Demetre Ghica; Transport and Justice, M. V. Valcovici. For changes in 1932, see *History*.

## HISTORY

**ECONOMIC CONDITIONS.** Although the year 1931 was considered the most difficult experienced by the Rumanian economic system since the World War, conditions steadily deteriorated throughout 1932. Sagging prices of the country's leading export commodities, the rigid curtailment of imports, the deadening effect of tariff and exchange restrictions in neighboring countries, and the grinding poverty of the peasant masses placed an acute strain upon the economic and financial system. The seriousness of the situation was revealed by the partial moratorium on foreign debt payments announced on Dec. 22, 1931.

By June of 1932 army pay as well as civil service salaries were months in arrears. Many leading industries were unable to collect some \$65,000,000 due on government contracts. In an effort to meet the agricultural crisis, the Jorga Ministry espoused and secured the passage by Parliament on April 14 of a proposal of Finance Minister Argetoianu to convert the agricultural short-term debt into 30-year bonds at 4 per cent. This plan was vigorously opposed by France, Great Britain, the Netherlands and Switzerland on the ground that such legislation would cause the depreciation of the leu, which had been stabilized with their financial assistance. The Liberal party and the Rumanian bankers also objected. On May 18, the government was forced to follow the example of the other Central European states and restrict dealings in foreign exchange in order to check speculation and loss of gold reserves. A final blow came in the form of a report on Rumanian finances by M. Charles Rist, of the Bank of France, which ended hopes of securing a new loan from Paris. The report disclosed that the government lacked funds to pay half the civil service salaries. It criticized Rumanian financial policy, recommended a reduction in civil servants as well as a 50-per-cent salary cut, and suggested that an appeal for aid be carried to the League of Nations.

**POLITICAL DEVELOPMENTS.** Confessing its failure to cope with the situation, the Jorga Ministry resigned on May 31. Nicholas Titulescu,

Rumanian Minister to London, attempted in vain to form another non-party cabinet. The King was forced to turn once more to the National Peasant party, which he had been instrumental in ousting from power in 1930 and 1931. On June 8 Alexander Vaida-Voevod formed a ministry composed exclusively of members of the National Peasant party. He immediately dissolved Parliament, which had a hostile majority, and called new elections for July 17. In contrast to the preceding election of June 1, 1931, the election of July 17 was reported to have been remarkably free of fraud and intimidation. The National Peasants won a sweeping victory, the vote demonstrating the popular opposition to King Carol's attempts at personal rule. The Peasant party won 277 out of 388 seats in the Lower Chamber and secured 45 per cent of the total popular vote, as against 15 per cent in the 1931 election. The Duca wing of the National Liberals won 28 seats, the Bratianu wing 13, the Hungarian party 14, the Anti-Semites 11, the Socialists 6, and other parties 38. Senatorial elections, held later in July, showed a similar trend.

On August 10, the National Peasant ministry, which had been provisional in nature, resigned and the King offered the Premiership to Julius Maniu, the party's outstanding leader, who had gone into retirement following his break with King Carol in 1930. Maniu refused, although he announced that he would resume active leadership of the National Peasant party. Dr. Vaida-Voevod accordingly formed a new government which included a number of the party's leaders left out of his former cabinet. With the political situation temporarily stabilized, the Premier appealed to the League of Nations, asking an investigation and expert report on Rumania's finances. In September the League responded by sending a group of experts to study the situation.

**SOVIET-RUMANIAN NEGOTIATIONS.** Hardly had they arrived when a new political crisis developed in connection with Soviet-Rumanian negotiations for a non-aggression pact. Moscow's demand that the proposed pact include a provision for arbitration of the dispute over Bessarabia (q.v.) was favorably considered by Premier Vaida-Voevod. The negotiations were said to have the approval of both France and Poland, military allies of Rumania, who appeared eager to establish closer relations with the Soviet Union as a counterweight to the nationalist and anti-treaty movement in Germany.

On September 26, M. Titulescu resigned as Minister to Great Britain and as head of the Rumanian delegation to the League of Nations. He objected to the arbitration clause in the proposed pact with the Soviet Union and declared that he had not been informed of the negotiations. The outstanding Rumanian diplomat, M. Titulescu's prestige was so great that Premier Vaida-Voevod offered him the portfolio of Foreign Affairs in order that he might personally conduct the Soviet negotiations. Titulescu accepted the post, but he and the Premier failed to reconcile their views and on October 16 most of the Cabinet, including the Premier, resigned.

M. Maniu was again requested to form a new Cabinet, and this time he accepted. His cabinet, announced on October 20, included M. Titulescu as Foreign Minister. Except for the Ministers of Trade and of Transylvania, the new government was identical with that of Premier Vaida-Voevod.

Apparently Premier Maniu supported the general position of M. Titulescu. While the latter resumed negotiations with the Soviet government on October 29, he announced in Parliament November 23 that the negotiations had been broken off, owing to the impossibility of reaching an agreement over Bessarabia. This divergence of policy from that of France and Poland, both of which signed and ratified non-aggression pacts with the Soviet Union, aroused much alarm in Rumania. However, at the Little Entente conference in Belgrade December 1, M. Titulescu announced that no departure from Rumania's traditional policy of collaboration with France was involved (see FRANCE and POLAND under *History*).

**OTHER FOREIGN RELATIONS.** The third annual Balkan conference, established to promote co-operation and eventually some form of union among the Balkan states, was held in Bucharest October 22-25. Representatives of Bulgaria, Greece, Albania, Rumania, Turkey, and Yugoslavia attended, as did observers of the League of Nations. The conference failed to achieve unanimity on a proposed Balkan pact. The Bulgarian delegation withdrew when the other delegates, with the exception of the Albanians, rejected the Bulgarian request that an agreement on the protection of minorities be reached before beginning the debate on the Balkan pact.

Rumors that Rumania was drifting away from her alliances with France and the two other Little Entente countries were scotched when a special conference of the Foreign Ministers of the Little Entente—Czechoslovakia, Yugoslavia, and Rumania—was held at Belgrade commencing December 18. A communiqué at the end of the conference reported complete unity and announced the appointment of a permanent council consisting of the three Foreign Ministers; also of a permanent secretariat, located at Geneva. The closer ties established were forged by the increasing threat of forcible revision of the territorial clauses of the Versailles Treaty (see GERMANY and ITALY under *History*).

**DEVELOPMENTS AT COURT.** Friction between King Carol and his divorced wife, Princess Helen, over the care and custody of their son, Crown Prince Michael, was extensively aired in the European press during the year. In September, Michael was permitted to visit his mother in London. When after two weeks he suddenly left for Rumania, Princess Helen issued a statement declaring that his holiday with her had been cut from six weeks to two and that "to intimidate me still further the threat has been made that he will never be allowed to see me again." On October 23, Princess Helen returned to Bucharest to be with her son on his eleventh birthday. Before leaving for Florence, Italy, on November 3, she was reported to have reached an agreement with King Carol regarding financial matters and the right to visit Michael.

Consult Joseph Slabey Roucek, *Contemporary Roumania and Her Problems* (Stanford University Press, 1932).

**RUSSELL SAGE FOUNDATION.** An institution created by Mrs. Russell Sage as a memorial to her husband. The initial endowment was \$10,000,000, to which \$5,000,000 was added by her will. Its purpose, as specified by its charter, is "for the improvement of social and living conditions in the United States of America."

The members of the staff of the foundation

study social conditions and methods of social work, interpret the findings, make the information available through publications, conferences, and other means of public education, and in various ways stimulate action for social betterment. A little more than 50 per cent of the income of the foundation was expended in 1932 for the support of its administration and of work carried on by its departments of charity organization, industrial studies, library, recreation, remedial loans, statistics, surveys, and exhibits, its consultation service on delinquency and penology, and the production of its *Social Work Year Book*. The remainder was expended through grants to other agencies with kindred purposes.

While the foundation has for some time been carrying on as a part of its programme a certain amount of work bearing upon problems of unemployment, such as the improvement of public statistics relating to employment, and the systematic collection of statistics of relief work in some 80 cities of the United States, it has also given special attention to other problems relating to the present unemployment emergency, particularly to aspects in which its experience has seemed to be of value and to have qualified its staff to offer constructive advice. This includes experimental sampling studies in cities of the amount and distribution of unemployment, in an effort to develop detailed methods for use in similar local unemployment surveys; a series of studies of trends of employment in the past two decades in a number of leading countries; fact-gathering as to the experience of representative cities in supervising and administering unemployment relief; assistance, personally and by publication, in planning campaigns to inform and interest the public regarding the needs of the unemployed, and methods of coöperating in their relief; and investigating and making available various recreational projects throughout the country designed to keep up the public morale of the unemployed and prevent possible delinquency, in which the unprecedented compulsory free time of the unemployed may be a factor.

During recent years the foundation has published the following pamphlets and books on various aspects of the unemployment problem: *Community Planning in Unemployment Emergencies*; *Setting Up a Programme of Work Relief*; *Emergency Work Relief*; *The Incidence of Work Shortage*; *Public Employment Offices*; *Employment Statistics for the United States*; *Unemployment Relief*; *Unemployment Relief in the United States and Canada*; *Labor and Industry*; and *Costs and Standards of Living*. The last four of these are bibliographies. Other of its publications during 1932 are: *Immigrant Gifts to American Life*; *Plans for City Police Jails and Village Lockups*; and *Small Loan Legislation*.

The foundation's trustees are: Lawson Purdy, vice-president and treasurer; John M. Glenn, secretary; Johnston de Forest, Frederic A. Delano, John H. Finley, Mrs. Frederic S. Lee, Mrs. Finley J. Shepard, and Harold T. White. Shelby M. Harrison is general director. Headquarters are at 130 East Twenty-second Street, New York City.

**RUSSIA.** See UNION OF SOVIET SOCIALIST REPUBLICS.

**RUSSIAN LITERATURE.** See PHILOLOGY, MODERN.

**RUSSIAN LUMBER.** See FORESTRY.

**RUSSIAN SOCIALIST FEDERATED SOVIET REPUBLIC (R.S.F.S.R.).** See UNION OF SOVIET SOCIALIST REPUBLICS (U.S.S.R.).

**RUTGERS UNIVERSITY.** A nonsectarian institution of higher learning in New Brunswick, N. J., founded under the name of Queen's College in 1766. The university consists of the following schools and colleges: Arts and sciences, engineering, agriculture, pharmacy, chemistry, education, and New Jersey College for Women. The registration for the autumn of 1932 was 2689, of whom 1070 were registered at the college for women. Enrollment in the 1932 summer session was 1861. Of the 297 members of the faculty, 176 were professors and 121 instructors. The endowment funds amounted to \$4,350,000, and the income for the year, exclusive of the State agricultural experiment station, amounted to \$3,148,230. Lands, buildings, and endowments had a total valuation of more than \$19,579,506. The library contained 175,000 volumes. In June, 1931, a division of physical education, which included the departments of physical education, inter-collegiate athletics, and student health, was established. A gymnasium, erected at a cost of \$700,000, was opened in December of that year. President, Robert C. Clothier, LL.D.

**RUTHENIA.** A Province of Czechoslovakia. See CZECHOSLOVAKIA under *Area and Population*.

**RYE.** The 1932 production of 27 countries reporting to the International Institute of Agriculture, not including the Soviet Republics and the countries of the southern hemisphere, was estimated at 96,008,000 bushels, or 22.1 per cent above the crop of 1931 and 8.4 per cent above the average annual yield of the five years 1926-1930. The acreage of these countries, 46,150,000 acres, was only slightly above that of the preceding year. The production of the leading countries other than the United States was estimated as follows: Germany 329,262,000 bushels, Poland 252,399,000 bushels, Czechoslovakia 85,661,000 bushels, and France 35,188,000 bushels. The total crop of Europe outside of the Soviet Republics was placed at 934,370,000 bushels, or 21.6 per cent above the preceding year's crop and 9.1 per cent above the five year average. For the Soviet Republics an average annual yield of 878,629,000 bushels was recorded for the five year period and the acreage of 1932 was placed at 65,731,000 acres. The Canadian crop was estimated at 9,937,000 bushels which was 86.7 per cent above the yield of 1931 but 35.9 per cent below the five year average. Argentina, where the crop is harvested in December, produced 9,744,000 bushels in the crop year 1931-1932.

The production of rye of the United States in 1932 was estimated by the Department of Agriculture at 39,855,000 bushels as compared with 32,026,000 bushels in 1931. The acreage harvested for grain was placed at 3,271,000 acres, an increase of 7 per cent over the harvested acreage in the preceding year but 238,000 acres under the five year average of 1924-1928. The yield per acre, 12.2 bushels, was slightly below the ten year average for 1919-1928. The yields of the leading States among 33 reporting rye production were reported as follows: North Dakota 11,440,000 bushels, South Dakota 7,125,000 bushels, Minnesota 4,960,000 bushels, Wisconsin 2,832,000 bushels, and Nebraska 2,830,000 bushels. These States produced 73 per cent of the



total production. In North Dakota and South Dakota where in 1931 drought greatly reduced acreage and yield a favorable growing season doubled the crop as compared with the preceding year.

The rye exports of the United States for the fiscal year ended June 30, 1932, were recorded as 852,000 bushels of grain and 10,000 barrels of flour in comparison with 179,000 bushels of grain and 8000 barrels of flour during the preceding fiscal period. Steps were taken during the year to prevent the sale of seed of inferior varieties misbranded as seed of Abruzzi, a variety of superior value.

**SAAR BASIN.** A section of the German Rhineland, which, under Article 45 of the Versailles Treaty, was awarded to France for exploitation of its coal fields, as compensation for the destruction of the coal fields in northern France by the German armies. Area, 737 square miles; population (1927 census), 770,030. Mineral production in metric tons for 1931 was: Coal, 11,367,000; pig iron, 1,515,429; steel, 1,539,346. The Saar is administered by a commission appointed by the League of Nations.

**SAASTAMOINEN, ARMAS HERMAN.** A Finnish industrialist and diplomat, died in London, Oct. 20, 1932. Born in 1886, he became one of the leaders of the Finnish lumber industry. During 1915-18 he took a prominent part in the national independence movement. He was Finnish minister to Denmark in 1918; to Washington, 1919-21; to Great Britain, 1926; and to The Netherlands, 1926-32. He was elected to the Finnish Parliament in 1924.

**SAFETY AT SEA.** An early ratification by the U. S. Congress of the International Convention on Safety of Life at Sea was urged by A. J. Tyrer, Commissioner of the U. S. Bureau of Navigation in his report for the fiscal year ending June 30, 1932, to the Secretary of Commerce.

The Supervising Inspector General, Dickerson N. Hoover, of the Steamboat Inspection Service, in his annual report, indicated that travel by American vessels was relatively safer in the fiscal year ending June 30, 1932, than in the previous year. In the past fiscal year, there were 262,640,219 passengers carried on vessels of this type. Of that number, 55 were lost. This is in the ratio of one lost for every 4,775,276 passengers carried safely on all types of voyages and under all weather conditions.

On Aug. 3, 1932, in accordance with economy legislation enacted by Congress, the Bureau of Navigation and the Steamboat Inspection Service were merged into one bureau, the Bureau of Navigation and Steamboat Inspection.

The number of persons saved or rescued from peril during the fiscal year 1932, according to the Annual Report of Rear Admiral H. G. Hamlet, Commandant of the U. S. Coast Guard, was 5214, being 413 less than in 1931. There were 30,847 persons on board vessels assisted as against 25,898 in 1931, being an increase of 4949. The number of persons in distress cared for increased from 561 in 1931 to 659 in 1932. The number of vessels boarded and examined by service agencies during the year in the interests of the enforcement of the laws of the United States was 102,268. In the previous year the number was 88,357. The vessels seized or reported for violations of law numbered 2358, a decrease of 571 under the preceding year. The fines and penalties incurred

by vessels reported showed a decrease from \$369,341 in 1931 to \$300,756 in 1932. The total number of instances of assistance rendered during the year was 13,739.

Among the accidents recorded during the year 1932, the more notable include the following:

January 26. The British submersible *M-2*, with six officers and 54 men, while exercising off Portland Bill, Eng., sank from unknown causes, with no survivors.

February 24. The Norwegian freighter *Aggersund*, damaged by heavy gales, was abandoned by her crew four days later, 600 miles off Cape Race.

May 16. The French motorship *Georges Philpar*, on its maiden trip returning from Indo-China with 663 passengers, was destroyed by fire at the entrance to the Gulf of Aden; 41 lives were lost.

June 8. The Spanish steamship *Teide* with 700 passengers ran aground and wrecked on the coast of West Africa, passengers and crew were saved by the British *S.S. Appam*.

June 17. In drydock for repair, the British tanker *Cymbeline* was destroyed by explosion and fire, 23 were killed and 63 injured.

June 30. The bark *Melbourne*, in collision with the tanker *Seminole* off Fastnet, sank; 11 drowned.

July 26. The German naval training ship *Niobe*, capsized in a squall in the Baltic; 69 were drowned, including 50 cadets.

September 9. The steamboat *Observation*, crowded with workmen for construction on Rikers Island, N. Y. harbor, was blown to pieces by a boiler explosion; 70 were killed and 70 injured.

December 5. The Japanese destroyer *Swarabi* capsized in a storm off Formosa; 105 lost, 16 rescued.

**SAFETY COUNCIL, NATIONAL.** See NATIONAL SAFETY COUNCIL.

**SAFETY MOVEMENTS.** See NATIONAL SAFETY COUNCIL.

**SAGHALIEN.** See SAKHALIN.

**ST. CHRISTOPHER.** See LEEWARD ISLANDS.

**ST. GOTHARD RAILWAY.** See ELECTRIC TRANSPORTATION.

**ST. HELENA.** An island of volcanic origin in the South Atlantic, about 1200 miles from the west coast of Africa, belonging to Great Britain. Area, 47 square miles; estimated civil population, Jan. 1, 1931, 3905. Capital and seaport, Jamestown.

**ST. JOHN'S COLLEGE.** A college of liberal arts and sciences for men in Annapolis, Md., founded as King William's School in 1696. The enrollment for the first half-year of 1932-33 was 297. There were 29 faculty members. The endowment fund as of July 1, 1932, amounted to \$233,711, and the income for the year ending June 30 was \$316,664. The library contained 25,996 volumes. President, Douglas H. Gordon.

**ST. LAWRENCE UNIVERSITY.** An institution for the higher education of men and women in Canton, N. Y., founded in 1856. The registration for the autumn term of 1932 was 2059. The faculty numbered 129 members. The endowment funds amounted to \$4,921,001, and the income for the year to \$247,793. President, Richard Eddy Sykes, D.D.

**ST. LAWRENCE WATERWAY.** See UNITED STATES under *Administration*; NEW YORK under *Political and Other Events*; CANALS; WATER POWER; CANADA under *History*.

**ST. LOUIS CITY ART MUSEUM.** See SCULPTURE.

**ST. LUCIA,** 165'shi-à. A British insular colony in the Windward group of the West Indies. Area, 233 square miles; population in 1929, 58,494. Castries is the capital (population 5899).

**ST. PATRICK, ANNIVERSARY OF LANDING IN IRELAND.** See CELEBRATIONS.

**ST. PIERRE AND MIQUELON,** mē-ke-lōn'. Two small groups of islands belonging to France,

situated close to the southern coast of Newfoundland, and named from their two largest islands. Area of St. Pierre group, 10 square miles; of Miquelon group, 83 square miles; total population (1931 census), 4321. St. Pierre, the capital and chief port, had 3464 inhabitants.

**ST. THOMAS.** See SÃO THOMÉ AND PRINCEPE; VIRGIN ISLANDS.

**ST. VINCENT.** A British insular colony in the Windward Islands group of the West Indies. Area, 150.3 square miles; population in 1930, 53,228. Kingstown, with a population of 3836 in 1921, is the capital.

**SAKHALIN (SAGHALIEN)** sâ'ká-lyên'. See KARAFUTO.

**SALES TAX.** See TAXATION.

**SALVADOR,** sál'vá-dör' (EL SALVADOR). A Central American republic fronting the Pacific Ocean, whose land frontiers are contiguous with those of Guatemala and Honduras. Capital, San Salvador.

**AREA AND POPULATION.** The area is estimated at 13,176 square miles; the population in 1930 was 1,437,611. The mestizos, or persons of mixed race, numbered 1,000,000 or more. San Salvador had a population of 95,700 in 1930. Other large towns were: Santa Ana, 74,800; San Miguel, 39,800; San Vicente, 24,500; and Ahuachapán, 28,117. For the period 1926 to 1930, births averaged 62,832 annually and deaths 33,289, the birth rate being 39 per 1000 and the death rate 20.5.

**EDUCATION.** The annual report of the Secretary of Public Instruction showed 924 official, 85 municipal, and 119 private elementary schools in 1931, with an average attendance of 40,078 and a total enrollment of 56,826. There were 1119 students in secondary schools and about 411 in the National University.

**PRODUCTION.** Coffee, which furnished 95 per cent of the value of all exports in 1931, is the chief source of national income. The 1930-31 coffee crop was the largest in the country's history, totaling 165,345,000 pounds (143,343,000 pounds in 1929-30); a 40 per cent decline was estimated for 1931-32. The average price for all grades of coffee in 1930-31 was about 26 per cent less than in the previous year. The 1931 coffee exports amounted to 119,950,000 pounds (129,238,000 pounds in 1930). Sugar production was 70,700,000 pounds in 1931 (75,237,000 pounds in 1930); henequen, about 2,000,000 pounds in 1931. Gold and silver are mined, but operations were at a virtual standstill in 1932. Sugar grinding, coffee cleaning, and the production of shoes and textiles are the chief industries.

**COMMERCE.** Salvador's imports in 1931 were valued at \$7,293,000, as against \$11,953,000 in 1930, and exports at \$11,378,000 compared with \$13,657,000 in 1930. The value of the chief 1931 export items was: coffee, \$10,848,000 (\$11,957,000 in 1930 and \$22,741,000 in 1928); henequen fibre, \$158,000 (\$196,000 in 1930); sugar, \$42,000 (\$773,000 in 1930). Cotton fabrics, iron and steel, machinery, and wheat flour are the chief imports. The United States in 1930 supplied 49.3 per cent of the total imports; the United Kingdom, 13.2 per cent; and Germany, 9 per cent. Of the total exports, 29.5 per cent went to Germany; 23.4 per cent to the United States. Exports to the United States in 1932 were \$1,143,495 (\$2,231,125 in 1931); imports from the United States, \$2,289,155 (\$3,483,153).

**FINANCE.** The 29 per cent decline in foreign trade in 1931, as compared with 1930, was re-

flected in an 8 per cent decline in customs revenue. Ordinary revenues for 1931 were reported at 17,599,078 colones, as against 21,964,881 colones in 1930, while ordinary expenditures were 17,446,681 colones, against 23,048,451 colones in 1930. Revenues declined nearly 20 per cent and expenditures 24 per cent. Although the above figures, issued by the subsecretary of finance and public credit, showed a budget surplus, a deficit of about 5,000,000 colones was estimated for the fiscal year ended June 30, 1932. The colon, par value \$0.50, exchanged at an average of 2.07 colones to the dollar during 1931.

The public debt on Apr. 30, 1932, amounted to \$23,577,807 at par of exchange, of which \$17,393,299 represented external bonds, according to the Institute of International Finance, New York. On Feb. 27, 1932, the government issued a decree postponing service on the foreign debt. However, interest was paid July 1, 1932, and Jan. 1, 1933, on the Series A external bonds, of which \$3,879,500 was outstanding. There was default on interest and sinking-fund payments on Series B bonds (\$4,414,999) and Series C (\$9,098,800). The service of the external debt during 1931 amounted to \$1,771,887. An agreement between a bondholders' protective committee and agents of the republic for payment of interest on the Series B and C bonds in 6 per cent short-term scrip was announced in New York City Dec. 2, 1932.

**COMMUNICATIONS.** Railway lines in operation during 1931 aggregated 375 miles, of which 285 miles constituted the Salvador division of the International Railways of Central America. The railways in 1931 carried 734,000 passengers and 259,000 short tons of merchandise. Arrivals and departures by air transport were 524 and 473, respectively. The Salvadorean section of the Pan American highway (205 miles) was virtually completed in 1931. There were 1476 miles of highways in all. Cutuco, the chief port, handled about 67 per cent of the imports and 31 per cent of the exports.

**GOVERNMENT.** Executive power is vested by the constitution in a president elected for four years, who acts through a ministry of four members, and legislative power in the Congress of 42 members elected for one year by universal suffrage. Provisional President in 1932, Gen. Maximiliano Hernández Martínez, who was appointed Dec. 2, 1931, by a military directorate following the overthrow of the constitutional régime of President Arturo Araujo by revolution.

**HISTORY.** Gen. Maximiliano Hernández Martínez, who assumed the Presidency following the successful military revolt against President Araujo of Dec. 3, 1931, held his post throughout 1932 despite a serious revolt in January and the opposition of the United States State Department, which refused to extend recognition to the Martínez régime. The January revolt broke out in the form of serious agrarian disturbances on January 22. While loyal troops were occupied in coping with this situation a revolt occurred simultaneously in a number of towns (January 24). The uprising, which appeared to be of a planned rather than a spontaneous nature, was reported to be of communist origin. Sanguinary fighting, in which about 600 were killed, took place before the revolt was finally quelled. In the meantime, vessels of the U. S. Navy Special Service Squadron were dispatched to Salvadorean ports as a precautionary measure for the protection of Americans and other nationals. Brit-

ish and Canadian naval vessels were also on hand. However, it was found unnecessary to land naval forces.

Although General Martínez, as Vice President in the Araujo government, was eligible to succeed President Araujo under the Salvadorean Constitution and his régime was popular in the country, recognition was refused by Washington on the ground that he was ineligible under the Central American non-recognition treaties of 1923 to which the United States government adhered. On Feb. 29, 1932, the Martínez government suspended service on the external debt which had been floated in New York and for which the Metropolitan Trust Company of New York, later merged with the Manufacturers Trust Company, was fiscal agent. The loan contract provided for the establishment of a customs receivership in the event of default, but efforts to enforce the default provisions could not succeed while the Salvador government remained unrecognized. Early in October the British and French governments extended recognition to the Martínez régime, despite opposition from the United States government, and recognition from Spain, Poland, Belgium, and Ecuador followed immediately. According to a statement by the Under-Secretary for Foreign Affairs in the House of Commons October 26, the British action was taken "because the present government of El Salvador has given evidence of stability and in order that there might be more effective representation of British commercial and financial interests in that country."

The National Congress of Salvador, on February 5, had declared President Martínez the constitutional head of the state and confirmed him in office for a four-year period.

**SALVATION ARMY, THE.** A world-wide organization with international headquarters in London, England, whose sole purpose is the "salvation of mankind from all forms of spiritual, moral, and temporal distress." The movement was first organized as a mission in the East End of London in 1865 by William Booth, a minister of the New Connexion Methodists. It spread rapidly throughout England and in 1880, as the Salvation Army, was extended to the United States. Incorporation took place in New York City in 1899. The government is military in character and in 1932 was under the command of Gen. Edward J. Higgins. The higher command is divided into territories, each territory usually being a separate country, or colony, led by a commissioner and subdivided into divisions consisting of corps, posts, and institutions under the direction of officers of varying ranks. The United States has four territories, with headquarters in New York City, Chicago, San Francisco, and Atlanta. The Salvation Army is active in 83 countries and colonies and preaches the Gospel in 74 languages.

The economic depression which persisted during 1932 resulted in a continuous demand by communities and governing circles throughout the country on the resources of the Salvation Army. Never before in its history had the army been called upon for service in so many directions. The result was the establishment of large emergency relief schemes, principally in the urban districts. This expression of national confidence in the Salvation Army imposed a severe strain on all ranks of the personnel, but the extra labors were cheerfully accepted.

Hostels for unemployed homeless men, some accommodating over 2000, were organized. The family welfare service was expanded to meet the abnormal need. Free food stations capable of serving thousands of meals daily were established, also emergency lodges for women and children. A unique feature was the creation of a "white collar" bureau, known as the confidential counselor, where men and women, hitherto strangers to poverty and distress, were given a sympathetic hearing prior to being helped according to their need. All these activities were carried on in addition to the regular institutional service.

The evangelical side was not neglected. Special religious campaigns were carried on throughout the year, especially among the young people.

The magnitude of the year's work is seen from the fact that over 15,000,000 applications for aid of all kinds were made to the Salvation Army during 1932.

In 1932 there were in the service of the Salvation Army throughout the world 25,903 officers and cadets, 6563 persons without rank, wholly employed, 156,980 local officers and bandmen, 63,412 songsters, 32,532 corps cadets, and 15,304 corps and outposts in operation. Social institutions and agencies numbered 1581, and day schools 1001. Among the social institutions were: 34 naval and military homes; 14 prisoners' homes, with a capacity of 609; 146 hotels for men and 39 hotels for women, accommodating 40,867 persons; 6 inebriates' homes with 244 patients; 98 homes housing 4982 children; 24 crèches; 17 industrial schools with 1190 pupils; 102 women's industrial homes, accommodating 3416 women; and 94 maternity homes with 3793 patients. The army maintained also 303 miscellaneous social services, as well as 12 farms, 173 slum posts, 227 homes, elevators, workshops, and woodyards accommodating 7258 persons. In addition to 34 food depots, there were 145 combined shelters for men and 18 shelters and food depots for women. Through the 139 labor bureaus, 212,244 men and women were supplied with work. The organization published 130 periodicals, with an average circulation of 1,768,595 copies per issue.

In the United States there were, in 1932, 1777 corps and outposts, 5076 officers and cadets, 14,930 local senior officers and bandmen, and 13,201 local junior officers and bandmen. Converts during the year numbered 129,649. Among the social institutions were 89 men's hotels, 1 women's hotel, and 13 residential hotels for young women, accommodating a total of 8998. Men's industrial homes numbered 117 with accommodation for 4652 persons; children's homes 10, with accommodation for 828 persons; women's homes and hospitals 45, with accommodation for 2992 persons; and dispensaries 10, with a total of 25,700 patients. During the year 11,128 families were visited, while Thanksgiving and Christmas dinners were distributed to 686,946 persons. In addition 40,970 prisoners were assisted by the Salvation Army on discharge and situations were found; 15,375,452 persons were afforded temporary relief outside social service centres and hotels; 41,270 children and 8505 mothers were given summer outings; and 238,737 men and women found employment through the army's 105 free employment bureaus.

The national headquarters of the Salvation Army in the United States are at 120 West Fourteenth Street, New York City. Evangeline

Booth, daughter of William Booth, the founder, is the commander-in-chief. The territorial commissioners in 1932 were: John McMillan (eastern); William McIntyre (central); Benjamin Oramas (western); and Alexander M. Damon (southern).

**SALEBURG FESTIVAL.** See **MUSIC**.

**SAMOA.** A group of 14 islands in the Pacific Ocean, about 2200 miles south of Hawaii and 4000 miles southwest of San Francisco. Since Feb. 13, 1900, the islands east of 171° W. longitude have belonged to the United States; the islands west of that line belonged to Germany until the outbreak of the World War in 1914, when they were occupied by New Zealanders and on Dec. 17, 1920, were turned over to New Zealand for administration, under a mandate of the League of Nations.

**AMERICAN SAMOA.** The American Samoan islands comprise the islands of Tutuila, Tau, Olosega, Ofu, Aunuu, and Rose Island. The Naval Station at Pago Pago, Tutuila, is the seat of government. Pago Pago harbor is considered the best in the South Seas. With a total area of about 60 square miles, the islands had an estimated population of 10,272 on June 30, 1932. Production of copra, the sole export, was 376 tons in the calendar year 1931. Imports during 1931-32 were valued at \$120,688; gross revenue, \$114,611; expenditure, \$116,064. The U. S. Navy has a high powered radio station on Tutuila. The island is under the jurisdiction of the U. S. Navy Department and is administered by the Governor of the U. S. Naval Station at Pago Pago. Capt. G. S. Lincoln U. S. Navy (retired), was succeeded as Governor on July 8, 1932, by Capt. G. B. Landeberger, U. S. Navy.

**WESTERN SAMOA.** The official name applied to the former German Samoan Islands is the Territory of Western Samoa. This territory includes Savaii and Upolu, two of the largest islands. Area of Savaii, about 700 square miles; Upolu, about 430 square miles. The population of Western Samoa on Dec. 31, 1930, was 44,535, including 1815 Europeans and half-castes; 41,668 native Samoans; 915 indentured Chinese laborers, and 137 other islanders. Apia, on the island of Upolu, is the chief port. Products include copra, bananas, rubber, sugar, and cardamoms. Imports during 1930 totaled \$275,355; exports, \$284,515. Revenue for the fiscal year ended Mar. 31, 1931, was \$151,385; expenditure, \$140,288. Administrator in 1932, Brig.-Gen. H. E. Hart (appointed February, 1931).

**SANBORNITE.** See **MINERALOGY**.

**SAN FRANCISCO, BRIDGES AT.** See **BRIDGES**.

**SAN FRANCISCO-OAKLAND BRIDGE.** See **BRIDGES**.

**SAN FRANCISCO SYMPHONY ORCHESTRA.** See **MUSIC**.

**SANITARY ENGINEERING.** See **GARBAGE AND REFUSE DISPOSAL; SEWERAGE AND SEWAGE TREATMENT; WATERWORKS AND WATER PURIFICATION**.

**SAN MARINO, mǎ-rě'nō'.** A tiny independent republic situated near the northwest coast of the Adriatic and encircled by Italian territory. The area is 38 square miles and the population (Oct. 31, 1929) was 13,387. Capital, San Marino (2000 inhabitants).

**SANTO DOMINGO.** See **DOMINICAN REPUBLIC**.

**SANTOS-DUMONT, sǎn'tōs-du'mōn', ALBERTO.** A Brazilian aeronaut, died July 24, 1932,

in São Paulo where he was born July 20, 1873. Interested from boyhood in mechanics and engineering, he began experimenting early in the '90s in the construction of airships, and on taking up his residence in Paris decided to compete for the prize of 125,000 francs offered by M. Deutsch de la Meurthe for the first flight from St. Cloud round the Eiffel Tower and back within 30 minutes. He built six airships before he managed to win the prize for his flight over the prescribed course on Oct. 19, 1901, but from each attempt he gained new data that enabled him to improve construction features. The second balloon, for instance, which he flew in 1898, was cylindrical instead of spherical in shape, and from it was suspended a basket containing a 3½ h.p. gasoline engine which operated a screw propeller. In the third balloon he discarded the basket for a bamboo keel. The fourth balloon, which was driven by a 7 h.p. engine and had a capacity of 15,000 cu. ft., was successfully flown and secured for its designer the encouragement of the Paris Aéro Club prize. The fifth, a still larger airship, made the journey over the prize course of 11 km. in 40 min. The sixth, the prize-winning ship, which was driven by a 12 h.p. engine and had a capacity of 22,000 cu. ft., established the record of 30 min. 40¼ sec. For this exploit the Brazilian government struck a special medal in his honor. In 1903 he erected at Neuilly an airship station where he kept his fleet of dirigibles that was offered to France in the event of war with any country but the United States.

In 1905 Santos-Dumont turned from his dirigible balloons to experimentation with the new type of heavier-than-air machine that the Wright brothers had invented—the aeroplane—employing a light and powerful gasoline engine. On Nov. 12, 1906, he flew 215 meters (715 ft.) in 21 sec. in the cellular form plane which he had invented, winning the prize of 1500 francs offered by the Aéro Club of France for the first public flight in that country. In 1909 he evolved a monoplane, the *Demoiselle*, weighing but 280 lbs. without the pilot and having a surface of planes amounting to 97 sq. ft. with a spread of 16.4 ft. With this machine, which was a marked step forward on account of its reduction in size, the inventor accomplished some fast and interesting flights, covering, for example, the distance from St. Cyr to Buc, 8 km. (4.97 miles), in 12 min. on Sept. 13, 1909. He was made a Chevalier of the French Legion of Honor in 1904 and received the Officer's Cross in 1909. On his return to Brazil in 1928 a public holiday was declared in his honor. He wrote *My Airships: A Story of My Life* (1904).

**SÃO PAULO.** See **BRAZIL** under *History*.

**SAORSTAT EIREANN.** See **IRISH FREE STATE**.

**SÃO THOMÉ, soun tō-mǎ', AND PRINCIPE, prěn'sé-pě.** Two islands in the Gulf of Guinea, about 125 miles from the coast of Africa, constituting a province of Portugal.

**SARAWAK, sǎ-rǎ'wǎk.** An independent state, comprising the northwestern part of the island of Borneo; under the protection of Great Britain. Area, about 50,000 square miles. Population estimated at 475,000. In 1930, imports totaled 16,421,592 Straits dollars; exports, 24,894,762 Straits dollars (Straits dollar averaged \$0.5245 in 1931); revenue, 5,562,034 dollars; expenditure,

7,089,923 dollars. Rajah in 1932, Sir Charles Vyner Brooke.

**SARTORIO, GIULIO ARISTIDE.** An Italian painter, died Oct. 4, 1932, in Rome, where he was born in 1861. In his early work he was inspired by Dante Gabriel Rossetti. For many years he was an instructor in painting at the University of Jena under the patronage of the Grand Duke of Saxe-Weimar. He exhibited in Paris, Munich, Berlin, New York, and other cities, and was awarded a gold medal at the Paris Exposition of 1889. He was best known for his mural works, among which are the decorations of the Parliament building in Rome, depicting the spiritual history of the Italian race.

**SASKATCHEWAN, sās-kāch'è-wōn.** One of the Prairie Provinces of Canada, bounded on the east by Manitoba, north by the District of Mackenzie, west by Alberta, and south by the United States. Area, 251,700 square miles; population (1931 census), 921,785 (757,510 in 1921). Regina, the capital, had 53,209 inhabitants in 1931 (34,432 in 1921); Saskatoon, 43,291 (25,739); Moose Jaw, 21,299 (19,285). Living births during 1930 numbered 22,061; deaths, 6309; marriages, 5717. The total enrollment in the 1917 public elementary schools in 1930 was 228,434. The University of Saskatchewan at Saskatoon had 2813 students in 1929-30.

Agriculture is the leading occupation, the gross value of the annual agricultural production being estimated at \$106,686,000 for 1931. Field crops harvested from 21,769,639 acres were valued at \$66,101,400 in 1931, as compared with \$135,695,000 from 22,868,300 acres in 1930. The value of the mineral output in 1931 was \$2,114,372 (subject to revision) compared with \$2,368,612 for 1930. The coal output for 1930 was 579,424 tons valued at 968,963. In 1930 the 750 manufacturing establishments had 7248 employees, a capital investment of \$65,486,140, and a value of output of \$62,276,766 gross and \$26,668,609 net. The bonded indebtedness in 1930 was \$73,667,316. Revenues amounted to \$16,561,528 and expenditures to \$17,079,704 for 1930.

Executive power is vested in a lieutenant-governor and a legislative assembly of 63 members elected for 5 years. In 1932, the government coalition included 24 Conservatives, 5 Progressives, and 6 Independents, with 28 Liberals forming the Opposition. The Province is represented in the Dominion Parliament at Ottawa by 6 members in the Senate and 21 members in the House of Commons. Lieutenant-Governor in 1932, H. E. Munroe. Premier, President of the Council, and Minister of Education, J. T. M. Anderson.

**SAUDI ARABIA, KINGDOM OF.** See under ARABIA.

**SAULT STE. MARIE, CANALS AT.** The commerce passing through the canals at Sault Ste. Marie in Michigan and Ontario fell off at a still greater rate during 1932 than during the previous year. In 1931 the percentage of decline in the number of vessels with registered tonnage was 22 per cent, with a total of 13,056 vessels. In 1932, with 8679 vessels, the decline was 34 per cent; a total decline in the two years of 61 per cent. The registered tonnage of 17,250,905 in 1932 as against 35,917,044 in the previous year showed a decline of 52 per cent; a total decrease in two years of 69 per cent. The 1932 traffic involved 7102 steamers, 335 sailing vessels, and 1242 unregistered craft. There were 6577 lock-

ages against 9537 in 1931, and 12,661 in 1930.

The freight passing through the canals in 1932 totaled 20,480,873 short tons as against 44,613,671 in 1931, a decline of 54 per cent—a decline of 72 per cent in two years. Passengers were 20,241 as against 33,606 in the previous year, a decline of 40 per cent. The traffic in wheat amounted to 207,224,044 bushels as against 189,090,091 bushels in 1931, or an increase of 10 per cent. Grain was 39,615,921 bushels, or a decrease of 30 per cent from the 56,303,180 bushels carried in 1931. Iron ore in 1932 dropped to the incredibly low figure of 3,607,119 short tons, a decline of 85 per cent from 24,259,899 tons in 1931, and of 92.5 per cent from 47,050,854 tons in 1930. Soft coal was 7,187,409 short tons as against 9,891,474 tons in 1931, a decline of 27 per cent; and flour was 7,116,400 barrels as against 8,575,915 barrels in 1931, a decline of 17 per cent.

The U. S. Canal was opened April 17 and closed December 13, a season of 241 days; the Canadian Canal also opened April 17 and closed December 16.

The greater amount of the freight was east-bound and amounted to 11,821,705 short tons, of which 9,940,538 passed through the U. S. Canal and 1,881,167 through the Canadian Canal. The total westbound freight was 8,659,168 short tons, of which 8,206,430 passed through the U. S. Canal and 452,738 through the Canadian Canal.

**SAVINGS BANKS.** See BANKS AND BANKING.

**SAXONY.** The name applied to three divisions of the former German Empire: the Republic of Saxony (formerly the Kingdom of Saxony); the former Grand Duchy of Saxony (now part of Thuringia); and the Prussian Province of Saxony. See GERMANY.

**SCABIES, ERADICATION OF.** See VETERINARY MEDICINE.

**SCANDINAVIAN LITERATURE.** This review includes the late books of 1931 in addition to the books of 1932, and is divided into Danish, Norwegian, and Swedish literature.

**DANISH.** *Poetry.* Helge Rode's new collection, *Den vilde Rose* (The Wild Rose), contains poems of various types, many written for special occasions; as, for instance, the "Prologue to the Ibsen Jubilee." They are characterized by seriousness and solemnity. Johannes V. Jensen's *Den fydske Blæst* (The Jutland Wind), is pervaded with that classical spirit which we have of late learned to expect in Jensen's poetry. In it we note also the local atmosphere of Jutland so characteristic of his prose.

*Fiction.* Harald Herdal's *Tirsdal* is the story of an orphan girl from the poorer section of Copenhagen who through grit and perseverance overcomes the obstacles of her environment. Throughout the work one glimpses the social doctrine of the author—that the welfare of the group is of far greater importance than that of the individual. Morten Korch is still interested in Fyen, as is proved by *Kærlille*, a sequel of *Ved Stillebækken*. This book shows the author's usual ability to depict the common people and their humor. Cai M. Woel wrote two books, *Mit Livs Elvira* (My Life's Elvira), a simple love story told in a charming and intimate manner which reminds one of Hemingway's *Farewell to Arms*, and its sequel, *Mænd på femogtredive* (Men at Thirty-five), which in general falls below the standard of the earlier work.

*Literature and Criticism.* *Svensk Historietänkning* (Swedish Historical Thought), by Kay

Schmidt-Phiseldeck is a scholarly and interesting exposition of the development of historical theories in Sweden and Finland during the nineteenth century. In *Juan de la Cruz*, H. Brønsted pictures the two representatives of mysticism, Santa Teresa and Juan de la Cruz, against the literary background of the Spanish Golden Age. The work shows an exceptional mastery of the Spanish text as well as a rare power of sympathetic understanding.

**SWEDISH. Drama.** In *Jag har varit en tjuv* (I Have Been a Thief), a play whose heroine is transformed by the realization that her hitherto selfish life has been worthless, Sigfrid Siwertz again stresses the importance of the human will. The scene of Rudolf Värnlund's *Den heliga familjen* (The Holy Family) is a workingman's home, and the action extends from 1900 to 1930. The play deals with social and economic conflicts and ends on a note of religious mysticism. In *Den förste Bernadotte* (The First Bernadotte), Herbert Grevenius gave a series of effective scenes from the reign of Karl Johan, the founder of the present dynasty.

**Poetry.** Einar Malm's *Under bar himmel* (Under the Open Sky) shows a love of nature, a receptive mood, and a fertile imagination.

**Fiction.** In *Saltjäppirater* (Salt Water Pirates), which is a sequel of the twenty-year-old *Mälarpirater*, Sigfrid Siwertz shows himself, as always, a lover of nature and adventure, and a firm believer in action. Gustaf Hellström's *Carl Heribert Malmros* is the story of a chief of police whose unhappiness and tragic end are caused by the fact that his idealistic and philosophical spirit is not robust enough to cope with the conditions that he encounters. Olle Hedberg's *Får jag be om räkningen* (May I Have the Bill) is a good model of contemporary realism. Hedberg never preaches, but one sees in this book a certain resignation coupled with the conviction that we are all makers of our own fates. Knut Stenring's new book, *Ludvig Lyra*, is a masterly, although at times somewhat satirical, portrayal of the Swedish-born population of a big American city.

**Literature and Criticism.** *Nordisk Folklivskildring* (Portrayal of the Common People in Scandinavian Literature) by Erik Lindström is a scholarly and at the same time fascinating study extending from earliest times to the present. Gerda Rydell's *Henrik Ibsen* is especially good in treating the literary men and tendencies that directly or indirectly influenced the great dramatist, and gives many new and fruitful points of view (See also PHILOLOGY, MODERN.)

**NORWEGIAN. Poetry.** Although the poems in Theodor Caspari's *Myrmalm* (Swamp Ore) vary in subject matter and tone, all express the thought that there is in Norwegian nature and people a treasure, an "ore," which rewards those who seek it. Olaf Bull's collection *Ignis Ardens* is excellent throughout. Especially the opening poem, a cantata describing the creation and development of the universe, because of its magnificence of conception, its depth of thought, and its poetic beauty, deserves a place among the masterpieces of Norwegian literature.

**Fiction.** Kristmann Gudmundsson, who, although a native Icelander, has an enviable record as a Norwegian novelist, wrote his best work so far, *Det hellige fjell* (The Sacred Rock), a story of the birth of the Icelandic nation. Birger Dahl made his début with *Kommandanten og hans by*

(The Commandant and His Town), a work of easy and natural humor, considered by critics as unique in its kind.

**Literature.** The Bjørnson centenary aroused a renewed interest in the great writer. The first complete biography of Bjørnson was written by Christian Gierloff. His letters were edited by Halvdan Koht under the title of *Kampliv* (A Life of Combat). In *Bjørnstjerne Bjørnson*, Bjørn Bjørnson gives an intimate view of his father during the Aulestad period.

**SCHAUMBURG-LIPPE**, shoum'boörk-lip'pē. A State of the German Republic. See GERMANY under *Area and Population*.

**SCHIPA**, tiro. See MUSIC.

**SCHNEIDER TROPHY COMPETITION.** See AERONAUTICS.

**SCHOBER**, JOHANN. An Austrian statesman, died in Vienna Aug. 19, 1932. He was born in Berg, Upper Austria, Nov. 14, 1874, and studied law at the University of Vienna. In 1898 he entered the imperial Austrian police service, and in 1914 became head of the State Police Department and president of police of Vienna. During the revolution of November, 1918, that changed Austria into a republic, it was largely due to his efforts that Austria was spared Bolshevism. In June, 1921, he was requested by the central committee of Parliament, which was then the governing power in Austria, to accept the chancellorship, heading a non-party ministry. One of his first steps was the establishment of friendly relations between Austria and her neighbors, but the pact of Lana, which he concluded with Czechoslovakia on Dec. 16, 1921, did not meet with the approval of the Pan-Germans who feared that such an agreement might prove an obstacle to an ultimate *anschluss* with Germany. On the withdrawal of the Pan-Germans from the government coalition the Christian Socialists were not strong enough to govern alone against the opposition of the Social Democrats. Accordingly in May, 1922, Schober resigned the chancellorship and returned to the post of president of police. In the following years he reformed the State Police Department and was made head of the international police commission which took its permanent seat in Vienna.

In September, 1929, Schober was again appointed chancellor, having been called upon during the earlier months of the year to avert a threatened clash between the Heimwehr, a reactionary military organization, and the Socialist Schützbund, which staged rival demonstrations in Vienna. By the amendment of the constitution in December he achieved a compromise between the Socialists and Conservatives, thus nullifying the Heimwehr plans for the establishment of a Fascist state. He returned from the second Hague Reparations Conference held in January, 1930, and from the subsequent conference on Eastern reparations at Paris, with two noteworthy achievements to his credit that removed the obstacles in the way of a new international loan to Austria. These were the definite promise that Austria would not be required to make further reparation payments until 1943 and the termination of the control of her foreign borrowing operations by the Reparation Commission. Schober signed also a reconciliation treaty with Italy during his visit to Rome in February, 1930, and in April brought to a successful conclusion the long-pending negotiations with Germany for a commercial treaty. His sub-

sequent visits to London and Paris paved the way for the flotation of a \$100,000,000 foreign loan.

After the downfall of his cabinet in September, 1930, he headed the National Economic party and at the general elections in November became a member of Parliament. In December, 1930, he became Vice Chancellor and Minister of Foreign Affairs in the Ender cabinet, and in this capacity made the abortive attempt to bring about the Austro-German Customs Union. On Sept. 3, 1931, with Dr. Julius Curtius, the German Foreign Minister, he had to renounce the plan before the European Union Commission at Geneva. He resigned his cabinet post in February, 1932.

**SCHOELLKOPF MEDAL.** See CHEMISTRY, INDUSTRIAL.

**SCHOLA CANTORUM.** See MUSIC.

**SCHOLARSHIPS.** See PAINTING; UNIVERSITIES AND COLLEGES.

**SCHOOL EFFICIENCY.** See EDUCATION IN THE UNITED STATES.

**SCHOOLS.** See EDUCATION IN THE UNITED STATES, and paragraphs on *Education* under the various countries and States of the United States.

**SCIENCES, NATIONAL ACADEMY OF.** See NATIONAL ACADEMY OF SCIENCES.

**SCIENTISTS, CHRISTIAN.** See CHRISTIAN SCIENTISTS.

**SCOLLARD, CLINTON.** An American poet and educator, died in New Milford, Conn., Nov. 19, 1932. He was born in Clinton, N. Y., Sept. 18, 1860, and was graduated from Hamilton College in 1881, later studying at Harvard and Cambridge Universities. He was professor of English literature at Hamilton College from 1888 to 1896, and on resuming this chair in 1911 held it thereafter until 1932. He was honored by election to the National Institute of Arts and Letters. His verse, which was characterized by true poetic feeling, color, and imagination, was published in the volumes: *Pictures in Song* (1884); *With Reed and Lyre* (1886); *Old and New World Lyrics* (1888); *Giovio and Gulua*, a metrical romance (1891); *War Voices and Memories* (1919); *Songs of Summer* (1927); *Lyrics of Life* (1928); *Lyrics of Florida* (1929); and *Songs Out of Egypt* (1930).

**SCOTLAND.** See GREAT BRITAIN.

**SCOTLAND, CHURCH OF.** See PRESBYTERIAN CHURCH.

**SCOTT, CHARLES PRESTWICH.** A British journalist, died in London, Jan. 1, 1932. Born in Bath, Somersetshire, Oct. 26, 1846, he attended Corpus Christi College, Oxford, from which he was graduated in 1869. Two years later he began his long connection with the *Manchester Guardian*, serving as its editor from 1872 until his retirement in 1929. As a Liberal he represented the Leigh division of Lancashire in Parliament from 1895 to 1906. He was also a governor of Manchester University. His son, Edward Taylor Scott, succeeded him as editor in 1929, but was drowned in Lake Windermere on Apr. 22, 1932.

**SCOTT, SIR WALTER, CENTENARY OF DEATH.** See CELEBRATIONS.

**SCOTTSBORO CASE.** See LAW IN 1932; KENTUCKY under *Political and Other Events*; COMMUNISM.

**SCULPTURE.** As a part of the Folger Shakespeare Memorial in Washington, D. C., which was designed by Paul Cret of Philadelphia, and dedicated April, 1932, John Gregory executed a series of nine large panels in high relief repre-

senting scenes from Shakespeare's plays, which suitably ornament the very simple façade.

A seated figure of Lincoln by Charles Keck was dedicated on Memorial Day, 1932, in the Court House grounds at Wabash, Indiana, the gift of Alexander New.

A statue of Lincoln as a youth, modeled by Paul Manship, was placed in the forecourt of the Lincoln National Life Insurance Building, Fort Wayne, Indiana, and ceremoniously unveiled on September 16th. This statue represents Lincoln as an Indiana frontiersman at the age of twenty-one.

A statue of Cardinal Gibbons by Leo Lentelli, a seated figure with flowing robes and right hand upraised in benediction, was placed in a small triangular park in front of the Shrine of the Sacred Heart in Washington, the gift of the Knights of Columbus. This was accepted by President Hoover in a public address at the unveiling on Aug. 14, 1932.

A bust of Daniel Webster, begun by the late Daniel Chester French and finished by his daughter, Margaret French Cresson, was dedicated on October 12th in Franklin, N. H., Webster's birthplace. This bust, which is heroic in size, is cast in bronze and stands on a pedestal of native New Hampshire granite in front of the Congregational Church.

A pediment group by C. Paul Jennewein and Leon V. Solon, designed for the façade of the new Pennsylvania Museum in Philadelphia, was completed in the early autumn of 1932. It is in terra cotta, measuring 70 feet at the base, executed in brilliant polychrome and gold glazes. The composition includes thirteen mythological figures, ranging to 12 feet in height; these represent the physical side of man's nature.

A Stirling Calder's figure of Leif Ericson, a statue presented by the United States to Iceland, received the Gold Medal in Sculpture at the Architectural League's Annual Exhibition for 1932. The Avery Prize in this exhibition, awarded to sculptors under thirty years of age, was won by David K. Rubins, for a group entitled "Victory."

In the Olympic International Exhibition, Los Angeles, the first prize in sculpture was awarded to Mahonri Young for his group "The Knock-down," and in the division of sculpture in relief and medals the second prize went to Frederick W. MacMonnies for his Lindbergh Medal, made for the Society of Medalists, and third prize to Dr. R. Tait McKenzie of Philadelphia for his "Shield of the Athletes."

A memorial in bronze and stone by Hermon A. MacNeil to commemorate the Confederate Defenders of Fort Sumter was dedicated at Charleston, S. C., on October 20.

A monument in bronze and stone, 25 feet high, including figures of a warrior in attitude of defense and an allegorical female figure, commemorating the Confederate Defenders of Fort Sumter was dedicated at Charleston, S. C., on October 20. It is the work of Hermon A. MacNeil.

An equestrian statue of Gen. Oliver Otis Howard of the Eleventh Union Corps, was unveiled with ceremony on the Hill Top at Gettysburg by the State of Maine, which contributed \$30,000 toward the cost. It is the work of Robert Aitken, sculptor.

A replica of the late Paul Wayland Bartlett's equestrian statue of Lafayette in Paris was unveiled in Hartford, Conn., in the autumn of 1932.



in honor of French-American friendship. It is the gift of Mrs. William M. Storrs, a Hartford artist.

Two monumental groups by Lorado Taft were placed on either side of the entrance to the Louisiana State Capitol at Baton Rouge, La. Works by other well-known sculptors also decorate this building, such as Albert Rieker, Juanita Gonzalez, Angela Gregory, John Lachin, and Rudolph Parducci. The window grilles were the work of the Piccirilli Brothers.

A bronze replica of Houdon's bust of Lafayette was presented to New York University and unveiled with appropriate ceremonies in the Auditorium of the University on February 22.

**BIBLIOGRAPHY.** Among the publications of the year may be noted the following: *The Sculptor Speaks*, by Arnold Haskell; *Medieval Sculpture in France*, by Arthur Gardner; *The Meaning of Modern Sculpture*, by R. H. Wilemski; *Daniel Chester French* by Adeline Adams.

See **ART EXHIBITIONS.**

**SEABURY INVESTIGATION.** See **NEW YORK** under *Political and Other Events.*

**SEA LAW.** See **INTERNATIONAL LAW.**

**SEALING INDUSTRY.** See **ALASKA.**

**SEAMAN, LOUIS LIVINGSTON.** An American surgeon, died in Bronxville, N. Y., Jan. 31, 1932. He was born in Newburgh, N. Y., Oct. 17, 1851, and was graduated from Cornell University in 1872. On completing the course at the Jefferson Medical College of Philadelphia in 1876 he was appointed resident surgeon for the New York State Emigrant Hospital. In 1879 he was made superintendent of the New York State Emigrant Insane Asylum, and in 1881 chief of staff of the hospitals and training school for nurses on Blackwell's Island, New York City. During the Spanish-American War he served as major and surgeon with the 1st regiment of the United States volunteer engineers. Also, he served in the Philippines with the 17th and 23d infantry regiments during 1899-1900 and in Peking, China, with the American Army of Occupation during 1900-01. In 1905 he was a surgeon with the 2d Japanese army in Manchuria during the Russo-Japanese War, recording his observations in *From Tokio through Manchuria with the Japanese* and *The Real Triumph of Japan*. At the outbreak of the World War he offered his services to the hospitals of the Belgian army. Also he served with the British and the French Red Cross for two years and was president of the British War Relief Association. He was a contributor to the **NEW INTERNATIONAL ENCYCLOPEDIA.**

**SECONDARY EDUCATION, NATIONAL SURVEY OF.** See **EDUCATION** in the **UNITED STATES.**

**SECOND POLAR YEAR.** See **METEOROLOGY.**

**SEIPEL, MGR. IGNAZ.** An Austrian cleric-statesman, died in Pönnitz, Aug. 2, 1932. He was born in Vienna, July 19, 1876, and attended the theological seminary of the University of Vienna. Following his ordination as a Roman Catholic priest in 1899, his career until the close of the World War was partly pastoral and partly academic. In 1909 he became a professor of theology at the University of Salzburg, and in 1917 was appointed to the same chair at the University of Vienna. In October, 1918, he was made Minister of Social Welfare in the cabinet which the Emperor Charles had asked Heinrich Lammasch to form in an attempt to hold together the rapidly dissolving monarchy. After the col-

lapse he succeeded in preventing the threatened split of the strongest conservative party in the country, the Christian Socialist, into a monarchist and a republican party, and two years later became the acknowledged leader of that party. He sat in 1919 as a member of the National Constituent Assembly, and of the National Council. On the resignation of the ministry of Johann Schober (q.v.) in May, 1922, he took office as chancellor. The government was rapidly approaching bankruptcy and dissolution. To prevent this catastrophe he secured an international loan of 650,000,000 gold crowns (\$135,000,000), with the aid of which Austria weathered the storm. He resigned in November, 1924.

At the head of a Christian Socialist-Pan German coalition Seipel again became chancellor in October, 1926. His resignation in April, 1929, was due to strife within the Christian Socialist party and criticism from the Socialists of his dual rôle of priest and state official. Only once again did he accept a cabinet post and that was as Minister of Foreign Affairs in the minority government of Karl Vaugoin that lasted from September to November, 1930.

**SEISMOLOGY.** On the average, earthquakes are felt in some part of the world at least 4000 times each year, though fortunately the vast majority of these quakes either are feeble and harmless, or else occur under the sea or in thinly populated regions. In the United States alone, 200 or more are usually reported annually. Heavy quakes often occur in remote regions from which direct news is weeks or months in reaching the world, and are known to have taken place only from the records made by seismographs over the globe.

The year 1932 had the usual quota of earthquakes, several of which ranked as severe disasters. A large portion of Santiago, Cuba, was ruined by a series of destructive quakes which began on the morning of February 3; 12 people were killed, and about 500 injured. The vicinity of Santiago is one of the most active earthquake centres of the West Indies; great destructive shocks have occurred in 1624, 1678, 1766, and 1852. The epicentres lie along a well-known dislocation that is 1250 miles long, and skirts the southern coast of the east end of the island, forming the northern boundary of the Bartlett Trough; the latter at one point reaches a depth of 4 miles. On September 26, a violent quake, followed by numerous aftershocks, originated under the Ægean Sea, and caused great damage in a number of towns. See **GREECE** under *History.*

Part of the city of Eureka, Calif., was destroyed on June 6 by the most severe quake that has occurred on the Pacific Coast since the Santa Barbara shock in 1925; the epicentre was at sea, a short distance off the mouth of the Klamath River. A rather severe quake also occurred on December 20, centred near Mono Lake in the high Sierras not far from the California-Nevada State line. Late in December a severe quake occurred in the region of Mount Athos, in northeastern Greece.

**SELANGOR.** See **FEDERATED MALAY STATES.**

**SELLERS, MATTHEW BACON.** An American aeronautical engineer, died in Ardsley Park, N. Y., Apr. 5, 1932. He was born in Baltimore, Md., Mar. 29, 1869, studied in Göttingen, Germany, and Evreux, France, and was graduated from the Harvard law school in 1892. About 1900 he became interested in aeronautics. In 1903 he be-

gan to investigate and determine the lift and drift of arched surfaces, devising for this purpose a "wind tunnel" for measuring the dynamic air pressure on bodies.

Sellers in 1908, invented a novel flying machine, whose four planes were arranged like steps, the operator being on a line with the lowest plane. In 1915 he became a member of the Navy Consulting Board, serving during the World War as technical assistant to the Secretary of the Navy. He was also for several years technical editor of *Aéronautics*.

**SEMPLE, ELLEN CHURCHILL.** An American anthropo-geographer, died in West Palm Beach, Fla., May 8, 1932. She was born in Louisville, Ky., in 1863, and was graduated from Vassar College in 1882, later studying at the University of Leipzig in 1891-92 and 1895. One of the first Americans to make a special study of the influence of geographic conditions upon the development of society, she was professor of anthropo-geography at Clark University (1921-28). Among her publications are *American History and Its Geographic Conditions* (1903) and *The Influences of Geographic Environment* (1911).

**SENATE COMMITTEE ON UNEMPLOYMENT.** See UNEMPLOYMENT.

**SENEGAL,** sēn'egal'. See FRENCH WEST AFRICA.

**SERBIA.** See YUGOSLAVIA.

**SEVENTH-DAY ADVENTISTS.** See ADVENTISTS.

**SEWAGE TREATMENT.** See SEWERAGE AND SEWAGE TREATMENT.

**SEWERAGE AND SEWAGE TREATMENT.** In the United States sewerage systems in 100 cities in 20 States are being at least partly maintained from charges for the use of the sewers. Where the water supply is metered it is logical to base the charge for the use of the sewers on the water consumed in each house. The Reconstruction Finance Corporation (see UNITED STATES) ruled that sewerage systems can be classed as self liquidating if an adequate charge is made for the use of the sewers.

Forty years ago a few cities, led by *Brockton, Mass.*, began to charge for the use of sewers. The practice increased slowly for years. Of late it has been adopted in many cities as a means of raising money to meet the increasing costs of sewers and sewage treatment, to lessen stream pollution and to reduce the burden of taxation. A few American cities have sewers owned and operated by private companies, the largest being *Atlantic City, N. J.*

In sewage treatment the activated-sludge process continued to gain for new installations. More attention was being given than before to the disposal of screenings by incineration, particularly at *Chicago* and *Milwaukee*. Progress in carrying out the decree of the U. S. Supreme Court setting up a programme for building additional works sufficient to treat all the sewage of the *Chicago Sanitary District* was delayed by lack of funds due in part to the tax muddle in Chicago and all of Cook County (see MUNICIPAL GOVERNMENT). At the close of the year the court commissioned a master to report on the delays. A tri-State compact designed to control the pollution of waters common to Connecticut, New York, and New Jersey was completed early in the year and submitted to the three correspond-

ing legislatures but had not been ratified by them and sent to Congress by the end of the year.

**SEX-DETERMINATION.** See ZOOLOGY.

**SEXTON, THOMAS.** An Irish journalist and parliamentarian, died in Dublin, Nov. 1, 1932. Born in 1848, he received a common school education, and at the age of 12 became a junior clerk in the offices of the Waterford & Limerick Railway. In 1868 he became a member of the editorial staff of the *Nation*, the famous Nationalist weekly newspaper, and following the strengthening of the Irish Nationalist party by Parnell, the leader of the more advanced section, was selected to stand for Parliament in the general election of 1880. For 16 years he was one of the most conspicuous figures in the Nationalist movement, representing in succession County Sligo (1880-85), Southern Sligo (1885-86), Belfast, West (1886-92), and Kerry, North (1892-96).

**SHAHAN, THE RIGHT REV. THOMAS JOSEPH.** An American Roman Catholic bishop and educator, died in Washington, D. C., Mar. 9, 1932. He was born in Manchester, N. H., Sept. 11, 1857, and was educated at the American College and the College of Propaganda in Rome, the Roman Seminary, the University of Berlin (1880-91) and the Sorbonne and Institut Catholique in Paris (1891). In 1891 he was called to the Catholic University of America as professor of Church history and patrology, and from 1909 to 1928 was rector of that institution. He was created domestic prelate to the Pope, with the rank of monsignor, in 1909. On Nov. 15, 1914, he was consecrated titular bishop of Germanicopolis. His publications include: *The Blessed Virgin in the Catacombs* (1892); and *St. Patrick in History* (1905).

**SHAKESPEARE ANNIVERSARY.** See CELEBRATIONS.

**SHANGHAI.** See CHINA under *History*.

**SHAN STATES.** See BURMA.

**SHANTUNG,** shan'tōng'. See CHINA under *Area and Population*, and *History*.

**SHARE-THE-WORK-MOVEMENT.** See UNEMPLOYMENT.

**SHAW, LESLIE MORTIER.** An American lawyer, banker, and cabinet officer, died in Washington, D. C., Mar. 28, 1932. He was born in Morristown, Vt., Nov. 2, 1848, and was graduated from Cornell College in 1874 and from the Iowa College of Law in 1876. In the latter year he began the practice of law in Denison, Iowa. He was Governor of Iowa from 1898 to 1902 and thereafter until 1907 served as Secretary of the Treasury in the cabinet of President Roosevelt. On his resignation he became president of the Carnegie Trust Co. in New York City.

**SHEEP.** See LIVESTOCK; WOOL.

**SHERINGTON, SIR CHARLES S.** See NOBEL PRIZES.

**SHIP, NAVAL.** See NAVAL PROGRESS.

**SHIP-AND-SHORE COMMUNICATION.** See RADIO.

**SHIPBUILDING.** In 1932 the production of shipping throughout the world was the smallest in more than fifty years. It reached only a total of 726,591 gross tons, and was less than half of that for 1931 (1,617,115 gross tons) which in turn was the smallest since 1909, except for the war year 1915. These figures and the following summary of shipbuilding are from the annual record of *Lloyd's Register of Shipping*, which does not include warships and takes into account only merchant vessels of 100 gross tons or over

that were launched in 1932, whether they were completed during the year or were still under construction at its close. The decline in 1932 was much less marked in the United States than in other shipbuilding nations. For the American shipyards there was a decrease of only 62,000 gross tons, as compared with a decline of 314,000 tons for Great Britain and Ireland, and one of 513,000 tons for the other countries, taken as a group. A comparison of the launchings in the last two years is shown in the following table of gross tonnage for the chief shipbuilding groups:

Country	1932	1931
United States .....	143,559	205,865
Great Britain and Ireland .....	187,794	502,487
Other countries .....	395,238	908,768
World total .....	726,591	1,617,115

Of the total for the United States, 141,359 gross tons were launched on the Atlantic Coast. There were no launchings for the Great Lakes during 1932.

Variations in the total ship production of the world during recent years is shown by *Lloyd's Register* in the accompanying table, giving the gross tons launched in the last pre-war year, and in all years since the war:

Year	Yearly launchings	Gain or loss
1913 .....	3,332,000	.....
1919 .....	7,144,000	+ 3,812,000
1920 .....	5,861,000	- 1,283,000
1921 .....	4,856,000	- 1,005,000
1922 .....	2,467,000	- 1,874,000
1923 .....	1,643,000	- 824,000
1924 .....	2,247,000	+ 604,000
1925 .....	2,198,000	- 54,000
1926 .....	1,874,000	- 519,000
1927 .....	2,285,000	+ 611,000
1928 .....	2,699,000	+ 414,000
1929 .....	2,793,000	+ 94,000
1930 .....	2,889,000	+ 96,000
1931 .....	1,617,000	- 1,272,000
1932 .....	726,000	- 891,000

The launchings in Great Britain and Ireland in 1932 represent the smallest volume of construction in those countries almost from the beginning of their shipbuilding activity; their total is less than a tenth of the output for the last pre-war year, 1913. Compared with this, however, the 1932 output for the United States was slightly more than 50 per cent of the 1913 total. The tonnage launched in these countries in recent years is compared in the accompanying table:

Year	United States	Great Britain and Ireland
1913 .....	276,000	1,932,000
1919 .....	4,075,000	1,620,000
1920 .....	2,476,000	2,055,000
1921 .....	1,006,000	1,588,000
1922 .....	119,000	1,031,000
1923 .....	172,000	645,000
1924 .....	139,000	1,439,000
1925 .....	128,000	1,084,000
1926 .....	150,000	639,000
1927 .....	179,000	1,225,000
1928 .....	91,000	1,445,000
1929 .....	126,000	1,522,000
1930 .....	246,000	1,478,000
1931 .....	205,000	502,000
1932 .....	143,000	187,000

The production of sailing vessels and barges of 100 gross tons and upwards almost reached the vanishing point last year, only 2304 tons being reported as launched throughout the entire

world. In 1931 a total of 13,564 gross tons was reported, and for 1930, 53,996 tons.

**TANKERS.** With the exception of Germany, the returns for all countries show a sharp decline during 1932 in the construction of steam and motor tankers of 1000 gross tons each and upwards. The world launchings for these types of vessels for the year aggregated only about a fifth of the total for 1931. No tankers at all are reported as having been launched in the United States during 1932, and the output for Great Britain and Ireland dwindled from about 240,000 tons to less than 6000. Germany's production, however, fell off only a few thousand tons, in contrast to Sweden's decrease of about 60,000 tons. For the other countries, taken together, the decline was almost as drastic as for Great Britain and Ireland. The comparison in tanker production between the two years is shown by *Lloyd's Register* in the accompanying table, the figures representing gross tons:

Country	1932	1931
Great Britain and Ireland .....	5,716	242,222
United States .....	382	37,561
Germany .....	62,057	65,881
Sweden .....	27,527	87,238
Other countries .....	39,329	209,580
World total .....	185,011	642,507

Of the world output for 1932, motor tankers again predominated, launchings of these representing 128,913 tons of the total.

**MOTORSHIPS.** Especially pronounced was the decline in the production of motor vessels of all types, the total launchings of these during 1932 being about 650,000 gross tons less than in the preceding year. Germany launched almost as large a volume of this type of construction as in 1931; but all other countries reported a very sharp decline in output, save Italy, whose decrease was only 13,000 tons. Sweden showed a falling-off of 70,000 tons; and there was practically no production of motor vessels in Great Britain and Ireland, or in the United States, the first named countries reporting a decrease of 225,000 tons, and the latter country one of 45,000 tons. For the other maritime countries, combined, there was a falling off of 295,000 tons. The launchings of motor tonnage is compared by *Lloyd's Register* in the accompanying table:

Country	1932	1931
Germany .....	79,244	79,995
Italy .....	46,201	59,584
Sweden .....	37,217	107,766
Great Britain and Ireland .....	2,448	227,910
United States .....	2,082	48,424
Other countries .....	101,503	396,816
World total .....	268,690	920,495

The situation in 1931, when more motorized tonnage was launched than that of all other types of vessels taken together, was reversed in 1932. This condition was largely due to the marked decline in the construction of tankers, as the great bulk of this type of construction has of late years been motor-driven. In 1931, 223,000 gross tons more of motor vessels were launched than of all other kinds of vessels combined. In 1932, however, motorship launchings fell 190,000 tons behind the total for other types, with the result that motorized tonnage represented only about 37 per cent of the 1932 output. Comparative

launchings of the various types of vessels during recent years is shown by *Lloyd's Register* in the accompanying gross tonnage table:

Year	Motor vessels	Other types
1927 .....	863,000	1,422,000
1928 .....	1,183,000	1,516,000
1929 .....	1,269,000	1,524,000
1930 .....	1,582,000	1,807,000
1931 .....	920,000	697,000
1932 .....	268,000	458,000

Eighteen steamers and motorships, each of from 6000 to 9999 gross tons were launched during 1932 as compared with 89 during 1931. Of the vessels of larger size, from 10,000 tons and up, 17 were sent down the shipways in 1932, as against 26 in the previous year. The returns show that the vessels equipped with steam turbines launched during 1932 aggregated 252,891 gross tons, including 104,464 tons fitted with

In 1931 Great Britain and Ireland launched 31 per cent of all the tonnage sent down the shipways of the world; but in 1932 her proportion of the total output fell to 26 per cent. In the same period the share of the United States advanced from 13 per cent to 20 per cent, and that of the other maritime countries combined dropped from 56 per cent to 54 per cent. In 1930 Great Britain and Ireland launched more tonnage than all other countries put together.

**SHIPPING.** According to the annual report of the U. S. Commissioner of Navigation for the fiscal year ending June 30, 1932, the merchant marine of the United States, at that date, including all kinds of documented craft, comprised 25,156 vessels of 15,838,655 gross tons, of which 1967 seagoing vessels of 9,937,717 gross tons were of 1000 tons or over, compared with 1998 vessels of 9,922,771 gross tons on June 30, 1931. The accompanying comparative table is an analysis of the ownership of seagoing tonnage for 1931 and 1932.

Ownership and date		Steel		Wood		Total	
		Number	Gross tons	Number	Gross tons	Number	Gross tons
Private ownership (500 gross tons and over):							
July 1, 1931 .....		1,468	7,395,551	400	497,753	1,868	7,893,304
July 1, 1932 .....		1,490	7,593,370	365	451,388	1,855	8,044,758
U. S. Shipping Board (1,000 gross tons and over):							
July 1, 1931 .....		897	2,239,153	...	.....	897	2,239,153
July 1, 1932 .....		862	2,088,864	...	.....	862	2,088,864
Total, 1931 .....		1,865	9,634,704	400	497,753	2,265	10,132,457
Total, 1932 .....		1,852	9,682,234	365	451,388	2,217	10,133,622

turbo-electric equipment. For 1931 the steam turbine equipped launchings totaled 419,965 tons, inclusive of 125,559 tons with turbo-electric equipment. Of vessels fitted with a combination of reciprocating engines and turbines there were launched during 1932 a total of 22,605 gross tons. The 1931 figure for this type was 26,478. Vessels built on the Isherwood system of longitudinal framing launched during 1932 aggregated 122,908 gross tons, as against 260,000 tons in 1931. The largest vessel launched during the year was the *Normandie*, of 68,000 gross tons, constructed in France.

Other vessels of over 15,000 tons and launched in 1932 were the steamer *Washington*, 25,000 tons, built in the United States; the turbo-electric *Queen of Bermuda*, 22,500 tons, built in England; the motorship *Oceania*, 20,000 tons, built in Italy, and the steamer *Lurline*, 18,021 tons, built in the United States. Four other turbine steamers, each of 11,200 tons—the *Santa Elena*, *Santa Lucia*, *Santa Paula*, and *Santa Rosa*—and two of 8061 tons each were launched in the United States, and two of 13,904 tons in which the electric drive is employed. The comparison of tonnage launchings by the various countries in the last two years is shown by *Lloyd's Register of Shipping* in the accompanying table, the figures representing gross tons:

Country	1932	1931
Great Britain and Ireland .....	187,794	502,487
United States .....	143,559	205,865
France .....	89,310	103,419
Germany .....	80,799	103,934
Japan .....	54,422	83,721
Italy .....	47,441	165,048
Sweden .....	48,000	112,703
Holland .....	26,282	120,296
Denmark .....	22,418	125,974

Of the gross total 928 vessels of 5,276,979 gross tons were engaged in the foreign trade and 1289 vessels of 4,856,643 gross tons in the coasting trade. Since June 1, 1921, when foreign trade reached its greatest volume, 10,699,596 gross tons, there has been a gradual decline, until June 1, 1932, when it amounted to only 5,187,692 gross tons, a falling off of 5,511,904 gross tons, and a decrease during the year of 435,008 gross tons. In 1931–32 722 vessels, of 212,892 gross tons, were built and documented, and on July 1, 1932, there were building, or under contract to build for private shipowners, 96 vessels of 179,911 gross tons. The corresponding figures for 1931 were 1302 vessels of 386,906 gross tons built and 105 vessels of 358,904 gross tons under contract to build. See SHIPBUILDING. On June 30, 1932, the laid-up seagoing tonnage of the United States aggregated 831 vessels of 3,603,426 gross tons, as against 923 vessels of 2,550,363 gross tons on June 30, 1931.

The International Load Line Convention, held in London in the spring of 1930, and ratified by the United States Senate on Feb. 27, 1931, will go into international effect on Jan. 1, 1933.

Prospects of the Government's early retirement from the field of ship operations were indicated in the sixteenth annual report of the U. S. Shipping Board, for the fiscal year ended June 31, 1932. Of the 2546 vessels previously owned by the Board, all but 96 had been sold, scrapped, laid up, or otherwise disposed of. It was the intention of the Board to sell these 96 active ships to private American interests for continued operation. About 80 per cent of the ships constituting the American Merchant Marine, the second largest in the world, are now owned by private American shipping companies. American-flag lines, operating in a network of services to all the principal foreign ports, carry about 34

per cent of the country's exports and imports, as contrasted with 10 per cent when the Shipping Board was first established. Ocean freight and passenger revenues average about \$300,000,000 a year.

Despite the continuance of the depression in international trade, the Shipping Board, in the period covered by the report, disposed of 37 vessels for \$2,644,687. Coincident with this progress toward complete liquidation of its vessel property, the Board during the year was able to reduce the personnel of the Merchant Fleet Corporation by 566 employees, involving salaries and wages aggregating nearly a million dollars. Advances made from the Government's construction loan fund totaled \$50,817,809 for the year, as contrasted with \$28,704,796 for the previous fiscal year. Four additional ocean mail contracts, signed during the year, brought the total up to 44 since the passage of the Merchant Marine Act of 1928. These 44 contracts called for the construction of 69 new vessels, including 5 completely rebuilt vessels, and betterments or substitutions affecting 57 vessels. The estimated cost of the new vessels is about \$300,000,000, and of the betterments about \$22,300,000.

**SHIPWRECKS.** See SAFETY AT SEA.

**SHIRAKAWA, GEN. YOSHINORI.** A Japanese soldier, died in Shanghai, China, May 26, 1932. He was born in Ehime-ken in 1870 and attended the Japanese Military Academy. Entering the army in 1891 he was promoted to major-general in 1915, lieutenant-general in 1918, and general in 1924. He took part in the Russo-Japanese War, served as director of the Military Staff College in 1918, was dispatched to Siberia as commander of the 11th Division in 1921, and commanded the Kwantung garrison during 1925-27. He was Vice-Minister of War under Gen. Hanzo Yamanashi during 1922-24 and Minister of War in the Tanaka cabinet of 1927-29. In 1929 he was made Supreme War Councilor, and at the time of his death was commander-in-chief of the Japanese expeditionary forces at Shanghai. He was one of several high Japanese officials wounded by a bomb thrown by a Korean during the military celebration in Hongkew Park on April 29 of the Emperor Hirohito's birthday. See CHINA under *History*.

**SHOES.** See BOOTS AND SHOES.

**SHOOTING.** Arthur E. Sheffield, railway postal clerk from Dixon, Ill., cracked 98 out of 100 targets from the 21-yard position in a driving rainstorm at Vandalia, O., in August and won the Grand American Handicap and its \$11,000 cash prize, the richest prize in trapshooting in 1932. He succeeded the Rev. Garrison Roebuck, 1931 winner, as champion. This 33d annual Vandalia fixture was attended by the best gunners of the country and many remarkable scores were made. In the tournament Fred Tomlin of Glassboro, N. J., won the international open with a perfect score of 200 from the 16-yard rise, and four men tied for second with 199. Monty Dewire, Hamilton, Ind., farmer, captured the North American target crown; Steve M. Crothers of Philadelphia was crowned "champion of champions"; O. C. Bottger of Fairfield, Ia., annexed the North American double-target championship with 191 out of 200; Ralph Smoots of Kenton, O., took honors in the class AA national event; George Slaughter of Benton Harbor, Mich., won in Class A; K. L. Leach of Calgary, Can., was the winner in class B; W. B. Sale of Denver captured the

North American professional laurels and Mrs. H. S. Grigsby of Oklahoma City, the women's North American, defeating Mrs. Joseph Murphy of Freehold, N. J., by a single target. Mrs. Walter Andrews of Atlanta took the women's North American doubles. The national amateur championships were held over the New York Athletic Club traps at Travers Island in early May, and A. Schwarz of Philadelphia took honors for double target shooting, nosing out Steve Crothers. W. Berwyn Beaver of Berwyn, Pa., won the single target title.

The international small-bore rifle match for the Lord Dewar Trophy was won by the United States in telegraphic competition, with a score of 7872 out of a possible 8000. Another small-bore event of interest, the International Railway Men's match, was won by Great Britain with 7792 out of 8000. The American Legion team of the United States took the Fidac International match, making 1937 out of a possible 2000 in at Camp Perry, O. Other interallied teams participated in this event and the scores were sent to the headquarters at Paris, where it was announced that the United States had won for the third consecutive year.

C. E. Ward, of the Los Angeles police force, won the National Rifle Association individual pistol championship and the national outdoor small-bore individual rifle championship went to Leo Kaufman of Munich, N. D., with a perfect score of 800. The National Rifle Association team pistol honors were taken by the Los Angeles police and the national collegiate small-bore rifle title was won by a Cincinnati University squad.

**SHORT-WAVE CONVERTERS.** See RADIO.

**SIAM, si-am'.** An independent monarchy in southeastern Asia. Capital Bangkok; reigning king in 1932, Prajadhipok.

**AREA AND POPULATION.** With an area of 200,234 square miles, Siam had a census population in 1929 of 11,506,207, as compared with 9,207,355 in 1920. There were (1929) 10,493,304 Siamese, 445,274 Chinese, 379,618 Indians and Malays, 1920 Europeans and Americans, and various other race groups. Migration statistics for the five years 1927 to 1931 covering Bangkok and the southern frontiers showed arrivals of 167,000 annually and departures of 118,888 annually. Bangkok, the chief port and leading city, had 931,170 inhabitants in 1929.

**EDUCATION.** About half the population is said to be literate. Of 2,920,176 children of school age (6 to 15 years) at the 1929 census, 590,585 were enrolled in primary schools in 1929-30; there were 16,534 in secondary schools and 1927 in special schools. Chulalongkorn University is situated at Bangkok.

**PRODUCTION.** Agriculture is the main industry, there being 7,689,000 acres, or 6 per cent of the total area, under cultivation in 1930. For the 1931-32 season the rice crop was 3,160,000,000 pounds; 2,282,000,000 pounds, valued at \$45,597,000, were exported in 1930-31. Rubber production in 1930-31 was 13,670,310 pounds; coconuts, 128,923,642 nuts; tobacco, 10,440,960 pounds; pepper, 4,452,630 pounds. Sticklac is an important product. Teakwood exports in 1930-31 were 66,085 tons, valued at \$4,202,600. Live-stock in 1930 included 4,584,000 cattle, 4,569,000 buffaloes, 9400 domesticated elephants, and 293,000 horses. The metal content of tin produced during the year ended Mar. 31, 1931, was 11,997 metric tons (11,006 in 1929-30). By the interna-



tional restriction agreement reached in September, 1931, Siam's annual tin output was restricted to 10,000 tons. Rice milling is the chief manufacturing industry, there being over 500 mills in the country, mostly Chinese owned.

**COMMERCE.** Siam's exports in the calendar year 1931, valued at \$58,698,000, were 29 per cent less than the 1930 exports, while imports, valued at \$48,684,000, were 37 per cent less. Rice, tin, and teakwood, were the leading export items and cotton piece goods, machinery, sugar, cigarettes, and kerosene the leading imports. Of the total 1930-31 imports, 20.3 per cent were credited to Hong Kong, 15.5 per cent to the United Kingdom, 9.2 to Singapore, and 7.6 to Japan. Singapore took 37 per cent of the exports (for transshipment), Hong Kong 19.1 per cent, and Japan 5.1 per cent. Imports from the United States (1930-31) were valued at \$2,461,000 (\$3,656,000 in 1929-30) and exports to the United States at \$328,000 (\$421,000).

**FINANCE.** The national finances remained in a solvent position throughout 1932 and it was announced that the 7 per cent sterling loan of £2,000,000, issued in 1922, would be paid off Mar. 31, 1933, instead of at maturity in 1963. The resources of the debt redemption fund were more than twice those required to retire the loan. The budget for the fiscal year ended Mar. 31, 1932, estimated revenues at 94,809,000 bahts and expenditures at 94,347,000 bahts; closed accounts for the year approximated the estimates. For 1932-33 revenues were estimated at 74,864,000 bahts and expenditures at 74,455,000 bahts.

The public debt on Mar. 31, 1932, amounted to £10,785,000 (\$52,485,000, converted at par) and was held entirely in London; on Mar. 31, 1931 the debt was £11,092,000. The unit of currency is the baht, formerly called the tical, stabilized in 1928 at 11 bahts to the pound sterling, or about \$0.4423 in United States currency. On May 12, 1932, Siam abandoned the gold standard, and the baht fluctuated in value with the pound sterling, averaging about \$0.31 to the end of 1932.

**COMMUNICATIONS.** The opening of the Bangkok Memorial Road Bridge, 754 feet long, spanning the River Chow Phya and linking the poorer and richer sections of Bangkok, was the chief development in the communications field during 1932. The railways and the telegraph and telephone systems are government owned. The railways in 1930 had 1778 miles of line; in the year ended Mar. 31, 1930, they carried 6,303,000 passengers and 1,447,000 metric tons of freight, the gross receipts being equivalent to \$8,552,000.

**GOVERNMENT.** Executive power at the beginning of 1932 was vested in the King, who exercised virtually absolute authority and was assisted by a consultative council of four elder statesmen of the royal household. An advisory cabinet council consisting of the ministers of state and other high officials functioned as a sort of legislative arm of the government. For changes during 1932, see *History*.

**HISTORY.** The Siamese government, one of the few remaining absolute monarchies in the world, was forcibly transformed into a limited monarchy by a *coup d'état* on the night of June 23-24, 1932. This quiet but effective revolution was the work of a small group of civilians, practically all young men educated in Europe, who had planned for a number of years to bring about a change of government. They objected particularly to the power of the princes of the royal house, who formed a powerful aristocracy, holding all but one of the Ministerial posts and many of the chief offices in the civil and military administration. While many of the princes were honest and capable, some of those holding high office were accused of enriching themselves at the expense of the nation.

In 1932, the conspirators won over a number of the younger officials in the army and navy. Preserving complete secrecy and taking advantage of the King's absence on a vacation at Hua Hin, they suddenly seized the royal palace at Bangkok and arrested a number of the leading princes. Taking control of the War Department, the arsenal, the railways and all means of communication, they then sent a battleship to Hua Hin to notify the King of the developments and to invite him to return as constitutional monarch. The King accepted, rather than precipitate civil war and the possible execution of the royal hostages held at Bangkok.

King Prajadhipok returned to the capital on June 20 and on June 28 a temporary dictatorship was established by the revolutionists, who labeled themselves the People's party. Shortly afterwards the King formally decreed the establishment of constitutional government. The drafting of the Constitution was not completed until November 19, when it was published, to become effective December 24. It provided for the appointment of an executive committee by the King, who was empowered to dissolve the Legislature. Members of the royal family were permitted to hold any appointive office, but were

barred from entering active politics or running for elective office. At the outset, the new government appeared to be a one-party affair, with a mildly Fascist complexion. The new rulers acted with ability and moderation. The princes were allowed to return to their palaces. The American adviser was retained and persuaded to accept an extension of his term of office. The financial condition of the government continued sound and later in the year Siamese bonds were selling above par in London. On May 12, 1932, Siam abandoned the gold standard, which had been adopted in 1929.

**SIBERIA.** A general term applied to the vast area of northern Asia extending from the Ural Mountains to the Pacific and from the Arctic Ocean to Manchuria, Mongolia, and Soviet Central Asia. Siberia is divided, as shown in the accompanying table, into administrative units of the Russian Socialist Federated Soviet Republic, the largest of the seven republics forming the Union of Soviet Socialist Republics.

	Area in square miles	Population January, 1931
Ural Area *	660,000	7,688,400
Western Siberian Area	503,653	8,767,200
Eastern Siberian Area	1,227,248	2,568,400
Yakutsk Republic	1,552,994	308,400
Buriat-Mongol Republic	150,192	575,000
Far Eastern Area	900,731	1,593,400
Total	4,994,818	21,500,800

\* Includes a small section of European U.S.S.R.

See UNION OF SOVIET SOCIALIST REPUBLICS; EXPLORATION.

**SIERRA LEONE**, sē-ēr' lē-ō'nē. A British colony and protectorate on the west coast of Africa. The area of the colony is 4000 square miles and the population 85,163 including 1161 Europeans. Freetown (population, 44,142), the capital is headquarters of the British Imperial naval forces in West Africa. Vessels entered and cleared in the foreign trade in 1930 aggregated 4,621,121 tons. In the year 1930 exports totaled £1,206,040; imports £1,424,175; revenue, £742,972; expenditure, £805,725. The adjoining protectorate has an area of 27,000 square miles; population (1921 census) 1,456,148, of whom 1,450,903 were natives.

**SIGNAL SYSTEM.** See ELECTRIC TRANSPORTATION.

**SILESIA**, sl-lē'sha. (1) A part of the Province of Moravia and Silesia in Czechoslovakia. (2) A county of Poland. (3) The two Prussian provinces of Lower Silesia and Upper Silesia.

**SILK.** The internal consumption of raw silk in Asia is an unknown quantity, hence the production of that region at any period can be based only on the amount exported. On that basis it appears that production of raw silk in 1932 throughout the world declined about 15 per cent. Falling prices did not stimulate a market that would tend to stabilize prices. Hence the price of Japanese raw silk declined still further in 1932 and averaged for the year about three dollars less per pound than the price of \$4.66 for January, 1930, according to the Silk Association of America. Beginning the year at \$2.04 the price dropped rapidly to an all time low of \$1.25 in June, and from that soared to \$1.91 in September, closing the year at \$1.59 as an average for December.

During 1932, Yokohama and Kobe, the main ports in Japan, exported 540,820 bales of raw

silk, of which 511,955 went to the United States and 28,865 to Europe. In 1931 total exports from these ports were 553,600 bales of which 537,815 went to the United States and 15,785 to Europe. Total exports from Canton, China, in 1932 amounted to 33,165 bales as against 48,570 in 1931, but the exports to America dropped from 30,845 bales in 1931 to 12,275 in 1932, with exports to Europe rising from 15,727 bales in 1931 to 20,890 in 1932. The total imports from all Chinese ports into the United States in 1932 dropped to 34,921 bales as compared with 86,502 bales in 1931 and 92,850 in 1930.

The raw silk imports into the United States in 1932 aggregated 547,195 bales as against 605,919 bales in 1931.

WORLD RAW SILK PRODUCTION, SEASONS  
1930-31 AND 1931-32  
[Tussah silk included]

	Pounds 1931-32 *	Pounds 1930-31
Europe	7,518,000	11,199,000
Italy	7,246,000	10,768,000
France	176,000	308,000
Spain	97,000	128,000
Levant	1,786,000	2,690,000
Asia: Total exported *	80,646,000	90,531,000
China, Shanghai *	4,412,000	9,126,000
China, Canton	8,417,000	7,297,000
Japan	72,795,000	74,064,000
India	22,000	44,000
Total	89,950,000	104,420,000
Tussah	850,000	1,500,000
Grand total	90,800,000	105,920,000

\* Estimated. The 1931 Japan crop is estimated to have been 96,584,000 pounds. \* The total production of raw silk in Asia is an unknown quantity, therefore, export figures have been used. \* Excludes tussah silk.

**SILK, ARTIFICIAL.** See RAYON; CHEMISTRY, INDUSTRIAL.

**SILVER.** The demand for silver declined almost steadily each month of the year, falling quite sharply in December. In consequence, the production for the year also declined. According to the Annual Review of Handy and Harmon of New York City, the world production of newly

PRODUCTION OF SILVER IN THE UNITED STATES IN 1932

[Arrivals at United States Mint and Assay Offices and at private refineries]

States	Ounces	Silver Value *
Alaska	256,791	\$ 72,415
Alabama	6	2
Arizona	1,974,946	556,925
California	483,706	136,405
Colorado	1,786,701	503,850
Georgia	28	8
Idaho	6,733,760	1,898,920
Michigan	49,478	13,671
Montana	2,428,371	684,237
Nevada	1,847,871	380,100
New Mexico	1,218,568	343,636
North Carolina	9,095	2,565
Oregon	8,983	2,533
Pennsylvania	783	221
South Carolina	4	1
South Dakota	127,581	35,978
Tennessee	19,426	5,478
Texas	1,651	437
Utah	7,815,956	2,204,099
Washington	17,997	5,075
Wyoming	329	93
Philippine Islands	146,147	41,213
Puerto Rico	11	3
Total	24,425,089	6,887,875

\* Value at 28.2¢ per ounce, the average New York price of bar silver.



mined silver fell to 160,600,000 ounces in 1932 as against 193,800,000 ounces in 1931, a shrinkage of 17 per cent. The company estimated the world production as follows: United States, 23,400,000 oz.; Mexico, 71,700,000 oz.; Canada, 18,300,000 oz.; South America, chiefly Peru and Bolivia, 12,406,000 oz.; and all other sources, 34,800,000 oz. The total amount of silver arising from demonetization and sales by the Indian Government during the year was estimated at 46,600,000 oz., as against 68,500,000 oz., in 1931. The previous low record of 25½ cents established on Feb. 16, 1931, was not duplicated, according to this authority, until Nov. 26, 1932, and for the remainder of the year the price continued beneath that point, reaching a record low of 24¼ cents on December 29.

The Director of the U. S. Bureau of the Mint, with the coöperation of the Bureau of Mines, has issued the preliminary estimate, shown in the table on page 752, of refinery production of gold and silver in the United States during the calendar year 1932.

Comparison with 1931 final production indicates a decrease in 1932 of 6,506,961 ounces of silver. Comparison with the year of largest production, 1915, when silver amounted to 74,961,075 ounces, gives a reduction of 50,535,986 ounces silver.

**SIMMONS COLLEGE.** A nonsectarian college for women in Boston, Mass., founded in 1899. The enrollment on Nov. 1, 1932, was 1485. The faculty numbered 150. The productive funds of the institution amounted to \$3,384,451 and the income for the year was \$571,900. President, Henry Lefavour, Ph.D., LL.D.

**"SIMON BOCCANEGRA."** See MUSIC.

**SINGAPORE.** See STRAITS SETTLEMENTS; BRITISH MALAYA.

**SKATING, SPEED.** The world's championship speed skating races were held at Lake Placid, N. Y., immediately after the Olympic games there had closed late in February, and, with the skaters using the European style of racing, i.e. alone against time, instead of in fields of four or five, where there is the possibility of jockeying and interference, Europeans took the titles. Jack Shea and Irving Jaffee, of the United States, Olympic winners, did not compete. Ivar Ballangrud of Norway, won the 1500, 5000, and 10,000-meters races, and Haakon Pedersen of Norway took the 500-meters race. In the final point scoring, Ballangrud was first, Michael Staksrud of Norway, second; Bernt Evensen of Norway, third; and Bert Taylor, of the United States, fourth.

The North American skating championships, held at Lake Oconomowoc, Wis., at the same time as the Olympics, was taken by James Webster of St. Paul. The women's national championship fell to Miss Helen Bina of Chicago. William Marks won the national boys' title, and the Middle Atlantic men's crown went to Jaffee, and the women's laurels to Miss Elsie Muller.

**FIGURE SKATING.** The world's figure skating championships were held in Montreal after the Olympic games and the titles awarded in Canada matched those awarded at Lake Placid. Miss Sonja Henie won the women's title again; Karl Schaefer of Austria again took the men's crown, and the pair's title went to M. and Mme. Pierre Brunet of France.

Miss Maribel Vinson and Roger F. Turner retained their national championships for the fifth

successive year. The pair honors went to Miss Beatrix Loughran and Sherwin C. Badger for the third consecutive time. Robin Lee, 12-year old Minneapolis skater, captured the national junior crown and the women's junior title was taken by Miss Louise Weigel, of Buffalo. Joseph K. Savage of New York City and Mrs. Frederick Secord of Brooklyn won the national waltz championship; the national dancing crown went to Mrs. Channing Frothingham and George E. B. Hill, of Boston. The national junior pairs championship was taken by Mr. and Mrs. Ferrier T. Martin, of New York.

**SKIING.** The 1932 national ski jumping championship was held at Lake Tahoe, Calif., in early March and the title went to Anton Lekang, of the Norway Ski Club of New York. His victory was a hollow one because Casper Oimoen, 1931 winner and fifth in the Olympic competition, broke his ankle in practice before the national championship, and was unable to jump.

**SKINNEE, FRANK W.** An American civil engineer, died in New York City, Dec. 24, 1932. He was born in Brownville, N. Y., June 6, 1858, and was graduated from Cornell University in 1879. Becoming associated with the Pittsburgh Bridge Co., he was appointed in 1881 an assistant engineer on the reconstruction of the railroad suspension bridge across the Niagara River at Niagara Falls. On the completion of this work he was for a time with the Delaware Bridge Co. and then became bridge engineer for the New Jersey Steel & Iron Co. In 1884 he went to Montreal to become principal assistant and later resident engineer for the Dominion Bridge Co., his most important contract being the construction of the cantilever bridge across the St. John's River at St. John, N. B. During 1886-87 he was engineer of bridges for the St. Paul & Northern Pacific Railroad Co., constructing bridges across the Mississippi River at St. Paul and Minneapolis. On his return to New York in 1887 he was assistant engineer on the construction of the Washington arch bridge across the Harlem River. He was associate editor of the *Sanitary Engineer and Construction Record* (later the *Engineering Record*) from 1887 to 1914. In 1915 he founded *Contracting*, which he edited until 1920. During 1920-22 he was associate editor of *Public Works*.

**SLATIN PASHA, RUDOLF CARL VON.** An Austrian soldier, died in Vienna, Oct. 4, 1932. Born at Ober St. Veit, near Vienna, June 17, 1857, he served for a time in the Austrian army. In 1878 he entered the Egyptian service under General Gordon, then governor-general of the Sudan under the Khedive Ismail, and in 1881 became governor-general of Darfur. Not long after his appointment to this post the Mahdi began his famous religious war (primarily a revolt against foreign influence), and in November, 1883, after the defeat of Hicks Pasha's army at El Obeid, he was captured by the Mahdists. He became the servant of the Khalifa Abdullah, who succeeded to power on the death of the Mahdi in 1885. After a captivity of 11 years Slatin succeeded in 1895 in escaping to Lower Egypt. Upon reaching Cairo he was received with every mark of honor and was made a pasha by the Khedive. He served on Kitchener's staff in the Sudan campaign of 1897-98, which ended in the overthrow of the Khalifa Abdullah at the Battle of Omdurman on Sept. 2, 1898. In 1900 he was appointed British inspector-general of the Sudan, which post he held until the outbreak of the World War. He then returned to

his native Austria where throughout the war he was head of the Austrian Red Cross's aid for prisoners of war.

**SLATTERY, JOHN RODOLPH.** An American civil engineer, died in New York City Sept. 23, 1932. He was born in Athens, Ohio, Jan. 31, 1877. On his graduation from the U. S. Military Academy in 1900 he was appointed 2d lieutenant in the Corps of Engineers of the U. S. Army, being sent first to the Philippines on road and bridge construction and then to the Hawaiian Islands as district engineer in charge of seacoast defenses and of harbor improvements at Honolulu and Hilo. On his return to the United States in 1904 he was successively district engineer at Jacksonville, in charge of the improvements of rivers and harbors in Florida and the maintenance of coast defenses at Key West and the mouth of Tampa Bay; at Vicksburg, in charge of flood control works in the 3d Mississippi district and improvements of the tributary streams in that district; at Portland, in charge of the improvement of the Columbia River and other rivers and harbors in Oregon; at Nashville, in charge of the improvements of the Cumberland and Tennessee rivers; and at New York City, in charge of the improvement of New York harbor and of other works in the 1st New York district. During the World War he served in France as commander of the 312th Engineers and was later made chief engineer of the 7th Army Corps. He resigned his commission as colonel in 1925 to become deputy chief engineer of the board of transportation of New York City, and previous to his death served as general manager of the operating organization of the new municipal (Eighth Avenue) subway system.

**SLAVERY.** See ETHIOPIA, LIBERIA under *History*.

**SLAVIC STUDIES.** See PHILOLOGY, MODERN.

**SLAVONIA.** See CROATIA AND SLAVONIA; YUGOSLAVIA.

**SLEVOGT, MAX.** A German painter and illustrator, died in Berlin, Sept. 20, 1932. He was born in Landshut, Bavaria, Oct. 8, 1868, attended the University of Würzburg, and studied painting at the Munich Academy where he was later appointed professor of fine arts. On his removal to Berlin in 1901 he became one of the leaders of the German impressionists. His greatest work was the triptych "The Prodigal Son." He was represented in the New Pinakothek, Munich, by "The Hour of Rest," in the Stuttgart Gallery by "The White Andrade," and in the Dresden Gallery by a portrait of Marietta de Rigardo, the singer, and by 20 paintings executed during his travels in Egypt in 1913-14. In his later years he devoted most of his time to graphic art.

**SLOVAKIA.** A Province of Czechoslovakia. See CZECHOSLOVAKIA under *Area and Population*.

**SLOVENES.** See YUGOSLAVIA under *History*.

**SMEETING.** See METALLURGY.

**SMITH, J(ORN) M(ERLIN) POWIS.** An American theologian, died in New York City, Sept. 26, 1932. He was born in London, England, Dec. 28, 1866, and was brought to the United States in childhood. He was graduated from the Des Moines (Iowa) College with the A.B. degree in 1893 and from the University of Chicago with the Ph.D. degree in 1899. In addition to acting as literary secretary to President William R. Harper (1899-1906), he was docent in Semitic languages and literatures at the University of Chicago (1899-1901), assistant (1901-02), as-

sociate (1902-05), instructor (1905-08), assistant professor (1908-12), and associate professor (1912-15). After 1915 he held the chair of Semitic languages and literatures at that institution and was editor of the *American Journal of Semitic Languages and Literatures*. He was also associate editor of the *Biblical World* (1906-20), the *American Journal of Theology* (1907-20), and the *Journal of Religion* (1920-32). He collaborated with A. R. Gordon, T. J. Meek, and L. Waterman in an American translation (in modern language) of the *Old Testament* (1927) and with E. J. Goodspeed in an American translation of the *Bible* (1931).

**SMITH, WILLIAM ALDEN.** An American lawyer and legislator, died in Grand Rapids, Mich., Oct. 11, 1932. Born in Dowagiac, Mich., May 12, 1859, he received a public school education and was a newsboy, telegraph messenger, and page in the Michigan House of Representatives. In 1879 he became connected with the law firm of Burch & Montgomery in Grand Rapids where he studied law and in 1883 was admitted to the bar. After 1889 he was a partner in the firm of Smiley, Smith & Steven. He was active in Republican politics, serving from 1888 to 1892 as a member of the Michigan Republican State Central Committee. In 1894 he was elected to Congress as representative from the fifth Michigan district and was reelected to the succeeding 55th to 60th Congresses. He resigned from the latter in 1907 to run for the Senate, filling out the unexpired term of Russell A. Alger, and was reelected in 1912 for the term expiring in 1919.

**SMITH COLLEGE.** A nonsectarian college for women in Northampton, Mass., founded in 1871. The enrollment for the autumn of 1932 was 1978. There were 239 faculty members. The productive funds amounted to \$6,317,075, and the income from funds was \$305,805. President, William Allan Neilson, Ph.D., LL.D., L.H.D., Litt.D.

**SMITHSONIAN INSTITUTION.** An organization founded in 1846 according to the terms of the will of James Smithson of England, who in 1826 bequeathed his property to the United States of America "to found at Washington, under the name of the Smithsonian Institution, an establishment for the increase and diffusion of knowledge among men."

The enterprises supported wholly by Congressional appropriations, but administered by the Smithsonian Institution, include the National Museum, the National Gallery of Art, the Bureau of American Ethnology, the International Exchange Service, the National Zoological Park, the Astrophysical Observatory, and the U. S. Regional Bureau of the International Catalogue of Scientific Literature. It administers also the Freer Gallery of Art.

During 1932 preliminary plans were completed for the wings authorized by Congress in 1930 to be added to the Natural History Building of the National Museum. An unrestricted bequest of \$100,000 was received for the endowment funds of the institution from the late Dwight W. Morrow. The director of the National Zoological Park headed an expedition to British Guiana, returning with 317 live animals for the park. Investigations of periodicities in solar and terrestrial phenomena were made by the Astrophysical Observatory. The division of radiation and organisms, pursuing its pioneering experiments in biophysics, measured the carbon dioxide assimila-

tion of wheat for different light intensities, made experiments on the lethal effects of the ultra-violet rays upon algae, and a study of the effects of different wave length distributions of light on the growth of plants.

The institution and the government bureaus under its direction published, during 1932, 121 volumes and pamphlets, of which 204,240 copies were distributed to libraries, educational institutions, and individuals. Volume V of the *Annals of the Astrophysical Observatory* appeared, presenting the results of its researches on the sun for the past 10 years. The fifth revised edition of the *Smithsonian Meteorological Tables* and the fourth reprint of the *Smithsonian Mathematical Tables—Hyperbolic Functions* were issued. The expendable income of the institution for the year was \$136,038; its endowment funds totaled \$1,775,804. Secretary, Dr. C. G. Abbot; assistant secretary, Dr. Alexander Wetmore.

**SNUFF.** See TOBACCO.

**SOCCEER.** The New Bedford Whalers, surprisingly beaten by the New York Giants for the American Soccer League championship, won the 1932 national honors in the annual cup competition of the U. S. Football Association. In the play-off for the League title, the Whalers took the first game from the Giants, 8 to 3, and as the series was on a two-game total points scored basis the cause of the Giants looked hopeless. The New York team swamped New Bedford, three days later, 6-0, however, and won the series, 9 to 8. A few months later the Giants again met the Whalers in the Eastern final for the National Cup. This time the Whalers reversed the decision and turned back the Giants, 5-2. The Stix eleven of St. Louis gained the Western final by downing the Chicago Bricklayers. In the first game between the finalists, New Bedford and Stix tied, 3-all, but in the second the Easterners asserted their superiority and won handily, 5-2, tallying all five goals in the second half.

The Shamrock Football Club of Cleveland won the U.S.F.A. amateur cup, defeating the Santo Christo eleven of New Bedford in the final, 2 to 1.

The University of Pennsylvania team won college laurels by topping the Middle Atlantic Association, and the James Monroe High School eleven took the honors in the Public Schools Athletic League in New York.

**SOCIAL ECONOMICS.** See CHILD LABOR; COÖPERATION; LABOR LEGISLATION; MATERNITY PROTECTION; MINIMUM WAGE; OLD AGE PENSIONS; STRIKES AND LOCKOUTS; WOMEN IN INDUSTRY, ETC.; also, LITERATURE, ENGLISH AND AMERICAN.

**SOCIAL INSURANCE.** See CHILD WELFARE; MATERNITY PROTECTION; OLD AGE PENSIONS; UNEMPLOYMENT; WELFARE WORK; WORKMEN'S COMPENSATION.

**SOCIALISM.** UNITED STATES. In May, the Socialist party, assembled in its convention in Milwaukee, nominated as its standard bearer in the presidential campaign Norman Thomas of New York and for the vice-presidency James H. Maurer of Pennsylvania. The party's programme was the traditional one of American socialism in its advocacy of public ownership of the large industries. The leaders of the party, however, did not expect the immediate realization of their programme, devoting their time largely to the building up of sentiment in favor of public acquisition of a limited number of industries. Specifically such industries were to be

the banks, railroads, mines, and electric and gas companies. The party platform was opposed to confiscation of property but it did endorse "the efforts being made in Russia to create the economic foundations of a socialist society." Other important planks demanded the repeal of the Eighteenth Amendment; a federal appropriation of \$5,000,000,000 for immediate relief of the unemployed; the six-hour day and five-day week without wage reductions; compulsory unemployment compensation based upon contributions by the government and employers; old-age health and maternity insurance; the abolition of child labor; steeply increased taxes on inheritances and large incomes; and a group of political demands looking to more democratic processes, adherence to the World Court, reduction of armaments, and recognition of Soviet Russia. Mr. Thomas made a spirited campaign seeking, particularly, to evoke the interest of dispossessed white collar workers and the middle class generally. Later in the campaign, in order to gain the support of working populations, Mr. Thomas swung farther to the Left and insisted that a limited capital levy was necessary immediately for the salvation of our industrial society. The party was aided by an influential non-partisan committee headed by such men as Profs. Paul H. Douglas of Chicago University, John Dewey of Columbia University, Morris R. Cohen of the College of the City of New York, and the publicists Oswald Garrison Villard and Elmer Davis. However, despite the sympathetic attention with which Mr. Thomas's campaign was being received in the public press, there was no opposition lacking within party councils themselves. There was a definite Left wing group which frowned on the ameliorative tactics of the standard bearer. This group, the so-called "militants," was in many particulars comparable to the Independent Labor party of Great Britain and, like the English Left wing group, believed that the doctrine of the class struggle was basic to any programme of socialist tactics. The "militants" were opposed to reform and opportunism and, more specifically, desired a thoroughgoing endorsement of the activities of Soviet Russia and in America the fostering of industrial unionism and a more concerted drive to convert the labor movement to the socialist philosophy. It is to be noted that unlike the I. L. P. of Great Britain the "militants" did not break away from the Socialist party. However, in view of the disappointingly small vote cast for Thomas in the November elections, there was every reason to believe that the "militants," in the future conduct of party affairs, would succeed in playing an increasingly more significant rôle. See COMMUNISM.

The Socialist Labor party nominated as its standard bearer Verne L. Reynolds of New York, and John W. Aiken of Massachusetts for the vice-presidency. The heart of the Socialist Labor doctrine called for collective ownership and control to be obtained by uniting national and industrial unions into one big union. Its principles really placed no reliance on political action or in immediate demands. In 1928 its national candidates polled 21,181 votes.

**GREAT BRITAIN.** The annual conference of the British Labor party, which was held at Leicester, England, from October 3 to October 6, definitely showed a decided turning toward the Left on the part of the party membership as well as

the repudiation of the old line executive. See GREAT BRITAIN under *History*.

**SOCIALIST LABOR PARTY.** See SOCIALISM.

**SOCIAL PROGRESS, INTERNATIONAL ASSOCIATION FOR.** An international association, of which the Association for Labor Legislation is the American section, created in 1925 by amalgamating three former allied organizations, the International Association for Labor Legislation, the International Social Insurance Committee, and the International Association on Unemployment. The general assembly last met at Paris, Oct. 19-22, 1931. The two technical commissions appointed to study the two problems at present under consideration by the Association met at London, July 6-8, 1932. The two questions considered were new aspects of the problem of hours of work and the respective parts played by social insurance and public assistance against social risks, especially unemployment. See LABOR LEGISLATION, AMERICAN ASSOCIATION FOR.

**SOCIAL PSYCHOLOGY.** See PSYCHOLOGY.

**SOCIAL STATISTICS.** See WELFARE WORK.

**SOCIETY ISLANDS.** See OCEANIA, FRENCH ESTABLISHMENTS IN.

**SOCIOLOGY.** See LITERATURE, ENGLISH AND AMERICAN.

**SOILS.** Land use planning, classification, valuation, and adaptation, soil erosion and moisture conservation, soil chemistry, soil fertility, soil physics, soil micro-biology, and the dynamic properties of soil affecting tillage were among the more important topics receiving special consideration by soil investigators.

The trend toward more discriminating use of soil in the United States continued to spread. According to the *Report of the Chief of the Bureau of Chemistry and Soils for 1932*, the agricultural plant of the United States is too large to meet present domestic demands. "Of the 350,000,000 acres of land now in harvested crops, probably about 100,000,000 acres may be classed as marginal or sub-marginal and would be better adapted for other purposes such as grazing, forestry, and recreation."

Two national committees, growing out of the National Land Utilization Conference, were formulated to be known as the national land use planning committee and the national advisory and legislative committee on land use. Notable progress was made in formulating policies and stimulating local interest in adequate land use adjustments, and in aiding in the development of coordinated land use planning programmes in individual States.

The Bureau of Chemistry and Soils continued the nation-wide inventory of the soil fertility resources of the United States. The soil survey was world-wide and the United States retained the lead in such work. During the year the Department of Agriculture in coöperation with appropriate State agencies conducted soil survey work in 79 separate areas distributed over 28 States and one insular territorial possession. Detailed surveys aggregating 30,569 square miles, and reconnaissance surveys to the extent of 7455 square miles were covered during the year, bringing the total acreage for the detailed survey to over 550,000,000 and the reconnaissance survey to over 402,146,000 according to the *Report of the Chief of the Bureau of Chemistry and Soils for 1932*. Continued progress also was made by the several State organizations coöperating with the Depart-

ment of Agriculture in the proper correlation and classification of soils. Continued progress was made in the inventory of the character and quality of the peat and muck resources of the United States. Studies were continued of the sequence of peat layers and characteristic profile features of peat deposits of regional importance and a survey and classification was made of organic soils in Virginia, North Carolina, and Minnesota. A study was completed of the chemical composition of the muck soils of New York.

Soil impairment by erosion and run-off continued to be recognized as one of the most important problems confronting American agriculture. The investigations of the Department of Agriculture were expanded by the establishment of two new soil erosion experiment farms in defined major soil erosion areas. The work already in operation was enlarged and strengthened along scientific lines and there continued to be accumulated information on soil and water losses under various controlled conditions of soil type, slope, and character of rainfall. According to the *Report of the Chief of the Bureau of Chemistry and Soils for 1932* research methods were applied for the first time to the exceedingly diversified problem of land impairment and destruction by erosion, in conformity with a comprehensive scientifically coordinated plan. Farmers were beginning to adopt the comparatively inexpensive strip cropping method of reducing soil losses in which strips of thick-growing, water-retarding, soil-saving crops serve as a powerful agency in slowing down the rate and amount of run-off and in reducing the severity of soil washing. Results obtained with the hole digging soil-saving cultivator continued to be satisfactory, the rainfall losses from fallow land scarified by this machine being only 1½ per cent of the total precipitation as against 34 per cent for unscarified areas adjacent. In the Corn Belt the fact developed that terracing alone cannot control soil erosion as well as terracing combined with crop rotations which build up the humus content of the soil, and the possibility of controlling soil erosion by the use of good farming methods was indicated. However, experiments in the Red Plains region indicated conclusively the value of terracing in reducing the harmful effects of erosion and in assisting the soil rebuilding process by retaining fertilizer and organic matter according to the *Report of the Chief of the Bureau of Agricultural Engineering for 1932*. The Alabama Agricultural Experiment Station was expressing the erosive tendencies of soils in terms of their dynamic properties, and was developing control measures by the manipulation of these properties.

The demand for more accurate and specific information regarding the fertilizer requirements of crops on soils of known character was more widespread and persistent than ever before, and soil fertility studies by both the Department of Agriculture and the State agricultural experiment stations continued to concentrate in that direction with particular reference to the needs of cotton, potatoes, sugar beets, sugar cane, pecans, sweet potatoes, strawberries, and citrus and truck crops. Evidence accumulated to indicate that phosphoric acid is the limiting plant food factor in the growing of sugar beets, the national crop of which had a value during 1931 of nearly \$47,000,000. Additional evidence accumulated relating to the crop producing and economic value of some of the newer concentrated fertilizers, and

progress was made in perfecting their rational use, it again being found that the addition of calcium, magnesium, and some of the heavier metals such as copper and manganese to concentrated fertilizers increased crop yields on a number of soil types.

The relation of soil reaction to crop production continued to receive much attention not only with reference to its influence on availability of plant nutrients and the development of rational fertilizer practices but to its influence on the prevalence and severity of certain crop diseases. The rational use of fertilizers and the practice of modified tillage in conjunction with crop rotation, soil conservation, and other fertility maintenance measures offered promise as means of controlling cotton root rot in the black-land area of Texas, according to the Bureau of Chemistry and Soils.

New light was thrown on the practical aspects of green manuring, the evidence pointing to the fact that failures of grain crops grown in rotation with two summer green manure crops, especially on light soils, is due to the production of nitrates and ammonia from the green manures at times when the grain crop is unable to use them efficiently and to the consequent loss of nitrates in the drainage. It also developed that it is more efficient to allow the vegetative matter produced by green manure crops to lie on the surface of the ground than to turn it under. Considerable interest developed in the possibility of determining mineral soil deficiencies by bacteriological reactions and the soil plaque, utilizing the spontaneous development of azotobacter colonies as a plant food indicator, was proved by the Colorado Agricultural Experiment Station to be a satisfactory means of determining deficiencies in phosphorus, lime, and apparently available potash in soils containing an adequate inoculum of azotobacter. Soil molds were receiving an increasing consideration among the agents affecting the nature and amount of soil organic matter, the evidence pointing to the brown walled molds as forming the characteristic species active on the decaying portion of plant residues and imparting a gray to black or brown color thereto. These forms were rapid destroyers of sugars, starches, and other quickly decaying substances rather than of fibrous materials, and thus tended to contribute to the lignins which seem to be an important part of the soil organic matter. A survey of soil fungi on forest floors was under way in nine States which was establishing a basis for interpreting the relations of fungi, other organisms, and tree roots in the decomposing mass that covers the soil itself. In contrast to the fungi of arable soils, those of the forest floors contributed to the accumulation of little if any lignin.

**BIBLIOGRAPHY.** Advances in the knowledge of the sciences of soil technology, microbiology, and fertility appear currently in *Soil Science*, published in Baltimore, Md., and in *Journal of the American Society of Agronomy*, published at Geneva, N. Y. Recent books on these subjects are *Soil Conditions and Plant Growth*, by E. J. Russell, London, 1932; *The Soil.—An Introduction to the Scientific Study of the Growth of Crops*, by A. D. Hall, London, 1931; *Principles of Soil Microbiology*, by S. A. Waksman, Baltimore, 1932; *Controlling Small Gullies*, by *Bluegrass Sod*, U. S. Department of Agriculture Leaflet No. 82, Washington, D. C.; and *Strip Cropping to*

*Prevent Erosion*, U. S. Department of Agriculture Leaflet No. 85, Washington, D. C.

**SOLOMON ISLANDS.** A group of islands in the western Pacific, lying to the eastward of Papua. The southern islands of the group (Guadalcanar, Malaita, Ysabel, San Cristoval, New Georgia, Choiseul, Shortland, and numerous smaller ones) are known as the British Solomon Islands. The land and sea area of the British Solomon Islands is about 375,000 square nautical miles; population (1931 census), 91,407 including 497 Europeans. Capital, Tulagi. The northern islands of the Solomon group (Bougainville, Buka, and adjacent small islands) form part of the Territory of New Guinea under Australian mandate. The area of this group is about 4100 square miles, and the native population of patrolled areas was 41,111 in 1930. See **NEW GUINEA**.

**SOMALILAND, ITALIAN.** See **ITALIAN SOMALILAND**.

**SOMALILAND, sô-mă'lê-lând, PROTECTORATE.** A British territory on the African coast of the Gulf of Aden. Area about 68,000 square miles; population estimated at 344,700. The capital and chief port is Berbera, with about 30,000 inhabitants.

**SOPHIE (DOROTHEA ULBICA ALICE).** Former Queen of Greece, died in Frankfurt, Germany, Jan. 13, 1932. She was born in Potsdam June 14, 1870, third daughter of the German Emperor, Frederick III, and Queen Victoria. In 1889 she was married at Athens to Prince Constantine, Duke of Sparta, who succeeded to the throne on the assassination of his father, George I, in 1913. In 1917 Constantine was compelled by the Allies to leave Greece with his eldest son George, after having appointed his second son Alexander to succeed him. He returned to the throne in 1920, following the death of Alexander, but was obliged to abdicate again in September, 1922, in favor of the Crown Prince. On the abdication of her son and the establishment of the Greek republic in March, 1924, Sophie retired to Florence, where until a few months previous to her death she made her home with her three unmarried children, Paul, Irene, and Catherine. Her eldest daughter Helen was the divorced wife of King Carol of Rumania.

**SORGHUM.** See **HAY**.

**SOUND PICTURES.** See **MOTION PICTURES; PHOTOGRAPHY**.

**SOUND STUDIES.** See **PHYSICS**.

**SOUSA, JOHN PHILIP.** An American bandmaster and composer, died in Reading, Pa., Mar. 6, 1932. He was born in Washington, D. C., Nov. 6, 1854, and was educated there, studying violin under John Esputa. He held the position of bandmaster of the U. S. Marine Corps at Washington from 1880 to 1892, and during that period made the organization one of the finest military bands in the country. In 1892, in conjunction with David Blakely, he formed the organization later known as Sousa's band, with which he toured the United States and Europe and in 1910-11 made a tour around the world, meeting with phenomenal success everywhere. His ability as a composer of marches soon secured for him the title of "The March King." Of the nearly 100 marches which he wrote the most popular are the *Washington Post*, *High School Cadets*, *Liberty Bell*, *Semper Fidelis*, and *Stars and Stripes Forever*, the latter having been suggested as the national march of the United States. The more successful of his

light operas are: *El Capitan* (1898); *The Chariot Race* (1897); and *The Bride-Elect* (1898). Among the others are: *The Smugglers*; *Désirée*; *The Queen of Hearts*; *Chris and the Wonderful Lamp*; *The Free Lance*; *The Glass Blowers*; and *The American Maid*. He also wrote *The Chariot Race*, a symphonic poem; *The Last Crusade*, a cantata; and five suites.

**SOUTH.** UNIVERSITY OF THE. A Protestant Episcopal institution for the higher education of men in Sewanee, Tenn., founded in 1857. The enrollment for the autumn term of 1932 was 235, of whom 211 were registered in the college and 29 in the theological school. The faculty had 27 members, exclusive of student assistants. The income from productive funds was \$80,674, while the receipts from all sources totaled \$289,260. The library contained 45,287 volumes. President, Benjamin Ficklin Finney, LL.D.

**SOUTH AFRICA.** UNION OF. A self-governing dominion of the British Commonwealth of Nations. Capital, Pretoria; seat of the legislature, Cape Town.

**AREA AND POPULATION.** The area and census population of the Union by Provinces is shown in the accompanying table.

AREA AND POPULATION BY PROVINCES

Province	Area, square miles	Non- European, 1921	European	
			1921	1931
Cape of Good Hope ...	278,536	2,132,110	650,609	749,231
Natal .....	35,284	1,292,560	136,838	177,449
Transvaal ..	110,450	1,544,151	543,485	696,120
Orange Free State ....	49,647	440,271	188,556	205,875
Total ..	471,917	5,409,092	1,519,488	1,828,175

The 1926 census of Europeans showed a total of 1,076,000. Of the 1931 white population, 55 per cent were of Dutch origin and about 36 per cent were British. No census of the colored and native population was taken after 1921. The total population as of June 30, 1932, was estimated by the Office of Census and Statistics at 8,250,900, including 1,859,400 Europeans, 5,600,300 Bantus (natives), 193,900 Asiatics, and 597,300 of mixed or other races. The division of the estimated Bantu population by Provinces on June 30, 1932, was: Cape, 1,861,500; Natal, 1,363,300; Transvaal, 1,836,000; and Orange Free State, 538,900. For the period 1927 to 1931, European births averaged 46,001 annually; deaths, 17,166; the birth rate per 1000 Europeans, 26.1; death rate, 9.6. Immigrants in 1931 numbered 5024 and emigrants 4746; of these 4140 and 2696, respectively, were Europeans.

The estimated population of the chief cities in 1931, with census returns for Europeans in parentheses, was: Johannesburg, 347,900 (203,298); Cape Town, 268,200 (150,914); Durban, 138,000 (86,228); Pretoria, 88,800 (62,138); Port Elizabeth, 76,200 (43,924); Benoni, 50,800 (28,503); Bloemfontein, 51,200 (28,503).

**EDUCATION.** At the beginning of 1931, there were 736,049 pupils enrolled in state and state-aided schools, of which 353,942 were European and 382,707 non-European. The number of European children of school age (roughly 7 to 16 years) in 1931 was 344,633. The number of teachers was 25,805 and the normal state expenditure for education in 1930 was £7,824,219. In 1931, ten universities and colleges had 7006 students;

the state expenditure for higher education in 1930 was £386,584.

**PRODUCTION.** Of about 10,000,000 acres of arable land, about 60 per cent was devoted to cereals in 1931, with corn dominant. Forests cover 2,600,000 acres. The production of the chief crops in the 1931-32 season was: wheat, 14,230,000 bushels; barley, 1,046,000 bushels (1930-31); oats, 5,920,000 bushels (European cultivation, in 1930-31); corn, 60,946,000 bushels; potatoes, 5,598,000 bushels (European cultivation); sugar cane, 3,500,000 short tons (European); tobacco, 17,500,000 pounds (European); Kafir corn, 44,000 short tons (European); peanuts, 8,330,000 pounds (European). The 1930-31 cotton crop was 3,495,000 pounds. Wool production (including pulled wool) for 1931-32 was 315,000,000 pounds (305,000,000 pounds for 1930-31); it is the chief source of farm income. Mohair output (1930-31), was 6,205,000 pounds.

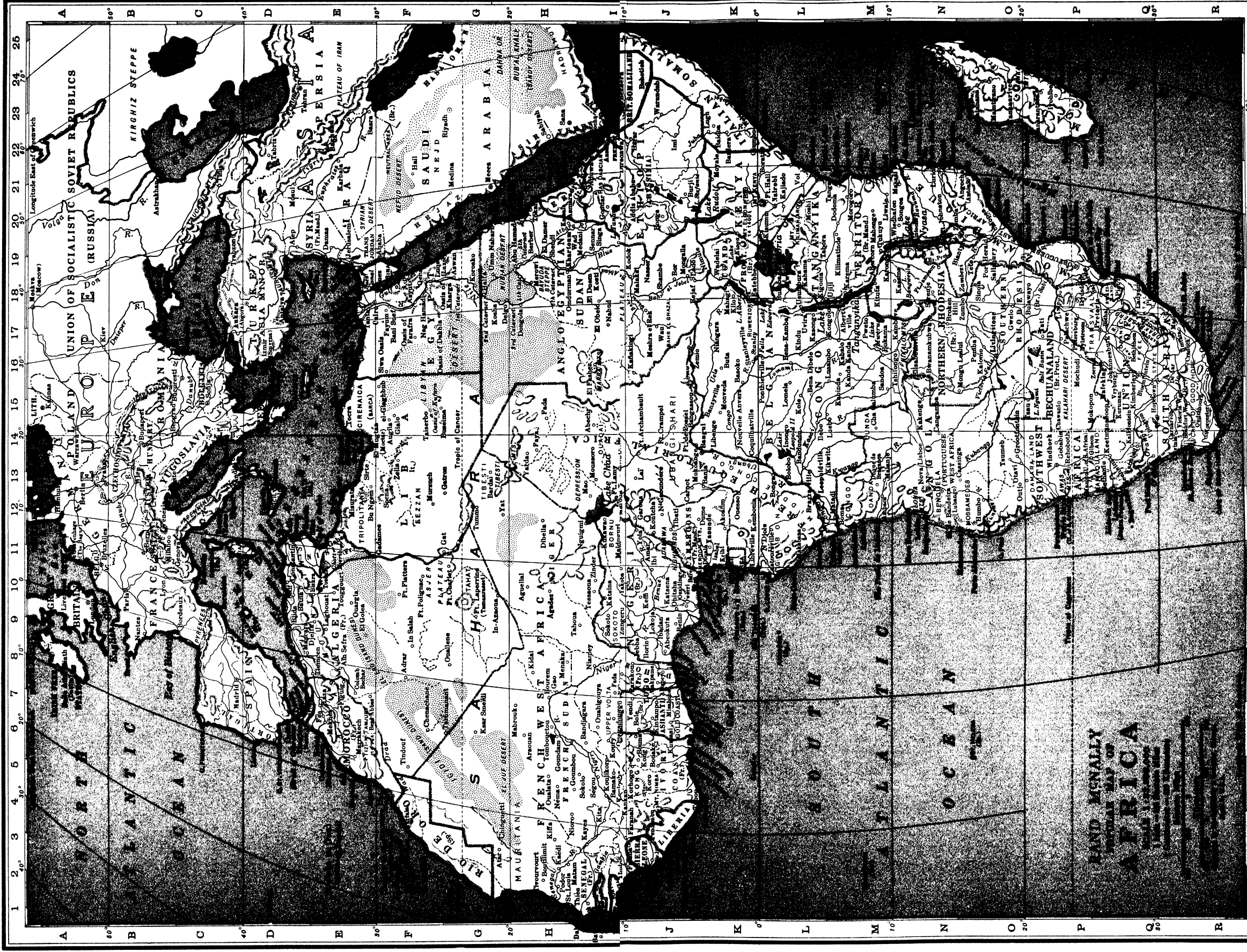
The Union is the chief gold and diamond producing region of the world. The value of all minerals produced in 1931 was 54,730,000 South African pounds (\$4.8065 at par), as against 58,985,000 pounds in 1930. Gold production was valued at 46,206,000 pounds; diamonds, 4,183,000 pounds; and coal, 3,040,000 pounds. The gold output of 11,553,564 fine ounces in 1932 set a third consecutive high record. The 1931 output of mined diamonds was 1,470,386 carats (2,242,000 carats in 1930) and that of alluvial diamonds 647,045 carats (415,047 in 1930). The average price received by the Diamond Corporation, which acted with the government, was 43s. 2d. in 1931, as compared with 63s. 2d. in 1930 and 80s. 8d. per carat in 1929.

Mining conditions in South Africa became increasingly unsatisfactory following the abandonment of the gold standard by the United Kingdom and many other countries in September, 1931. In 1932 the Namaqualand copper properties in Cape Province were closed and experimental work in flotation of gold and copper ores in eastern Transvaal was suspended. The platinum mines were closed for the most part, but the Messina copper property was able to remain open, partly through a government subsidy on exports. Early in December, 1932, suspension of diamond production by the Diamond Corporation, a syndicate controlling the bulk of the world supply, was reported. In October, it was announced that a two-year survey of a 40-mile extension of the famous Witwatersrand had revealed approximately 278,000,000 tons of potential gold ore.

**COMMERCE.** Foreign trade declined less in 1931 than in the previous year and the decline was about equal with respect to both imports and exports. The 1931 imports were valued at \$257,758,000, against \$314,174,000 in 1930, and exports at \$293,596,000, against \$330,584,000 in 1930. The value of the chief overseas export items in 1931 was: gold bar, \$189,609,000; gold coin, \$34,788,000; wool, \$27,742,000; diamonds, \$17,390,000. For 1930 comparative figures were \$180,469,000, \$50,747,000, \$42,068,000, and \$26,674,000, respectively. The leading import items were machinery and apparatus, iron and steel products, cotton piece goods, and chemicals. Of the total exports, the United Kingdom in 1931 purchased 43.4 per cent (47.9 in 1930); France, 10.7 per cent (10.3); and Belgium, 6.9 (8.2). The United Kingdom also furnished 44.1 per cent of the total imports (45.7 in 1930); United States, 14.2 (15.7); and Germany, 6.8 (6.3). Ex-











ports to the United States in 1931 (excluding gold) were \$3,737,000 (\$5,831,000 in 1930) and imports from the United States were \$34,143,000 (\$44,959,000 in 1930).

**FINANCE.** For the fiscal year ended Mar. 31, 1932, ordinary accounts showed a deficit of 1,102,166 South African pounds, with expenditures totaling 28,185,602 pounds and receipts 27,083,436 pounds. The 1930-31 budget deficit was 897,000 pounds. For the year 1932-33, the Finance Minister estimated ordinary revenues at 25,845,000 pounds and ordinary expenditures at 27,479,000 pounds, leaving an anticipated deficit of 1,634,000 pounds. Accordingly, new taxes estimated to bring in 3,535,000 pounds in additional revenue in 1932-33 were imposed.

The total gross debt on Mar. 1931, was 256,845,000 South African pounds (about \$1,249,936,000) and the net debt was £237,958,000 (\$1,158,023,000). For financial developments in 1932, see *History*.

**COMMUNICATIONS.** On Mar. 31, 1931, there were 13,459 miles of railway lines in the Union, all state owned and operated, except 400 miles of private lines. In the fiscal year 1930-31, all lines carried 76,287,000 passengers and 21,608,000 short tons of freight, the gross receipts totaling \$118,368,000. The government railways reported a deficit of £2,500,000 in 1931-32. Highways in 1930 extended 85,598 miles. Air-mail service between Cape Town and London was inaugurated in February, 1932. In August and September, 1932, the British telephone service to South Africa was extended to include Pretoria, Johannesburg, Kimberley, and Bloemfontein. A total of 1412 vessels, of 4,971,000 net registered tons, entered the ports in the foreign trade during 1931.

**GOVERNMENT.** The executive power is vested in a governor-general, appointed by the Crown, who acts through an executive council of ministers, each in charge of a department. Legislative power rested in a parliament, consisting of a senate of 40 members, of whom 8 were nominated by the governor-general-in-council and 32 by the Provinces (eight each), and a house of assembly of 148 members, distributed among the Provinces as follows: Cape of Good Hope, 58; Transvaal, 55; Natal, 17; and Orange Free State, 18; the basis of suffrage being the same as that existing in each Province at the time of the formation of the Union. The executive council in 1932 was composed as follows; Prime Minister and Minister of External Affairs, General J. B. M. Hertzog; Interior, Health, and Education, Dr. D. F. Malan; Mines and Industries, A. P. J. Fourie; Railways and Harbors, C. W. Malan; Finance, N. C. Havenga; Justice, O. Pirow; Defense and Labor, Col. F. H. P. Creswell; Agriculture, Gen. J. C. G. Kemp; Lands, P. G. W. Grobler; Posts and Telegraphs and Public Works, H. W. Sampson; Native Affairs, E. G. Jansen. Governor-General and Commander-in-Chief in 1932, Earl of Clarendon, appointed January, 1931.

#### HISTORY

**GOLD STANDARD ABANDONED.** Throughout 1932, the Union was torn by a bitter controversy over the Nationalist government's retention of the gold standard. Besides its purely economic implications, the issue was intimately involved in the increasing rift between the Afrikaner Nationalists, of whom a strong section desired the abolition of the imperial connection and the establishment of a republic, and the British and

loyal Afrikaners. While the Nationalists favored divorcing the South African currency from sterling in order to decrease the Union's dependence upon Great Britain, the adherents of the Empire demanded that the gold standard be abandoned and the Union currency linked with sterling.

The economic issue, however, cut across racial and political lines. Despite the 10 per cent export subsidy authorized in November, 1931, farmers and wool producers, including many Afrikaners, found themselves at a disadvantage in competing with primary producers of countries which had abandoned the gold standard. By the time Parliament convened on Jan. 27, 1932, the opposition to the government's policy was sufficiently strong to induce the government to appoint a select committee to investigate the whole problem. This failed to mollify the South African party and its leader, Gen. J. C. Smuts. The latter resented the anti-dumping duties imposed against imports from Great Britain and other countries off the gold standard, which threatened to obstruct arrangements for imperial preferences at the Ottawa Conference. The government's new trade agreements with Germany and Japan were other obstacles to economic cooperation with the Empire.

Despite this opposition, the Nationalists introduced into Parliament on March 22 a bill providing for new currency in units called rands, florins, and cents. The rand, which was to be based on gold, was equivalent to \$3.90 and contained 10 florins of 100 cents each. It was decided to wait until after the Ottawa Conference to fix the value of the British pound in terms of the new currency. However, the budget adopted for 1932-33 imposed an additional 7½ per cent surtax on the gold value of imports. It also increased the tax on gold-mining profits by 33 per cent and imposed a graduated 5 per cent surtax on income from fixed investments.

At the Ottawa Conference (see CANADA and GREAT BRITAIN under *History*) the South African government concluded new preferential tariff agreements with Great Britain, Canada and several other Dominions. The agreements secured preferential entry into British and Dominion markets of South African cereals, meats, and other agricultural products in return for preferences extended to British manufactures and products of other Dominions. The agreements were ratified by Parliament and that with Great Britain went into effect on November 17.

In December, a series of events convinced the public that the overthrow of the Hertzog Ministry and the abandonment of the gold standard was imminent. The Nationalist candidate in the Germiston by-election was unexpectedly defeated by the South African party's candidate on December 1. On December 12, a number of the Labor party leaders in the Rand withdrew their support from Premier Hertzog and accepted the invitation of General Smuts to join the South African party. These events started a drainage of gold from the country and the conversion of South African pounds into gold and foreign exchange to prevent losses due to the prospective devaluation of the local currency. The strain on the Union's financial system was greatly increased when on December 20 Judge Tielman Roos, an influential Afrikaner, resigned from the appellate division of the Supreme Court and announced his intention of entering politics in

opposition to Premier Hertzog. He demanded immediate devaluation of the currency and the extinction of racialism.

On December 27, the country went off the gold standard internally when the government released the Reserve Bank from its responsibility for redeeming notes in gold. Exchange facilities were also severely restricted. The efforts to keep the currency on gold parity externally failed, however, and on December 29 the government definitely abandoned the gold standard. The South African pound, worth \$4.785 when backed by gold, was left to find its own level. The government made no effort to link it with the pound sterling. The political situation at the end of the year was confused, with the Nationalist leaders denouncing Judge Roos for treachery and negotiations proceeding between Roos and Smuts for the establishment of a coalition government to succeed the Nationalist government.

**OTHER EVENTS.** The political rights of the inhabitants of South-West Africa (q.v.) were fixed by an agreement signed April 9 by Premier Hertzog and an official delegation from the protectorate, which was administered by the Union under a mandate from the League of Nations. German was recognized as an official language with English and Afrikaans. Europeans in South-West Africa were granted equal rights with those in the Union and those domiciled in South-West Africa on Dec. 31, 1931, were automatically made citizens. The Assembly of South-West Africa was granted extended powers and a joint commission to settle differences between the two governments was agreed upon. The Union government also agreed to extend financial assistance to the Territory.

**SOUTH AMERICA.** See under the various South American countries; **EXPLORATION**; **ARCHAEOLOGY**.

**SOUTH AMERICAN LITERATURE.** See **SPANISH-AMERICAN LITERATURES**.

**SOUTHAMPTON, ENGLAND, HARBOR IMPROVEMENTS.** See **PORTS AND HARBORS**.

**SOUTH AUSTRALIA.** A State of the Australian Commonwealth, occupying the south central part of the continent. Area, 380,070 square miles; population, 585,466 on Mar. 31, 1932. Adelaide, the capital and largest city, had 324,337 inhabitants on Dec. 31, 1931.

**PRODUCTION, ETC.** The value of production in the fiscal year 1929-30 aggregated £31,085,919, divided as follows: crops, £11,957,903; manufactures, £10,637,552; pastoral, £2,989,297; minerals, £1,320,805; dairying, £1,950,572; fisheries and game, poultry, forestry, etc., £2,229,790. The estimated production of wheat, the chief crop, was 48,093,102 bushels in 1931-32 (34,871,526 in 1930-31). The wool production in 1931-32 totaled 66,162,687 pounds, as in the grease. Mineral production in 1931 was but £542,693.

Direct overseas imports for the 1931-32 fiscal year was valued at £2,821,487 (British currency values), against £3,916,258 in 1930-31; overseas exports, £12,143,632 (recorded values), against £10,263,441 in 1930-31. State revenue for 1931-32 totaled £10,481,977 (£10,725,811 for 1930-31), and expenditure £11,545,336 (£12,539,668 in 1930-31). The net state loan expenditure for 1930-31 was £464,541 and the net state public debt on June 30, 1931, was £100,065,643.

The Assembly elected Apr. 5, 1930, was composed of 30 Laborites, 13 Liberals, 2 Country party members, and 1 Independent. Governor in

1932, Sir Alexander G. A. Hore-Ruthven, Premier, Treasurer, and Minister of Education. L. L. Hill (Labor). See **AUSTRALIA**.

**SOUTH CAROLINA. POPULATION.** According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 1,738,765, as against 1,683,724 in 1920. Columbia, the capital, had (1930) 51,581 inhabitants; Charleston, 62,285.

**AGRICULTURE.** The accompanying table shows the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod. Bu.	Value
Cotton	1932	1,842,000	695,000	\$22,588,000
	1931	1,960,000	1,005,000	80,401,000
Corn	1932	1,656,000	17,885,000	8,227,000
	1931	1,608,000	22,994,000	10,577,000
Tobacco	1932	68,000	39,236,000	4,904,000
	1931	102,000	69,972,000	6,437,000
Oats	1932	389,000	7,974,000	2,631,000
	1931	878,000	9,450,000	3,496,000
Hay	1932	298,000	217,000	2,155,000
	1931	255,000	187,000	2,222,000
Sweet potatoes	1932	66,000	6,072,000	2,793,000
	1931	58,000	3,180,000	2,162,000
Potatoes	1932	17,000	1,462,000	1,213,000
	1931	25,000	8,500,000	2,380,000

\* Bales.    † Pounds.    ‡ Tons.

**MINERAL PRODUCTION.** The greater part of the State's entire mineral product, by yearly value, consisted of stone. The total value of the State's mineral product was \$3,341,051 for 1930; for 1929, \$3,592,112.

**FINANCE.** State expenditures in the year ended Dec. 31, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments, \$12,617,467 (of which \$3,808,080 was for local education); for interest on debt, \$4,725,270; for permanent improvements, \$20,951,251; total, \$38,297,182 (of which \$21,419,174 was for highways, \$828,557 being for maintenance and \$20,590,617 for construction). Revenues were \$25,088,731. Funded debt outstanding on Dec. 31, 1931, totaled \$69,973,508, of which \$64,341,630 was for highways.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 3774.89. During the year previous, about 1 mile of new line had been put in operation; about 6 miles abandoned.

**EDUCATION.** The public-school system was maintained through the academic year 1931-1932, according to the *Journal* of the National Education Association, "with very little shortening of terms or tardiness in the payment of salaries." The school-age population was stated to be 676,381, composed of 343,188 whites and 331,193 Negroes. There were enrolled in the public schools 251,364 white and 223,710 Negro pupils. Of these, 202,894 whites and 214,299 Negroes were in elementary schools or grades; in high schools, 48,470 whites and 9411 Negroes. Expenditures for public-school education totaled \$12,314,226. Of this total, \$10,884,062 was for the education of whites and \$1,429,564 for that of Negroes. Salaries of teachers averaged \$841 a year for whites and \$275 for Negroes.

**LEGISLATION.** A second session of the seventy-ninth Legislature was convened on January 12. Its main occasion was to meet a deficit of some \$5,000,000 in the State's accounts. It passed an act authorizing the issuance of \$5,000,000 in State notes to provide the required sum due the State's creditors; a levy of 2½ mills on the \$100

was affixed to the State's ad-valorem tax on property and was to be devoted to extinguishing this note debt in about eight years. A joint resolution of the two houses provided for an extension of time for the payment of property taxes; but Governor Blackwood vetoed the resolution. A Public Utilities bill was enacted, vesting in the State Railroad Commission the authority to regulate the rates at which companies sold hydro-electric energy in the State.

**ELECTIONS.** The popular vote of November 8 was cast for the Democratic National ticket, save for a mere sprinkling of Republican votes. The officially reported totals for President were: Roosevelt (Dem.), 102,347; Hoover (Rep.), 1978. U. S. Sen. Ellison D. Smith (Dem.), was reelected, and an all-Democratic delegation of six, chiefly actual incumbents, were elected Representatives to the Seventy-third Congress. No State offices were filled in the election.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, Ibra C. Blackwood; Lieutenant-Governor, James O. Sheppard; Secretary of State, W. P. Blackwell; Treasurer, J. H. Scarborough; Budget Secretary, Walter E. Duncan; Attorney-General, John M. Daniel; Comptroller-General, A. J. Beattie.

**Supreme Court:** Chief Justice, Eugene S. Blease; Associate Justices, Thomas P. Cothran, John G. Stabler, Jesse F. Carter, Milledge L. Bonham.

**SOUTH CAROLINA, UNIVERSITY OF.** A non-sectarian State institution of higher education in Columbia. The enrollment for the autumn session of 1932 totaled 1655. The faculty numbered 98. The appropriation was \$312,000 for the fiscal year. In the spring of 1932 the School of Education occupied its new building, erected at a cost of \$300,000. This building also is being used as the University High School, which opened in 1932. President, Leonard T. Baker, A.M., LL.D.

**SOUTH DAKOTA, POPULATION.** According to the Fifteenth Census, the population of the State on Apr. 1, 1930, was 692,849, as against 638,547 in 1920. Sioux Falls, the chief city, had (1930) 33,362 inhabitants; Pierre, the capital, 3659.

**AGRICULTURE.** The accompanying table shows the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod. Bu.	Value
Corn . . .	1932	4,982,000	73,235,000	\$9,521,000
	1931	4,837,000	25,152,000	7,797,000
	1932	3,527,000	2,678,000 <sup>a</sup>	9,585,000
Hay . . .	1931	8,194,000	1,643,000 <sup>a</sup>	12,172,000
	1932	3,991,000	54,095,000	16,228,000
	1931	2,796,000	16,718,000	7,189,000
Oats . . .	1932	2,321,000	75,432,000	6,336,000
	1931	1,745,000	20,068,000	4,014,000
	1932	2,053,000	47,630,000	6,192,000
Barley . . .	1931	1,833,000	16,680,000	4,504,000
	1932	165,000	776,000	636,000
	1931	211,000	654,000	739,000
Flaxseed . .	1932	73,000	5,110,000	1,278,000
	1931	54,000	2,160,000	1,231,000
	1932	475,000	7,125,000	1,069,000
Rye . . . .	1931	352,000	2,464,000	591,000

<sup>a</sup> Tons.

**MINERAL PRODUCTION.** The mining of gold, supplying normally about three-fourths of the total yearly value of the State's mineral production, was increasingly active in 1931. The quantity of gold mined increased to 431,000 fine ounces (1931), from 406,297 (1930); the value, to \$8,913,700 (1931), from \$8,398,900 (1930).

South Dakota ranked third among the States and territories as a gold producer in both years, following California and Alaska. For 1932 the production of gold was estimated to have risen further, attaining the value of \$9,959,711. The total value of the State's mineral product was \$11,075,808 for 1930; for 1929, \$8,914,344.

**FINANCE.** State expenditures in the year ended June 30, 1931, as reported by the U. S. Department of Commerce, were: \$19,555,756 (of which \$7,276,420 was for highways). Revenues were \$19,695,929. Funded debt outstanding on June 30, 1931, totaled \$49,961,032, of which \$186,032 was for highways. Net of sinking-fund assets, the debt was \$13,049,592.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 4218.70. During the year previous, about 19 miles of line had been abandoned.

**EDUCATION.** A complete new curriculum was put in use in the public elementary schools in the course of the year. The number of persons of school age in the State was reckoned, for the academic year 1931-1932, as 216,658. There were enrolled in the public schools 164,684 pupils. Of these, 130,697 were in common schools or elementary grades; in high schools, 33,987. The year's expenditures for public-school education totaled \$14,546,959.

**ELECTIONS.** The popular vote of November 8 was cast for the Democratic National ticket in the proportion of nearly 2 to 1. For President, the officially reported totals were: Roosevelt (Dem.), 183,515; Hoover (Rep.), 99,212. Peter Norbeck (Rep.), was reelected United States Senator. Democrats were elected to both the State's seats in the House of Representatives, for the Seventy-third Congress. Tom Berry (Dem.), defeated Gov. Warren E. Green (Rep.), who ran for reelection.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, Warren E. Green; Lieutenant-Governor, O. K. Whitney; Secretary of State, Mrs. Elizabeth Coyne; State Auditor, William M. Dunn; State Treasurer, A. C. Goodhope; Superintendent of Public Instruction, C. E. Gold; Attorney-General, M. Q. Sharpe.

**Supreme Court:** Judges, S. C. Polley, Frederick A. Warren, Everett D. Roberts, Herbert B. Rudolph, Dwight Campbell.

**SOUTH DAKOTA, UNIVERSITY OF.** A State institution of higher education in Vermillion, founded in 1882. The enrollment for the autumn term of 1932 was 852 and for the summer session, 413. The faculty and staff numbered 145. The operating income for the year was \$455,280. President, Herman G. James, J.D., Ph.D.

**SOUTH DAKOTA STATE COLLEGE.** A State college of agriculture and mechanic arts in Brookings, founded in 1882. The enrollment for the autumn of 1932 was 832, summer school, 232. The teaching staff was equivalent to 73 full-time teachers. The income for 1930-31 was \$1,065,009. President, Charles W. Pugsley, D.Agr.

**SOUTHERN CALIFORNIA, UNIVERSITY OF.** An institution of higher education for men and women in Los Angeles, Calif., founded in 1879. The enrollment for 1931-32, including summer session and extension classes, was 15,590. In the autumn of 1932 there were 550 members on the faculty. The endowment was \$1,648,000, the income from tuition and fees, \$1,776,000, and other income \$326,700. President, Rufus B. von Kleinsmid, Sc.D., J.D.



**SOUTHERN RHODESIA.** See under RHODESIA.

**SOUTH GEORGIA.** See FALKLAND ISLANDS.

**SOUTH ORKNEYS.** See FALKLAND ISLANDS.

**SOUTH-WEST AFRICA.** A former German protectorate, administered since Dec. 17, 1920, by the Union of South Africa under a mandate from the League of Nations. Area, 322,394 square miles; population (1926 census) 258,905 including 24,115 Europeans. Capital, Windhoek, with 18,241 inhabitants including 13,639 natives. Imports in 1930 were valued at £2,120,282; exports, £2,017,127. In 1930-31 revenue was £619,229; and expenditure, £1,271,281. Administrator in 1932. A. J. Werth. See SOUTH AFRICA, UNION OF, under History.

**SOVIET CENTRAL ASIA.** A region in central Asia, including the territory formerly known as Russian Turkestan. Administratively it is divided into the soviet socialist republics and autonomous areas, affiliated with the U.S.S.R., shown in the accompanying table.

#### SOVIET REPUBLICS OF CENTRAL ASIA

<i>States</i>	<i>Area, sq. miles</i>	<i>Population</i>
Turcoman S. S. R. ....	189,658	1,030,500
Uzbek S. S. R. ....	75,598	4,525,000
Tadzik S. S. R. ....	54,826	745,200
Kara-Kalpak Aut. Area .....	46,320	370,000
Kirghia A. S. S. R. ....	60,000	1,000,000

**SOVIET-POLISH NON-AGGRESSION PACT.** See POLAND; PEACE.

**SOVIET RUSSIA.** See UNION OF SOVIET SOCIALIST REPUBLICS.

**SOVIET UNION.** See UNION OF SOVIET SOCIALIST REPUBLICS.

**SPAIN.** A former constitutional monarchy of southwestern Europe, proclaimed a republic on Apr. 14, 1931. Capital, Madrid.

**AREA AND POPULATION.** Continental Spain has an area of 190,050 square miles; including the Balearic and Canary Islands, the total area is 196,607 square miles, or about one-third less than that of Texas. The population at the census of 1930 was 23,903,343, compared with 21,959,086 in 1920. For the period 1926 to 1930, births averaged 655,588 annually and deaths 411,085; the birth rate per 1000 inhabitants was about 29.3 and the death rate 18.3. Emigration, which is mostly to Argentina, Cuba, Brazil, and Uruguay, totaled 94,571 in 1930 (100,988 in 1929). The chief cities, with their census populations (preliminary) in 1930, are: Madrid, 863,958 (750,896 in 1920); Barcelona, 958,723 (710,335 in 1920); Valencia, 315,816; Seville, 217,788; Valladolid, 188,619 Málaga, 180,105; Zaragoza, 162,129; Bilbao, 161,987; Murcia, 159,825; Granada, 117,493.

**EDUCATION.** The census of 1920 showed that 46.45 per cent of the population six years of age and over could neither read nor write. The Constitution of the republic (Dec. 9, 1931) made primary education free and compulsory and the republican government has greatly expanded educational facilities. In 1929, there were 27,883 public elementary schools and about 6000 private schools, with some 3,800,000 pupils; 69 secondary schools, with 63,396 pupils; and 11 universities, with 45,463 students. The universities are at Barcelona, Granada, Madrid, Murcia, Oviedo, Salamanca, Santiago, Seville, Valencia, Valladolid, and Zaragoza.

**PRODUCTION.** Predominantly an agricultural

country, Spain in 1930 had 39,789,000 acres, or about 32 per cent of the total area, under cultivation, besides 40,539,000 acres of pastures, and 11,146,000 acres of trees, shrubs, and bushes. About 7 per cent of the cultivated land was under irrigation. The wheat crop in 1932 was unofficially estimated at 4,850,000 metric tons, compared with the previous record yield of 4,420,000 metric tons in 1925 and the estimated domestic consumption of 3,930,000 metric tons. Spain is normally the chief olive-producing country of the world; the yield of olive oil in 1931-32 was 109,187,000 gallons. Other crops (in bushels) in 1931 were: Rye, 18,512,000; barley, 90,727,000; oats, 41,670,000; corn, 26,403,000; rice, 13,042,000; potatoes, 124,162,000. Sugar beet production was 2,962,000 metric tons; wine, 476,166,000 gallons.

Crude mineral production in 1930 was valued at 477,741,000 pesetas (\$87,262,000) and refined-mineral products at 1,095,572,000 pesetas (\$127,853,000). The output of coal and lignite in 1931 was 7,338,000 metric tons; coke (metallurgical), 572,000 tons; pig iron, 475,000 tons; copper (blister), 25,802 tons; lead, 122,197 tons; zinc, 10,830. Pyrites, mercury, superphosphates, and cement were other mineral products. The chief manufactures are cotton goods, paper, glass, sugar, cork products, silk, and metallurgical products. There were about 250 cotton-spinning and 800 weaving mills, which employed about 110,000 persons. Silk production in 1931 was 58,000 metric tons. Unemployment at the end of November, 1932, totaled about 400,000.

**COMMERCE.** The value of Spain's foreign trade declined more than 50 per cent in 1931. Imports, valued at 1,177,100,000 gold pesetas (\$227,180,000), were 51 per cent less than the 1930 imports, valued at 2,447,351,000 pesetas (\$472,339,000). Exports were valued at 960,880,000 gold pesetas (\$185,450,000) and were 58 per cent less than the 1930 exports of 2,299,667,000 pesetas (\$443,836,000). Leading import items, in order of value in 1931, were chemicals and fertilizers, raw and waste cotton, mineral oils, lumber and timber, electric machinery, and other machinery. Exports, in order of value, were fresh fruit (chiefly oranges), olive oil, salt, almonds, and chemicals. In 1930, the United Kingdom purchased 21.9 per cent of the total exports; France, 19.3; the United States, 9.2; Germany, 7.4; and Argentina, 7.1. Of the total imports, the United States supplied 16.8 per cent; the United Kingdom, 12.3; Germany, 11.6; France, 11; and Argentina, 2.2 per cent. According to United States statistics, exports to Spain in 1931 were \$33,970,000 (\$26,688,366 in 1932) and imports from Spain were \$16,621,000 (\$11,406,375 in 1932). Spain's purchases of American raw cotton fell to \$12,624,000 in 1931 from \$20,154,000 in 1930.

**FINANCE.** The ordinary budget for 1931 closed with a deficit of 199,000,000 pesetas, as contrasted with a surplus of 53,000,000 pesetas in 1930 (the peseta, par value \$0.19295, exchanged at \$0.1167 in 1930 and \$0.0954 in 1931). Ordinary revenues in 1931 were 3,656,000,000 pesetas (3,735,000,000 pesetas in 1930) and ordinary expenditures were 3,855,000,000 pesetas (3,682,000,000 in 1930). The preliminary 1932 returns placed revenues at 4,403,000,000 pesetas and expenditures at 4,297,100,000 pesetas. The receipts included 500,000,000 pesetas in loans. For 1933, budget proposals called for revenues of 4,715,-



278,000 pesetas (including loans of 586,370,000 pesetas) and expenditures of 4,711,169,000 pesetas. The funded public debt on Jan. 1, 1932, was reported at 19,551,267,000 pesetas (\$1,642,306,000, converted at the averaged exchange rate for December, 1931), not including the 350,000,000 gold pesetas (\$67,550,000) raised on Jan. 1, 1930.

**COMMUNICATIONS.** The railways, which are privately owned but subsidized by the government, extended 10,370 miles in 1929. By a decree of Sept. 28, 1932, the government established a system of commissions to regulate the operation of private lines which had received financial assistance from the state.

**GOVERNMENT.** Under the Constitution of the Second Republic, voted by the Constituent Cortes Dec. 9, 1931, Spain was declared a democratic republic of workers of all classes, organized as an integral state but with autonomy for municipalities and certain regions. There was to be no official religion; freedom of conscience was guaranteed; all citizens were made equal before the law; Castilian (Spanish) was made the official language; and war was formally renounced as an instrument of national policy. The colors of the republic are red, yellow and purple. Legislative power was vested in the people, who exercise it through a unicameral Cortes, or Congress of Deputies, elected for four years by universal male and female suffrage under a system of proportional representation.

The President is elected for six years conjointly by the Cortes and by an equal number of electors chosen by universal, secret suffrage. He is ineligible for reelection for six years after the termination of his last mandate. The Premier is appointed and dismissed by the President, who also appoints the Ministers upon the Premier's nomination. President in 1932, Niceto Alcalá Zamora y Torres, elected Dec. 10, 1931. The Cabinet formed Dec. 16, 1931, included: Prime Minister and Minister of War, Manuel Azaña y Díaz; Foreign Affairs, Luis Zulueta Escolano; Justice, Alvaro de Albornoz y Liminiana; Marine, José Giral Pereira; Finance, Jaime Carner Romeu; Interior, Santiago Casares Quiroga; Education, Fernando De Los Rios Urruti; Public Works, Indalecio Prieto y Tuero; Labor, Francisco Largo Caballero; Agriculture, Marcelino Domingo Sanjuan; Communications, Santiago Casares Quiroga (*pro tem.*).

### HISTORY

**THE REPUBLICAN REFORMS.** Under the firm guidance of Premier Manuel Azaña, the Spanish Cortes (Parliament) during 1932 laid the foundations for the social and economic transformation of the nation. Legislation was enacted calculated to break the power of the church and of the aristocracy. The army and navy, formerly the bulwark of the monarchy, were reorganized as republican instruments. Education was secularized and the knotty problems of Catalan autonomy and of agrarian reform were attacked with apparent success. The programme was carried through in the face of strong opposition from monarchists and extreme radicals by a régime which moved steadily in the direction of a moderate Socialist dictatorship. The republican revolution of 1931 thus began to achieve its long-pending results.

The attack upon the church commenced on January 23 when President Zamora signed a de-

ree dissolving the Jesuit order, confiscating its property, and forbidding Jesuits to form congregations or "to live in brotherhoods, either in public or private manner." The property seized, estimated at \$30,000,000, was placed in charge of a special committee. A bill passed by the Cortes on September 7 ordered the utilization of this wealth for social welfare purposes. It was reported that other wealth of the order, estimated at \$70,000,000, was vested in private individuals and thus escaped confiscation. By the end of 1932, the total church property confiscated by the state was estimated at over \$500,000,000. In addition, late in the year, another bill was enacted which corresponded to the French anti-clerical law of 1902. It reserved to the state the right to veto appointments of heads of religious associations and declared that all such persons must be Spaniards and submit to the national laws. Religious orders were forbidden to engage in industry or to teach anything but religion. Secular education, which had been largely in the hands of the church, was taken over by the Minister of Instruction. Another law pending before the Cortes at the end of the year called for the withdrawal of the small state subsidy from more than 40,000 parish priests. Despite the drastic character of these measures, the Papal Nuncio advised the Spanish Church to accept the republic peacefully, while resisting lawfully all anti-clerical legislation.

To replace the religious schools, the government by the end of 1932 had added 7000 new state schools to the 37,716 existing at the time of the monarchy's collapse. With some 60 per cent of the population still illiterate, the government prepared to erect 27,000 additional schools over a four-year period. Salaries of 50 per cent of the public school teachers were raised. To carry through its education programme, the government raised an internal loan of 400,000,000 pesetas (\$77,200,000 at par). The municipalities promised to raise another 200,000,000 pesetas (\$38,600,000) for educational purposes.

Equally far-reaching was the reorganization of the army. In 1931 the leading royalist officers had been weeded out. On May 3, 1932, Señor Azaña, who was both Premier and Minister of War, introduced a bill calling for further modernization of the army, in which the number of officers had already been reduced from 22,000 to 12,000. The army then totaled about 150,000 men and officers. The bill provided for rigid examinations, based upon study at the military academy, for promotion to all commissioned officers' ranks. Its aim was a small, relatively inexpensive, but efficient fighting force. Subsequent evidences of monarchist sympathies among some of the army and naval officers was followed by a further "weeding out" process.

**Agrarian Reform.** Redistribution of the large landed estates of the Spanish aristocracy had been a prominent measure in the republican programme. It was not until September 9, however, that the Cortes passed the Land Reform Bill. This measure, which was retroactive to April, 1931, applied not to the entire republic but to sections near Madrid where large estates were particularly prevalent. It provided that such feudal estates, land poorly cultivated, and land in the neighborhood of towns and villages might be expropriated by the government. Indemnification was to be based on values declared for taxation, and was to be paid partly in cash and partly in 5 per cent

bonds. The nobility, however, were to be repaid only for recent improvements.

The bill also provided for the establishment of an Institute of Agrarian Reform to carry out its provisions. The Institute was to distribute the land to landless agricultural workers or those owning only small plots. Ownership, however, was to be retained by the state. Facilities were provided for financing equipment and crops, the construction of buildings, and the purchase of seeds and fertilizers. The Institute was allotted 50,000,000 pesetas (\$9,650,000 at par) annually for this purpose. The measure was later extended to include all Spain. A national survey made at the end of the year indicated that about 3,000,000 acres of the best lands of Spain had been taken over by the state for redistribution. Eventually some 52,000,000 acres was to be redistributed in this manner.

*The Catalan Statute.* More controversial than any of these problems was the question of the relation of Catalonia (q.v.) to the republic. Following the establishment of the republic, in which the Catalan autonomists played a prominent part, a charter or statute reserving to Catalonia large powers of autonomy was drafted by the Catalan leaders and almost unanimously indorsed in the Catalanian plebiscite of Aug. 2, 1931 (see 1931 YEAR BOOK). When the newly reassembled Cortes late in April began consideration of the Statute the issue quickly assumed proportions which threatened the stability of the republic. In Spain proper there was a widespread outcry against "national dismemberment," while the Catalan extremists defiantly insisted upon the recognition of Catalonia as an "autonomous state."

In this crisis, Premier Azana displayed practical statesmanship. Reminding the nation that at the height of Spain's power Catalonia had greater autonomy than even the Statute called for, he announced that Spain was to be a Federal republic, with effective state governments limited by Federal control. The Statute as finally approved by the Cortes on September 9 represented a compromise between the demands of Spanish nationalism and Catalan separatism. It defined Catalonia as an "autonomous region within the Spanish state," with a government (Generalidad), consisting of a Parliament, an executive council and a president. The Statute authorized the Catalans to use their own language, national anthem and flag, Catalan and Castilian being made the official languages. Education, taxation, law enforcement, social welfare and most of the other governmental functions were in the main left in the hands of the Catalan government. In each case, however, the Federal government reserved important powers, such as the right to maintain its own schools, the control of customs administration and of certain taxes, the right to intervene in behalf of public order, and complete control of foreign affairs.

The Statute was enthusiastically approved by the Catalan delegates to Madrid and was officially confirmed by the Barcelona government on September 25, when Premier Azana in person presented the Statute to Colonel Macia, president of the Generalidad. The Statute was expected to serve as a precedent for the settlement of the autonomy demands of the Basque Provinces (q.v.) and other regions. The elections for the Catalan Generalidad held on November 20—the first since 1705—gave 68 out of the 87

seats in the Parliament to Colonel Macia's Esquerra party, which indorsed the Statute. This insured the completion of the autonomy programme along the lines authorized by the Azana government.

**OPPOSITION TO THE REPUBLIC.** The government's programme was carried through in the face of sporadic strikes, riots, conspiracies, and even revolutions precipitated by the ultra-radical syndicalists, anarchists, and communists on the one hand and the monarchists and conservatives on the other. There was a radical outbreak in Catalonia on January 21 accompanied by an uprising in the agricultural areas of Andalusia, and outbreaks in Madrid. Acting under a drastic law for the defense of the Republic, decreed the previous October, the government suppressed the outbreaks and sent 109 of the radical leaders to exile in Spanish Guinea. Throughout the year, it checked with severity similar radical conspiracies against the republic.

The same fate was meted out to monarchist revolutionaries. On February 27, Alfonso XIII issued a manifesto from his place of exile in France denouncing the republic and urging all Spaniards to "reunite Spain under my holy banner." The manifesto aroused little excitement. The government retaliated by confiscating Alfonso's private fortune of cash, securities, jewels, and works of art valued at about \$3,000,000. His estates and palaces were seized by the republic in 1931. The most serious monarchist threat to the republic was the revolt of August 10, led by Gen. José Sanjurjo. Supported by many members of the civil guard, General Sanjurjo captured Seville and several small towns in Southern Spain, while monarchist groups in Madrid attempted to seize important government buildings. The government immediately declared martial law and dispatched troops from Madrid to the disaffected regions. Military measures, combined with a Socialist general strike in Seville and adverse public opinion, resulted in the quick collapse of the revolt. Captured at Huelva, near the Portuguese frontier, on August 11, General Sanjurjo was taken to Madrid and sentenced to death. On recommendation of the Cabinet, President Zamora commuted the sentence to life imprisonment.

The abortive revolt strengthened the government and gave it a welcome opportunity to rid itself of the menace presented by the aristocracy. The Duke of Alba and more than 100 others from the ranks of the highest nobility were arrested in connection with the revolt, their estates were confiscated by action of the Cortes on August 20, and on September 21, 105 of those arrested were exiled to Villa Cisneros in the Spanish West African colony of Rio de Oro. During the year approximately 100 newspapers were suspended for too vigorous criticism of the government's policies.

**THE ECONOMIC SITUATION.** Despite political disturbances, the economic recession in Spain during 1932 was less pronounced than in many countries. Reserves of the Bank of Spain were maintained, peseta exchange was fairly steady, the position of private banks was strengthened, increased taxation brought higher government revenues, and unemployment was relatively lower than in the industrial countries. On the other hand, the issue of 550,000,000 pesetas in treasury obligations was required to balance the 1933 budget, according to the estimates.

**FOREIGN RELATIONS.** In the field of foreign relations the chief development of the year was the understanding with France which was reached during a visit of Premier Herriot to Madrid on October 31. Despite the hostile demonstration of Madrid students, who saw in Herriot's visit the threat of Spain's embroilment in the predicted European war, Franco-Spanish collaboration in certain military affairs was believed to have been agreed upon. Shortly afterwards, a project for a Franco-Spanish express railway through the Sombart tunnel in the Pyrenees was discussed. The line would furnish France with secure land communications with French North Africa in the event of war with Italy. Another result of Premier Herriot's visit was the draft agreement providing for reciprocal concessions and equal treatment of the workers of both nations resident in the other. For the Spanish government's policy in Morocco, see MOROCCO under *History*. Also see FRANCE under *History*.

A dispute with the Compañía Nacional Telefonica, an affiliate of the International Telephone and Telegraph Company, involved the Spanish government in a controversy with the United States. A bill introduced into the Cortes declared the contract secured by the company illegal and provided for its cancellation. On December 5, the U. S. State Department warned the Spanish government that if the bill was passed by the Cortes, it might recall the American Ambassador. The threat was apparently sufficient to induce the Cortes to suspend action. About \$100,000,000 of American capital was invested in the company. See UNEMPLOYMENT.

**SPANISH ACADEMY.** See SPANISH LITERATURE.

**SPANISH-AMERICAN LITERATURES.** The facts here presented are not to be considered exhaustive, nor must the omission of some of the countries be taken as evidence that they produced nothing in 1932. A book of considerable usefulness in connection with nearly all the Spanish-American countries is H. S. Holmes, *Spanish America in Song and Story*. It gives selections from 238 authors chosen from 15 of the 18 Spanish-speaking countries in the Western Hemisphere. There are also 30 pages of introductory material, in addition to important biographical and bibliographical notes at the head of each set of selections, and explanatory notes at the end of the volume. Another anthology of all Spanish-speaking countries including the Philippine Islands is by José Brissa and Enrique de Leguina, *El libro de la raza* (containing 886 pages of prose and poetry).

**ARGENTINA.** Once more Argentina offers materials of interest in several fields; see *Lista de las últimas obras argentinas ingresadas en la Biblioteca Nacional*.

**Fiction.** Carlos María Riestra, *Junto al fuego* (24 cuentos, with a prologue defending the "story" as a genre, whereas the performance in the book is the best defense the genre could have); Ricardo Güiraldes, *Raucha* (posthumous work, worthy companion of his *Don Segundo Sombra*, and a masterly treatment of Argentine rural life); Elias Castelnuovo, *Larvas* (careful, well-written study of seven clinical cases of degenerate children); Chita de Leonard, twenty-year-old journalist, *Velocidad* (her first book, and highly praised); Alcides Greca, *Cuentos de Comité* (short stories showing the workings of politics in Argentina); Amadeo Rodolfo Siroli,

*Pacha mama* (carefully written study of the Valles Calchaquies in northern Argentina—has also a vocabulary of indigenous terms); Jerónimo del Rey (a new pseudonym), *Camperas, "fábulas santafecinas"* (excellently executed and a new note in Argentine letters: the fable); González Carbalho, *Historia de niños* (exquisite); Marcelo Menasché, *Y van dos . . .* (first book of a born humorist, excellent in conception, wit, and purity of style); Antonio Rubín Ferrari, *Pincladas, cuentos de mi ciudad*; Enrique Popolizio, *Cuentos de todo Tiempo* (confirms reputation for craftsmanship won by his first book, *Romance de Zina*).

**Poetry.** One notable thing about the poetic output for the year is the number of authors who are women. The following works should be mentioned: Arturo Marasso, *Melampo* (beautiful, dialogued, lyric poem, possibly too intellectual and not sufficiently emotional); María Alicia Domínguez, author of *Las Alas de Metal* and *El Hermano ausente*, published late in 1931 another volume of poems, *El Nombre inefable*, which is a full confirmation of her talent; Maruja Vidal Fernández, *Látigos Invisibles* (written while traveling and strong in emotion and spontaneity) and *Amor, Amor!*; Fernández Moreno (prolific lyric poet of lofty inspiration), *Décimas* (awarded 20,000 pesos Second National Prize for Literature).

Also Rafael de Diego, *El Grito, poemas para la Libertad* (a volume of "civic" poems, his previous volumes being *Las Angustias*, *La Estelas*, and *Las Sombras*); Justa Gallarda de Balazar Pringles, *Etapas* (three types of verse: urban, a few; folkloric, the majority; intimate, very few—the author is highly recommended for her preference for Argentine themes and the purity of her sentiments); and Carlos Obligado, *Los Poemas de Edgar Poe* (translation, prologue, and notes—an examination of the translation of *Ulalume* shows a delicate sensitiveness to the rhythm and the thought of the original).

**Erudition.** P. B. de Estella, *Historia vasca* (very interesting); Roberto Levillier, *Nueva Crónica de la Conquista del Tucumán* (2d and 3d vols. of a work whose 1st vol. appeared in 1926—chronological and ideological history); Arturo Capdevila (poet, essayist, humanist), *Babel y el castellano* (won 30,000 pesos Grand National Prize for Literature, not awarded for several years past and now awarded as for 1929; won also prize as "best book of the month" when published in Spain), and *Rivadavia y el españolismo liberal de la Revolución Argentina* (history, philosophy, and literature, by a master of style); Sigfrido A. Radaelli, *Capítulos de Historia Argentina* (admirable style and balanced judgment); José Rossi, *La Senda Alucinante* (five chapters of dainty, beautiful mysticism); Ricardo Rojas, *El radicalismo de mañana*; *La Obra de Rojas: XXV Años de Labor Literaria* (collection of articles by distinguished scholars to celebrate the twenty-fifth anniversary of the appearance of Rojas's first book: *La Victoria del Hombre*—the articles prove Rojas to have been and to be a great force for civic righteousness and solidarity); Antonio Aita, *La Literatura Argentina Contemporánea* (very fine study for the years 1900–1930); K. Vossler, L. Spitzer, y H. Hatzfeld, *Introducción a la Estilística Romana* (translation and notes by Amado Alonso and Raimundo Lida—Colección de Estudios Estilística, T. I. Facultad de Filosofía y Letras de la Universidad de Buenos Aires); and Alejandro

M. Unsain, *Legislación del trabajo* (awarded the 10,000 pesos Third National Prize for Literature).

*Prizes.* Aside from the three National Prizes for Literature (for 1929), as just set forth, there were the following six Municipal (Buenos Aires) Prizes for Literature awarded as for 1931—three for prose and three for poetry: *Prose*: 1st prize (5000 pesos), Alfonso Corti, *François Villon: su vida y su obra*; 2d prize (3000 pesos), Raúl Scalabrini Ortiz, *El hombre que está solo y espera*; 3d prize (2000 pesos), María A. Centrone, *Momentos*; *Poetry*: 1st prize, Eugenio Julio Iglesias, *Ruta de soledad*; 2d prize, Augusto González Castro, *En el Amor del viento*; and 3d prize, Manuel Alcobre, *Poemas de media estación*.

CHILE. The learned lexicographer and grammarian, Miguel Luis Amunátegui Reyes, Director of the Academia Chilena (Correspondiente of the Academia Española), completed a monumental work in three volumes, *Don Antonio García Reyes i algunos de sus antepasados a la luz de documentos inéditos*, which deals exhaustively with one of the great characters of the early years of Chilean independence. It is based very largely on inedited original documents in the archives of the author himself. Domingo Amunátegui Solar wrote a tribute to José Toribio Medina, great bibliographer, who died more than a year ago. Carlos de Silva Vildósola, the keen student of international affairs, took his seat in the Chilean Academy. Aníbal Echevarría y Reyes published *Vocabulario de . . . Don Quijote*; and Arturo Torres Riosco produced a volume of attractive verses, *Ausencia*.

COLOMBIA. To Colombia, one of her illustrious sons brought a great honor. Carlos Balen y Groot, author of a recent volume of attractive verse, *Horas de ensueño*, won the 1931 Hispano-American Prize of the Spanish Academy for Lyric Poetry with his *Alas viajeras*. Alfredo Gómez Jaime (Colombian Consul in Vigo) published *El explorador del infinito*, which calls itself a "novela teatral" and is a lyric poem in prose. The Academia Colombiana (Correspondiente of the Academia Española) lost its brilliant man-of-letters and statesman, Guillermo Camacho y Carrizosa.

COSTA RICA. Roberto Brenes Mesén, member of the Academia Costarricense (Correspondiente of the Academia Española), ex-Minister of Public Instruction in Costa Rica, and now professor in Northwestern University, has published a beautiful Biblical story, *Lázaro de Betania*.

CUBA. José Antonio Saco published a very important new edition of his *Historia de la esclavitud de los indios en el Nuevo Mundo*. The Cuban ambassador to Spain, Manuel Villaverde, produced an attractive verse comedy, *Carmen y Don Juan*; and the Secretary of the Cuban embassy to Spain, José María Chacón y Calvo, published *El Consejo de Indias y la Historia de América* (careful study and edition of an important document in the Archivo General de Indias, Sevilla). Emilio Ballacas issued a volume of verse, *Júbilo y fuga*. In the Academia Cubana (Correspondiente of the Academia Española), the humanist Enrique José Varona (beloved, octogenarian Director) resigned his office because of poor health. As his successor was chosen the jurisconsult, orator, and litterateur, Mariano Aramburo Machado, who was practically the discoverer of the

great Cuban poetess, Gertrudis Gómez de Avellaneda.

DOMINICAN REPUBLIC. After long and serious coöperative efforts between the Spanish Academy and the leading litterati of the Dominican Republic, the Academia Dominicana (Correspondiente of the Academia Española) was established with the following members: President, Dr. Adolfo Nouel (Archbishop of Santo Domingo, ex-President of the Republic); Vice-President, Alejandro Wos Gil (ex-President of the Republic and ex-Judge of the Supreme Court); Secretary, Federico Laverías (ex-head of the Chancellery and director of the Protocol); and Rafael Justino del Castillo, Armando Rodríguez, Andrés Julio Montolio, M. A. Patin Maceo, Félix M. Nolasco, Alcides García, Bienvenido García Gautier, Arturo Logroño, Manuel de J. Camarena Perdomo, Rafael C. Castellanos, Juan T. Mejía, Max Henríquez Ureña, Enrique Henríquez, and Ramón Emilio Jiménez. All of these gentlemen have brilliant careers in sciences, belles-lettres, jurisprudence, or statecraft.

ECUADOR. The Academia Ecuatoriana (Correspondiente of the Academia Española) late in 1931 lost Alejandro Cardenas, and this year Leónidas Pallares Arteta (ex-Minister of State and Minister to various European countries, lyric and dramatic poet). The Academy paid marked tribute to its senior member, Honorato Vázquez (for many years Minister to Spain), and conferred upon him the title "Illustrious and Favorite Son" of Ecuador. The country celebrated also in due fashion the Centenary of the birth of its great writer and patriot, Juan Montalvo. In this connection the Ecuadorean Minister to the United States, Gonzalo Zaldumbide (author of a learned study concerning the great Uruguayan philosopher José Enrique Rodó), published a study: *Juan Montalvo, en el centenario de su nacimiento (1832-1932)*. Other things to be noted are: Ismael Enrique Arciniegas, *Antología poética*; Vicente Moreno Mora, *Gajo de crepusculos* (poems); José de la Cuadra, *Reprisas* (*Narraciones breves*); and C. A. Rolando, *Don Juan Montalvo (1832-1932)*.

GUATEMALA. The Academia Guatemalteca (Correspondiente of the Academia Española) celebrated the second centenary of the birth of Father Rafael Landívar, and the centenary of the death of Fray Matías de Córdoba, and published in their honor a volume: *Homenaje a los poetas nacionales Rafael Landívar, S.J., y Fr. Matías de Córdoba, de la O. P.*

MEXICO. Among important historical studies are: Armand Praviel, *La vida trágica de la Emperatriz Carlota* (Spanish translation by J. García Mercadal); Alfonso Taracena (author of the recent and successful *En el vértigo de la revolución mexicana*), *La tragedia zapatista* (dealing with a man whose importance is gaining increased recognition in the minds of students); and Martín Luis Guzmán, *Mina el Mozo, Heroe de Navarra* (In the series *Vidas españolas e hispanoamericanas del siglo XIX*). Interest in the Classics is shown by Padre Federico Escobedo, the celebrated Latinist, with his *Flores del Huerto clásico* (prologue by the Secretary of the Academia Colombiana, Antonio Gómez Restrepo). There were also Rodolfo Usigli, *México en el Teatro* (interesting contribution to literary history); Manuel Romero de Terreros (Marqués de San Francisco), *Encuadraciones artísticas mejicanas—Siglos XVI al XIX* (Monografías Bib-

liográficas Mexicanas, núm. 24); Alvaro Leonor Ochoa, *El sendero social*; and Mariano Azuela, *La luciérnaga* (intensely emotional Mexican novel of the humble folk of the Capital, by the author of *Los de abajo* (a novel of the Mexican revolution)).

NICARAGUA. Arturo Torres-Rioseco (the Chilean scholar located at the University of California), *Ruben Darío* (excellent study of Nicaragua's greatest writer).

PARAGUAY. Arthur E. Elliott, *Paraguay, Its Cultural Heritage, Social Conditions and Educational Problems* (a fine piece of work).

PERU. Felipe Sassone (celebrated Peruvian dramatist and novelist, who lives in Spain) published a successful drama, *Una mujer sola*. From 1870 to 1890 General Manuel de Mendiburu published in ten volumes a monumental *Diccionario Histórico-Biográfico del Perú*. A new revised and enlarged edition, by Dr. Evaristo San Cristóval, has been prepared and volume three has already appeared.

URUGUAY. Raquel Sáenz, *Bajo el hechizo* (exquisite poems of love, clean yet passionate, especially the one entitled *Cuando yo muera*); María Elena Muñoz, *Puñado de agua* (dainty verse); Juan León Bengoa, *Labios pintados—Comedia frívola* (well received in Spain). The Academia Uruguaya (Correspondiente of the Academia Española) lost its illustrious Director, Juan Zorilla de San Martín (q.v.), the Dean of Spanish-American literati.

VENEZUELA. The Academia Venezolana (Correspondiente of the Academia Española) lost José Austria; elected to fill vacant chairs F. A. Ríquez (professor at the University of Caracas, orator, and scientist), and Luis Urbaneja y Achelpohl (author of much repute nationally and internationally). It also elected as Secretary José Ramón de Ayala vice Juan E. Arcia, whose death we announced last year.

**SPANISH LITERATURE.** For the seventh year in succession the dramatic output for 1932 outstripped that of all other branches. Erudition, however, won a good second rank, leaving fiction and poetry about on a par for third place.

DRAMA. There were several successful revivals: Enrique Borrás staged, with his usual consummate artistry, Calderón's *El Alcalde de Zalamea*; Ricardo Calvo revived Calderón's play *La vida es sueño*; and the student-artistic group created by Fernando de los Ríos, used the same play to celebrate the four hundredth anniversary of the University of Granada; the Valencian student-group, "La Barraca," performed the auto sacramental of Calderón, *La vida es sueño*.

Eduardo Marquina produced *Los Julianes*, and triumphantly staged *Era una vez en Bagdad* . . . (poetic tale, like those of the Arabian Nights). The Álvarez Quintero brothers produced *Lo que hablan las mujeres* and *Solera*. The Machado brothers gave *La Duquesa de Benamejí*. Jacinto Benavente wrote *La moral del divorcio*, and *La duquesa gitana* (pleasing drama of magic). Others of the older generation were still active: Enrique Suárez de Deza, *Juanita la loca*; Carlos Arniches, *La diosa ríe*; Luis de Vargas, *Concha Morcno*; Francisco Serrano Anguita, *Hombre de presa*; Luis Fernández Ardavin, *Las llamas del convento*; Manuel Azaña (the Prime Minister), *La corona* (profound, beautiful drama).

FICTION. Pío Baroja starts a new series of studies concerning the Basque smugglers in *La familia de Errrotacho*; Francisco de Cossío, *Auro-*

*ra y los hombres*; Eladio Esparza, *Nere* (well-constructed novel, presumably autobiographic, won prize offered by the review *Lecturas*); Luis Martínez Kleiser, *Los Hijos de la Hoz*; Bartolomé Soler, *Marcos Villari* (vigorous Catalan country life); Simón García Martín del Val, *El Polizón* (keen study of the psychology of the criminal); Alberto Insúa, *Ha llegado el día*; Luis Félix de Vega y Rodríguez, *La labradora prócer de Peñafiel*; Adolfo de Sandoval, *Le gran fascinatora* (meaning Avila); Matilde Alanic, *Esperanzas*; "Antonio Robles," *Cuentos de las cosas de Navidad* and *Cuentos de los juguetes vivos* (two inimitable volumes of tales for children); Darío Fernández Flórez, *Maelstrom*.

POETRY. As some of the best verse that Spain produces appears in drama, it will not be listed here. Other kinds of verse are fairly represented; Alfonso Camín, *La danza prima*; Juan José Domenchina, *Dédalo* (philosophic poem, highly praised); Margarita Ferreras, *Paz en la tierra* (exquisite verse); Salvador Rueda (82 years old), *El poema del beso* (50 sonnets, mostly inedited, and now edited by his friend, the poet Mariano de las Cuevas García); Ernestina de Champourcin, *La voz en el viento* (1928-1931).

ERUDITION. Despite present-day problems scholarship flourishes, as witness the following: J. M. Salaverría, *Iparraguirre, el último bardo*, and P. de Répide, *Isabel II, Reina de España* (both excellent studies); Narciso Alonso Cortés *Datos genealógicos del P. Feijóo*, and with Eugenio Mele, *Sobre Gutierre de Cetina* (important); R. del Arco, Aragón: *Geografía, Historia, Arte*; Felix Llanos y Torriglia, *María Manuel Kirkpatrick, condesa de Montijo* (important study of the mother of a Duchess of Alba and of the Empress Eugénie of France); J. Gutiérrez-Ravé, *España en 1931*; A. Alarcón Capilla, *Raza cara a los dioses*; J. del Campo, *Cien años de Madrid*; Enrique Díez-Canedo, *Los dioses en el Prado*; A. Jiménez Soler, *Don Juan Manuel, su vida y sus obras*; J. Zarco Cuevas, *Pintores españoles en San Lorenzo el Real de El Escorial (1566-1613)*, and *Pintores italianos en San Lorenzo el Real de El Escorial (1575-1613)*; Cristóbal de Castro, *Vidas fértiles*; José Subirá, *Tonadillas* (collected and illustrated, words and music of the XVIII century); Pelayo Quintero Atauri, *Excavaciones de Cádiz-Memoria de las excavaciones practicadas en 1929-31*; Juan Serra Vilaró, *Excavaciones en Tarragona-Memoria*; *Monumentos Españoles, Catálogo de los declarados nacionales arquitectónico e histórico—artístico* (2 tomos, very important work published by the Centro de Estudios Históricos).

ACADEMY. Under the ægis of the Academy the "Luca de Tena Prize" for 1931 was awarded to Ramiro de Maeztu; and the "Mariano de Cavia Prize" for 1931 went to César González—Ruano. Niceto Alcalá-Zamora, President of the Spanish Republic, took the chair left vacant by the death of José Francos Rodríguez, which had formerly been held by the orator and statesman, Emilio Castelar. The President's entrance discourse was *El Derecho en el Teatro*. It was answered by the Director of the Academy, Ramón Menéndez Pidal. It is interesting to note that Alcalá-Zamora was on the point of being elected to the Academy in 1926, when the Dictator issued a decree (Nov. 26, 1926) reorganizing the Academy, creating four new chairs, and ordering that they and two that were then vacant be used in a specific manner. After the fall of the Monarchy, and before

he became President, the Academy elected him in accord with its intention in 1926. The Academy suffered heavily through death; Manuel de Sandoval y Cutoli (illustrious poet and scholar), from within its immediate ranks; Spanish Correspondiente, Manuel Serrano y Sanz, learned archivist, who was also a member of the Academia de San Luis de Zaragoza, and was writing his entrance discourse to complete his entry into the Academy of History; and foreign Correspondientes, Pierre Paris, French Archæologist and Director of the Institut Français at Madrid; and the American scholars E. C. Hills and C. C. Marden.

# **SPANISH UNEMPLOYMENT INSURANCE LAW.** See UNEMPLOYMENT.

**SPECTROSCOPY.** See PHYSICS.

**SPECTRUM.** See ASTRONOMY.

**SPEECH.** See PHILOLOGY, MODERN.

**SPEED-BOAT RACING.** See MOTORBOATING.

**SPEED PLANES.** See AERONAUTICS.

**SPEED SKATING.** See SKATING.

**SPINOZA TERCENTENARY.** See JEWS.

**SPIRITUALISM.** See PSYCHICAL RESEARCH.

**SPITZBERGEN.** See SVALBARD.

**SPORTS.** Articles covering the activities in the various sports during 1932 will be found under such titles as ATHLETICS, BASEBALL, FOOTBALL, GOLF, OLYMPIC GAMES, RACING, TENNIS, YACHTING; also, UNIVERSITIES AND COLLEGES.

**SQUASH RACQUETS.** See COURT GAMES.

**SQUASH TENNIS.** See COURT GAMES.

**STANFORD UNIVERSITY.** A privately endowed institution of higher education, nonsectarian and coeducational, founded in Palo Alto, Calif., in 1891 in memory of Leland Stanford, Jr. The school of medicine is located in San Francisco; the Hopkins marine station at Pacific Grove; and the schools of business, education, engineering, and law on the campus. The total enrollment in 1931-32 was 4340. The faculty numbered 550. The endowment funds amounted to \$31,170,827; the income for the year was \$1,332,893. There were 606,133 volumes in the libraries. President, Ray Lyman Wilbur, M.D., LL.D., Sc.D. (on leave as Secretary of the Interior). Acting president, Robert Eckles Swain, Ph.D., LL.D.

**STARR, M (OSER) ALLEN.** An American neurologist, died in Marienbad, Germany, Sept. 4, 1932. He was born in Brooklyn, N. Y., May 16, 1854, and was graduated from Princeton University in 1876 and from the College of Physicians and Surgeons (later part of Columbia University) in 1880. After serving for seven years as professor of nervous diseases at the New York Polyclinic he was appointed in 1889 professor of diseases of the mind and nervous system at the College of Physicians and Surgeons, which chair he held until his retirement in 1916.

**STARRETT, WILLIAM AIKEN.** An American civil engineer, architect, and builder, died in Madison, N. J., Mar. 25, 1932. He was born in Lawrence, Kan., June 14, 1877, and attended the University of Michigan during 1893-95. His construction career started in 1898 when he became associated with the George A. Fuller Co., general contractors of New York City, with whom he served in various capacities as timekeeper, field engineer, and building superintendent. In 1901 he joined with his brothers Theodore and Ralph, and others, in the formation of the construction firm of Thompson-Starrett Co., of which he was general superintendent and vice-

president from 1905 to 1913. He then became associated with Ernest A. Van Vleck in the architectural firm of Starrett & VanVleck, but in 1918 severed all business connections to act as chairman of the emergency construction committee of the Council of National Defense and of the emergency construction section of the War Industries Board. Commissioned a colonel in the Quartermaster Corps, he was in charge of the construction for the National Army of cantonments, supply bases, and hospitals in the United States. Upon his discharge in 1919 he returned to the George A. Fuller Co., of which his brother Paul was president, serving as vice-president during the next two years and participating in the introduction into Japan of the use of steel-framed buildings especially designed to resist earthquakes. In 1922 he joined with his brother in forming Starrett Bros., Inc., known after Andrew J. Eken joined the firm as Starrett Bros. & Eken, Inc. Among the outstanding structures erected by this company are the Empire State, Bank of Manhattan, new Metropolitan Life, Starrett Lehigh, and McGraw-Hill buildings in New York City, the Carew Tower in Cincinnati, and the Ramsey Tower in Oklahoma City.

**STARS.** See ASTRONOMY.

**STATE BANKS.** See BANKS AND BANKING.

**STATE INCOME TAX.** See TAXATION.

**STATE LEGISLATION.** See articles on various States; OLD AGE PENSIONS.

**STATE TAXES.** See TAXATION.

**STATISTICAL ASSOCIATION, AMERICAN.** An organization founded in Boston in 1830 to foster an interest in statistics and to promote scientific methods of collecting and interpreting statistical data. The official publications are the *Journal of the American Statistical Association* and the *Annals of Mathematical Statistics*, each issued quarterly.

The association's ninety-fourth annual meeting was held in Cincinnati, O., Dec. 28-31, 1932. The principal topics of discussion included: "Statistics of Public Finance"; "Indices of the Cost of Living"; "Statistical Aspects of Unemployment"; "Federal Bank Policy since 1926"; "National Income"; "Measuring the Cost of Unemployment"; "Statistics of the Depression"; "Costs of Medical and Surgical Care"; "Remedies for Unemployment." There were held joint meetings with the American Economic Association on "The Record of Insurance in the Depression" and with the American Farm Economic Association on "An Evaluation of the Present Economic Position of Agriculture, by Regions and in General."

The officers of the association for 1933 were. President, Stuart A. Rice; vice-presidents, Melvin T. Copeland, Frederick C. Mills, Horatio M. Pollock, Lowell J. Reed, Arthur H. Richardson, George B. Roberts, Henry Schultz, and William M. Stewart; secretary-treasurer, Willford I. King. Headquarters are in the Commerce Building of New York University, 236 Wooster Street, New York City.

**STATISTICS. INTERNATIONAL COST OF LIVING INQUIRY.** These columns before have spoken of the study of the cost of living in certain European cities inaugurated by the International Labor Office, as a result of the request made by the Ford Motor Company. In order to establish a real wage comparable to that received by its employees in the City of Detroit, the Ford Motor Company was interested in a cost of living in-



*Courtesy of American Art Association*  
**GEORGE WASHINGTON**  
 By Houdon



**ABRAHAM LINCOLN**  
 By Paul Manship



**HERCULES AND NEMEAN LION**  
 Baccio Bandinelli, 1493-1560



*Courtesy of The Metropolitan  
 Museum of Art*  
**THE LANDSDOWNE AMAZON**  
 In the Metropolitan Museum of Art,  
 New York



*Courtesy of The Brummer  
 Galleries*  
**BRONZE**  
 By Maillol





**"ALICE IN WONDERLAND"**

Eva Le Gallienne as The White Queen and  
Josephine Hutchinson as Alice



**"DINNER AT EIGHT"**

Conway Tearle and Marguerite Churchill



**"THE LATE CHRISTOPHER BEAN"**

Featuring Pauline Lord

**NOTABLE PLAYS OF 1932**

quiry, particularly in those cities in Europe in which it had already established or contemplated establishing plants. The results of the study made in Detroit to serve as a basis for this international investigation were printed in these columns in the 1931 YEAR BOOK. It was found that for a group of 100 families covered the average family expenditure was \$1720 during the year 1929. The International Labor Office then took up the task in an effort to ascertain what the Detroit standard of living was, that is to say, the quantities of goods and services consumed by the Ford Detroit workers, related to costs in the European cities. One problem that presented difficulties of a controversial nature was that involving the substitution of items, especially concerned with food, for those in the Detroit budget in order to meet possible differences of national or racial habits of consumption. The International Labor Office examined this question of consumption habits and took into account local standards, in such a way, however, to obviate the objection that this procedure would bias the results. Table I indicates the relative cost of living in Detroit and certain European cities on Jan. 1, 1931, with the cost of living in Detroit taken as a base of 100. It will be seen that in only one city, that is to say, Stockholm, Sweden, did the cost of living approximate the Detroit standard. Table II shows to what extent wages would have to be adjusted in these foreign cities in order to rise to the level of the American standard. In some cases wages

would have to be doubled and in other cases would have to be increased from 60½ per cent to 50 per cent.

**COST OF LIVING.** That the cost of living in most civilized countries has declined markedly during the period of depression from the peak of high prices in 1926 has been generally known. Figures collected by the Bureau of Labor Statistics help furnish an exact statistical presentation of the situation. In the United States, for instance, by the end of 1931, the cost of living declined 17 per cent since the peak in 1926, while the cost of food alone declined 30.4 per cent since the period; in the United Kingdom the cost of living declined 17.3 per cent since the peak in 1926, while the cost of food declined 22.8 per cent; in Denmark the cost of living declined 20.6 per cent since the peak of 1926, while the cost of food declined 32.8 per cent; in France the cost of living declined 5.4 per cent since the peak in December, 1930, while the cost of food declined 5.5 per cent since the peak in June, 1931; in Germany the cost of living declined 16.7 per cent since the peak in March, 1929, while the cost of food declined 23.5 per cent; in Italy the cost of living declined 29.5 per cent since the peak in October, 1926, while the cost of food declined 35.8 per cent since the peak in January, 1926; in Sweden the cost of living declined 9.2 per cent since the peak in January, 1926, while the cost of food declined 21.5 per cent.

**PURCHASING POWER OF THE DOLLAR.** The purchasing power of the 1926 dollar is indicated in the accompanying table, in terms of index numbers, for major groups of commodities:

TABLE I—RELATIVE COST OF LIVING IN DETROIT AND CERTAIN EUROPEAN CITIES, JANUARY, 1931

City	Index of cost of living
Detroit, Michigan	100
Stockholm, Sweden	99-104
Frankfort, Germany	85-93
Cork, Irish Free State	85
Copenhagen, Denmark	83-91
Berlin, Germany	83-90
Helsinki, Finland	83
Paris, France	80-87
Marseilles, France	75-81
Manchester, England	70-74
Rotterdam, Netherlands	65-68
Antwerp, Belgium	61-65
Warsaw, Poland	67
Istanbul, Turkey	65
Barcelona, Spain	58

TABLE II—COMPARATIVE COST OF LIVING AND WAGES PER DAY AND PER HOUR OF UN-SKILLED WORKERS IN FORD PLANTS IN SPECIFIED CITIES

City	Index of relative cost of living	Wage per hour		Wage per 8-hour day	
		Aug. 1, 1931	Adjusted to cost of living	Aug. 1, 1931	Adjusted to cost of living
Detroit	100	\$0.86	\$0.86	\$6.88	\$6.88
Antwerp	61-65	.26	.52-.56	2.08	4.16-4.48
Barcelona	58	.33	.50	2.64	4.00
Berlin	83-90	..	.71-.77	..	5.68-6.16
Cologne	..	.45	..	3.60	..
Copenhagen	83-91	.69	.71-.78	5.52	5.68-6.24
Cork	85	.44	.78	3.52	5.84
Frankfort	85-93	..	.78-.80	..	5.84-6.40
Genoa	..	.27	..	2.16	..
Helsinki	83	.38	.71	3.04	5.68
Istanbul	65	.32	.56	2.56	4.48
Manchester	70-74	.53	.60-.64	4.24	4.80-5.12
Marseilles	75-81	..	.65-.70	..	5.20-5.60
Paris	80-87	.29	.69-.75	2.32	5.52-6.00
Rotterdam	65-68	.41	.56-.58	3.28	4.48-4.64
Stockholm	99-104	.43	.85-.89	3.44	6.80-7.12
Warsaw	67	..	.58	..	4.64

Groups	March, 1931	March, 1932
All commodities	\$1.316	\$1.515
Farm products	1.416	1.992
Foods	1.289	1.605
Hides and leather products	1.142	1.294
Textile products	1.429	1.704
Fuel and lighting materials	1.464	1.473
Metals and metal products	1.157	1.238
Building materials	1.212	1.366
Chemicals and drugs	1.206	1.328
House-furnishing goods	1.136	1.297
Miscellaneous	1.389	1.546
Raw materials	1.439	1.783
Semi-manufactured articles	1.372	1.645
Finished products	1.256	1.399
Non-agricultural commodities	1.295	1.443
All commodities other than farm products and foods	1.295	1.410

**EXPENDITURES OF AMERICAN CONSUMERS ACCORDING TO INCOME.** According to a study of the American consumer market made by the periodical *Business Week*, and published in its Sept. 7, 1932 issue, the percentage distributions of expenditures by persons with different incomes in 1929 were as given in the table on page 770.

**BUDGET FOR DEPENDENT FAMILIES.** A budget for dependent families with children, prepared at the request of the Juvenile Court of San Francisco by the Heller Committee for Research in Social Economics, as of November, 1931, shows that a minimum budget for a family of 5—a man, wife, boy of 11, girl of 6, and boy of 3—is \$1188 per year, or \$99 per month. The Committee declares that this budget "is admittedly an income below that commonly considered a living wage"; yet it is decidedly in excess of the incomes of a large group of so-called self-supporting families who were not dependent upon philanthropy or public social services for the amplification of their budgets.

Item	Under \$1,000	Annual income					
		\$1,000 and under \$2,000	\$2,000 and under \$3,000	\$3,000 and under \$5,000	\$5,000 and under \$10,000	\$10,000 and under \$25,000	\$25,000 and under \$50,000
Food .....	88.5	32.2	20.7	14.8	10.4	7.6	4.1
Housing .....	18.5	15.8	14.3	17.4	24.4	21.7	19.6
Transportation .....	14.4	15.8	16.0	10.8	8.8	8.1	7.1
Savings .....	2.7	4.8	10.6	16.2	14.0	21.9	30.1
Personal .....	9.0	8.8	12.8	13.6	15.8	12.0	8.2
Clothing .....	11.6	10.8	10.1	8.3	6.4	3.5	1.8
Recreation .....	2.3	3.2	5.3	7.5	9.5	10.4	12.2
Health .....	2.2	2.5	3.0	5.0	3.2	5.0	3.1
Social activities .....	1.5	2.1	2.2	1.5	1.6	1.7	2.2
Taxes .....	.8	.9	1.7	1.8	2.5	3.5	7.8
Education .....	1.1	1.7	2.5	2.9	3.2	4.5	8.7
Civil .....	2.4	1.4	.8	.2	.2	.1	.1
Total .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The fourth revised (March, 1932), edition of the Chicago standard budget for dependent families, prepared under the supervision of the Council of Social Agencies of Chicago, based an estimated minimum monthly budget for a self-supporting family, consisting of a father, mother, child of 13, child of 10, and child of 7 at \$105.72 a month, without rent. The food allowance of the total family was \$38.30; the clothing and toilet articles allowance was \$15.75; the fuel allowance was \$10.50; the allowance for household supplies and furnishings was \$5.50; the carfare allowance was \$4.67; the allowance for medical and dental care was \$7; the allowance for savings and insurance was \$10; the allowance for education and for newspapers and magazines, and books was \$3; the allowance for recreation, including moving picture shows was \$4; the allowance for organization and church dues was \$3; and the allowance for the incidental and emergency expenses was \$4.

**STEAMBOAT INSPECTION.** See SAFETY AT SEA.

**STEAM BOILERS.** See BOILERS.

**STEAM ENGINES.** See POWER PLANTS; BOILERS.

**STEAM TURBINES.** No radical changes in steam turbine design nor in operating conditions, except higher temperatures, were evident during the year just passed, although many refinements in design and savings in both space and in weight were brought about. Decreased load demands upon the central stations resulted generally in more conservative loading of the turbines with the result that outages were much reduced. A large proportion of the outages that did occur were due to blade erosion. This was more pronounced where high blade tip speeds were employed, that is, over 950 feet per second. Research in blading materials has been going on for several years and new materials are being employed to meet the situation, such as stainless steels of various composition, incoloy, and chrome iron. Special steels are also being used for valve stems and seats, low-pressure disks, spindles in the high-temperature region, and for cylinder castings of the high-temperature element. Most of these materials, however, have been in service too short a period to determine their useful life. Welded construction is being employed to a limited extent in turbine work, but has not been applied to cylinders save in a few small units where minimum weight was essential, such as in naval work.

Single-cylinder construction for large turbines has advanced as it involves lower investment, less weight, and less floor space per unit of capac-

ity; but this design tends toward higher leaving losses in the steam. The largest single-cylinder machines to date are of 80,000 kilowatts capacity, none being for steam pressures over 650 pounds and 825 degrees temperature. Also, the tendency toward increased ratings for given sizes of turbine casing, in both single- and multi-cylinder types, makes for increased leaving losses, as it becomes necessary to pass greater volumes of steam through the last rows of blades. This subject is now receiving serious study.

Although the United States still maintains the lead as to turbine sizes, there is a marked trend in Europe toward turbines of larger capacities, 75,000 to 100,000 kilowatts not being uncommon and 50,000 kilowatts being a popular size. In this country the 208,000-kilowatt machine installed several years ago at the State Line Station near Chicago, still holds the record for capacity. During 1932 two 160,000-kilowatt turbines went into service in the extension to the Hudson Avenue Generating Station of the Brooklyn Edison Company. They are the largest tandem-type units in operation and have the largest single generators yet built. Also, each exhausts to a condenser of 101,000 square feet surface—the World's largest condensers. These turbine units provide 40 kilowatts capacity per square foot of floor space and are installed in space that was originally planned for 50,000 kilowatts capacity. This gives an idea as to the progress during the past eight years in the concentration of power as pertains to turbines.

A steam turbine unit of similar capacity was recently ordered for the Richmond Station of the Philadelphia Electric Company. Like the Brooklyn units, it will be installed in space originally laid out for 50,000-kilowatt turbines. Shop tests have lately been completed on a 150,000-kilowatt triple-tandem compound turbine driving a single generator for the Chicago District Electric Generating Corporation. This turbine will operate at 1200 pounds steam pressure and 825 degrees F. total temperature. Between the high- and the intermediate-pressure elements the steam is reheated to 825 degrees. Another turbine of 75,000 kilowatts is being built for the Kearny Station at Newark, N. J. to take the steam produced by the mercury condenser-boiler of the mercury boiler and turbine installation that is going into that station. (See BOILERS.)

The largest capacity turbine in this country operating at 3600 r.p.m. is an 18,000-kilowatt unit at the Burlington Station of the Public Service Electric & Gas Company of New Jersey. Abroad, machines up to 80,000 kilowatts have been built to operate at 3000 r.p.m. The largest

Ljungstrom (radial-flow type) turbine has recently been built for the State Power Station at Vesteras, Sweden.

While turbines in several of the newer stations in this country are employing steam temperatures of 825 to 850 degrees and one is operating at 1000 degrees, high steam temperatures have been more generally used abroad. There are many engineers that favor the use of high temperatures with moderate steam pressures in order to avoid the complication of reheating the steam between the high and the low-pressure elements of the turbine, and some of the newer plants are following this course. See DYNAMO ELECTRIC MACHINERY.

**STEEL.** See IRON AND STEEL; CHEMISTRY, INDUSTRIAL.

**STEEPLECHASING.** See HORSE RACING.

**STETSON, CALEB ROCKFORD.** An American clergyman, died in New York City June 15, 1932. He was born in Boston, Mass., Apr. 16, 1871, and was graduated from Harvard University in 1894. He studied medicine at the Johns Hopkins University for a year and then entered the Virginia Theological Seminary. On his graduation from the General Theological Seminary, New York City, in 1898 he was ordained deacon in the Protestant Episcopal Church and priest the following year. He was priest-in-charge of the Cathedral Mission Chapel of the Good Shepherd in Washington, D. C., from 1899 to 1907; vicar of Trinity Church, New York City, from 1907 to 1911; and rector of St. Mark's Church, Washington, from 1911 to 1921, when he was chosen rector of Trinity Parish, New York.

**STEVENS INSTITUTE OF TECHNOLOGY.** A college of engineering in Hoboken, N. J. The enrollment for the autumn of 1932 was 497. There were 58 members on the teaching staff. The income for 1931-32 was \$450,000. President, Harvey Nathaniel Davis, Ph.D.

**STEWART, GEORGE BLACK.** An American theologian, died in Auburn, N. Y., June 23, 1932. He was born in Columbus, O., Feb. 28, 1854. On graduating from Princeton in 1876, he attended the McCormick Theological Seminary and was graduated from Auburn Seminary in 1879. Ordained to the Presbyterian ministry, he was pastor in Auburn, N. Y., during 1878-84 and in Harrisburg, Pa., during 1884-99. He was then called to Auburn Seminary as professor of practical theology and also acted as president until 1926.

**STIMSON (HOOVER) DOCTRINE.** See UNITED STATES under *Administration*; JAPAN; PEACE.

**STOCK EXCHANGE.** See FINANCIAL REVIEW.

**STOCK EXCHANGE INVESTIGATION BY SENATE.** See FINANCIAL REVIEW.

**STOCKS AND BONDS.** See FINANCIAL REVIEW.

**STORMS.** See METEOROLOGY.

**STORY, MRS. WILLIAM CUMMING.** An American women's club leader, died in New Rochelle, N. Y., July 15, 1932. She was born in New York City about 1860, her maiden name being Daisy Allen. She was active in women's clubs and in patriotic societies for more than 40 years, being principally known in connection with the Daughters of the American Revolution, of which she was elected president-general in 1913, and was reelected in 1915. Her career in the D.A.R. was marked by a determined opposition to pacifism.

**STOTESBURY COLLECTION.** See ART MUSEUMS.

**STRACHEY, strā'chē, (GILES) LYTTON.** A British biographer, died in Inkpen, Berkshire, Jan. 21, 1932. Born Mar. 1, 1880, he was educated at Trinity College, Cambridge, and became a critic whose special field was French literature. He attracted attention with the publication in 1918 of *Eminent Victorians*, a collection of biographical studies; *Queen Victoria*, published three years later, established his fame as an exemplar of the "new" biography, which attempted to break away from a eulogistic, sentimental treatment of the subject. His career was crowned with *Elizabeth and Essex* (1928), one of the finest romantic, yet realistic, biographies written in the English language. His other works are: *Books and Characters* (1922); *Pope*, the Leslie Stephen lecture at Cambridge (1925); and *Portraits in Miniature* (1931).

**STRAITS SETTLEMENTS.** A British crown colony in the Malay Archipelago. The various Settlements with their areas and populations are shown in the accompanying table.

Settlement	Area (sq. miles)	Population (1931 census)	Chief town
Singapore * . . .	288	560,028	Singapore
Penang * . . . .	575	359,757	Georgetown
Malacca . . . . .	637	186,694	Malacca
Labuan . . . . .	85	7,538	Victoria
Total . . . .	1,585	1,114,012	

\* Includes Christmas and Cocos or Keeling Islands.

† Includes Province Wellesley and the Dindings.

The populations of the chief towns were: Singapore (1931), 445,778; Georgetown (1921), 101,180. Singapore, the capital, is one of the great shipping ports of the world. The estimated revenue for 1932 was £3,000,000; expenditure, £5,600,000. The public debt on Jan. 1, 1931 was £18,027,020 of which £9,355,000 represented loans to the Federated Malay States.

The Cocos or Keeling Islands, a group of about twenty small coral islands (12° 5' S. and 96° 53' E.), about 1161 miles from Singapore and Christmas Island in the Indian Ocean (10° 30' S. and 105° 40' E.) are incorporated with the Settlement of Singapore. Governor in 1932, Sir Cecil Clementi.

**STREETS.** See ROADS AND STREETS.

**STRESA CONFERENCE.** See UNITED STATES OF EUROPE.

**STRIKES AND LOCKOUTS.** The Bureau of Labor Statistics' summary figures for the period 1916 through 1931 show that, with the exception of the year 1929, 1931 had the greatest number of strikes since 1926. The total number in 1931 was 894 as compared with 903 in 1929, and 1035 in 1926. Table I on page 772 shows the relative number of disputes and of employees involved from 1916 through 1931 with the year 1916 as the base of 100. Disputes in 1931, as far as industries were concerned, showed little change from the year 1930 except in the case of coal mining where more than twice the number of workers were engaged in industrial disputes, and in textiles where the number was five times as great as in 1930. Disputes for the most part were concerned with question of wages, hours of employment, and union recognition.

In 1931 the results of the termination of strikes showed 47 per cent of the settlements in favor of employers as compared with 44 per cent

in 1930 and 40 per cent in 1929. The number of strikes in which a compromise settlement was effected in 1931 was 21 per cent as against 24 per cent in 1930, and 25 per cent in 1929. Forty-five per cent of all strikes terminating in 1931 were settled within the first week and 67 per cent were settled within the first two weeks. Apropos of this matter it is interesting to observe that the duration of strikes has changed markedly from year to year over the period 1916-31. Thus, in 1916 the average duration in days was 23 as compared with 39 in 1920, 51 in 1921, 27 in 1928,

TABLE I—RELATIVE NUMBER OF DISPUTES AND OF EMPLOYEES INVOLVED, 1916 TO 1931

Year	Relative number of—		Year	Relative number of—	
	Disputes	Employees		Disputes	Employees
1916	100	100	1924	83	41
1917	117	77	1925	84	27
1918	88	78	1926	27	21
1919	96	260	1927	19	22
1920	90	91	1928	17	22
1921	68	69	1929	24	15
1922	29	101	1930	17	10
1923	41	47	1931	24	17

18 in 1930, and 16 in 1931. The following tabulation presents the history of industrial disputes in the United States for the fiscal year July 1, 1931 through June 30, 1932.

TABLE II—INDUSTRIAL DISPUTES BEGINNING IN AND IN EFFECT AT END OF EACH MONTH, JULY, 1931, TO JULY, 1932, AND TOTAL NUMBER OF DISPUTES, WORKERS, AND MAN-DAYS LOST IN THE YEARS 1927 TO 1931

Month and year	Number of disputes		Number of workers involved in disputes		Number of man-days lost in disputes existing in month or year
	Beginning in month or year	In effect at end of month	Beginning in month or year	In effect at end of month	
1927, total	734	..	349,434	.....	37,799,394
1928, total	629	..	357,145	.....	31,556,947
1929, total	903	..	230,463	.....	9,975,213
1930, total	653	..	158,114	.....	2,730,368
1931, total	894	..	279,299	.....	6,386,183
1931					
July . . . .	73	51	49,434	56,683	612,864
August . . .	79	36	11,019	14,759	1,157,013
September .	117	65	36,092	37,427	493,649
October . .	77	45	34,384	29,380	1,052,095
November .	62	39	13,219	13,690	355,818
December .	50	21	4,145	1,318	150,064
1932					
January . .	79	37	11,105	4,648	117,298
February .	50	30	31,140	28,691	417,966
March . . .	51	28	31,956	11,660	685,949
April . . .	73	34	17,707	20,066	572,121
May . . . .	79	43	48,408	49,232	1,220,202
June . . . .	64	38	16,010	23,540	927,996

**STUART, CHARLES MACAULEY.** An American clergyman, editor, and educator, died in La Jolla, Calif., Jan. 26, 1932. Born in Glasgow, Scotland, Aug. 20, 1853, he was brought to the United States in childhood and received his education at the Kalamazoo (Mich.) College, from which he was graduated in 1880, and at the Garrett Biblical Institute. Ordained to the ministry of the Methodist Episcopal Church in 1880, he was a pastor in River Forest, Ill., until 1883, and in Detroit until 1885. From 1896 to 1909 he was professor of sacred rhetoric at the Garrett Biblical Institute. After editing the *Northwestern Christian Advocate* for two years he was elected, in 1911, president of the Garrett Biblical Institute, and until his retirement, in 1924, also held the chair of homiletics in that institution.

**STUDENTS IN UNIVERSITIES AND COLLEGES.** See UNIVERSITIES AND COLLEGES.

**SUBWAYS.** See RAPID TRANSIT.

**SUCCESSION STATES.** See LITTLE ENTENTE.

**SUDAN.** See ANGLO-EGYPTIAN SUDAN; FRENCH SUDAN.

**SUEZ CANAL.** Traffic in the canal declined during 1932 in about the same proportion as in the previous two years, a total reduction in cargo traffic since the boom conditions of 1929 of about 40 per cent and in number of ships of about 25 per cent, as shown in the weekly bulletins of the Compagnie Universelle du Canal Maritime de Suez. During the year 5032 ships with a gross tonnage of 39,425,907 and a net tonnage of 28,340,290 passed through the canal as against 5366 ships with a gross tonnage of 41,743,051 and a net tonnage of 30,027,966 in 1931. The cargoes carried in 1932 totaled 23,632,000 metric tons as compared with 25,332,000 metric tons in 1931. Total transit and navigation receipts amounted to 795,920,000 French francs, as compared with 930,860,000 French francs in 1931. (The French franc equaled \$0.0392.)

British traffic, although still 55 per cent of the total, dropped to 15,722,000 net tons, or a decrease of 902,000 tons from the previous year. German traffic decreased almost as much, from 3,315,000 net tons in 1931 to 2,506,000 in 1932, a decrease of 809,000 tons. The accompanying table gives the preliminary figures for Suez Canal traffic for 1932 and the final comparative figures for several earlier years.

SUEZ CANAL TRAFFIC

Year	Transits Number	Net tonnage Tons	Cargo traffic Metric tons	Tolls Gold francs <sup>a</sup>
1932	5032	28,340,000	23,632,000	795,920,000 <sup>b</sup>
1931	5366	30,027,966	25,332,000	930,860,000 <sup>b</sup>
1930	5761	31,668,759	28,511,000	1,037,720,000 <sup>b</sup>
1929	6274	33,466,014	34,516,000	1,115,920,000 <sup>b</sup>
1928	6084	31,906,000	32,622,000	221,090,000
1927	5544	28,965,000	29,524,000	208,650,000
1922	4345	20,743,245	21,360,000	162,613,850
1919	3986	16,013,802	13,973,000	136,969,915
1912	5373	20,275,120	25,444,000	132,929,341
1909	4239	15,407,627	19,924,000	117,754,888

<sup>a</sup> One gold franc equals \$0.193

<sup>b</sup> In French francs, each equaling \$0.0392.

**SUFFRAGE.** See ARGENTINA and BRAZIL under History.

**SUGAR.** The world's raw sugar production in 1931-1932, based on estimates of the International Institute of Agriculture and other official sources, was placed at 28,961,000 short tons. The total beet sugar production of 27 reporting countries was estimated at 9,378,000 short tons, or 26.4 per cent less than the production of the preceding year and the total cane sugar yield of 38 reporting countries at 18,293,900 short tons, about 1.5 per cent above the 1930-1931 production. The yields of raw beet sugar in short tons of the leading European countries were estimated by the Association Internationale Sucrière as follows: Germany 1,157,050 tons, Czechoslovakia 685,710 tons, Poland 459,000 tons, Italy 347,000 tons and Belgium 259,800 tons. Similarly the cane sugar production as placed by official and other authorities was 4,346,000 tons in India, 3,024,000 tons in Cuba, 2,688,000 tons in Java, 1,102,000 tons in the Philippine Islands, 1,080,000 tons in Brazil, 1,000,000 tons in Hawaii, and 949,000 tons in Puerto Rico. Production in Cuba was restricted in accordance with the Chadbourne agreement to which Czechoslo-

vakia, Germany, Poland, Belgium, Netherlands, Java, and Peru also adhered.

In the United States the beet sugar production in 1932 according to estimates by the Department of Agriculture was 1,308,000 short tons, an increase of 152,000 tons over the preceding yield and about 8 per cent more than from any previous beet crop. The sugar production of the leading States was reported as follows: Colorado 274,000 tons, California 207,000 tons, and Michigan 165,000 tons.

The cane sugar production of Louisiana in 1932 was placed at 231,000 tons, an increase of 74,000 tons over the yield in 1931. The cane production for sugar was 2,900,000 short tons which produced 159.4 pounds of sugar per ton. The total acreage of sugar cane harvested in Louisiana, 3,401,000 acres, was 18 per cent above the acreage in 1931 and the acreage used for sugar, 179,000 acres, was about 21 per cent greater. The State also produced 222,000 tons of cane for sirup and 279,000 tons for seed. See CHEMISTRY, INDUSTRIAL.

**SUICIDE.** See CRIME.

**SULPHUR.** The output of sulphur in the United States in 1932 dropped to less than one-half of the quantity produced in 1931, according to the U. S. Bureau of Mines. Shipments and exports showed smaller decreases than production, and stocks were reduced. Production amounted to 889,095 long tons in 1932, a decrease of 58 per cent, compared with the output in 1931 of 2,128,930 tons. The amount produced in 1932 was less by 1,669,286 tons, or 65 per cent, than that reported in 1930, the record year. Shipments declined from 1,376,526 tons, valued at about \$24,800,000 in 1931, to 1,108,112 tons, valued at about \$19,900,000 in 1932, or over 19 per cent in both quantity and value. Most of the output in 1932 was mined in Texas and from this State has come virtually all of the production of recent years. Texas produced 876,294 tons of sulphur in 1932, or 98 per cent of the country's total. The average quoted price for sulphur was unchanged at \$18 a ton f. o. b. mines throughout the year. Spot prices for car lots were \$21 a ton and prices for sulphur exported were given as \$22 a ton f. a. s. Atlantic ports.

**SUMATRA.** See NETHERLAND INDIA.

**SUN.** See ASTRONOMY; METEOROLOGY.

**SUNDAY SCHOOL UNION, AMERICAN.** A nonsectarian society organized in 1817 to establish and maintain Sunday schools in the rural and mountain sections of the United States and to publish and circulate moral and religious literature. Its board of managers and missionary force are composed of men representing many of the Protestant denominations. For the year ending Feb. 29, 1932, 582 schools were organized and 509 reorganized, with a total of 3517 teachers and 35,278 scholars. There were 222 young people's societies established; 156 preaching stations opened; 17 churches of various denominations organized; and 6 churches built. The organization, with schools in every State but two, maintained approximately 6000 Sunday schools.

In connection with the field work of the society, the monthly publication, entitled the *Sunday School Missionary*, is sent to all contributors to the work. The society publishes a full line of quarterlies and lesson helps on the *International Sunday School Lesson*, which are used by the majority of the schools under its care. The most important of these is the *Sunday School World*,

which is issued monthly. The officers in 1932 were: President, E. Clarence Miller; vice-presidents, Robert L. Latimer and James F. Shrader; secretary of missions, Elliott D. Parkhill; editor of publications, Arthur M. Baker; treasurer, John H. Talley. National headquarters are at 1816 Chestnut Street, Philadelphia, Pa.

**SUPERPHOSPHATE.** See FERTILIZERS.

**SUPREME COURT, UNITED STATES.** See UNITED STATES; LAW IN 1932.

**SURETYSHIP.** See INSURANCE.

**SURGEONS, AMERICAN COLLEGE OF.** A college or guild (not a teaching institution), organized in 1913 by some 500 surgeons of North America. Admission to fellowship is on the basis of merit only, with reference to professional ability and moral and ethical fitness. In 1932 fellows and honorary fellows, including representatives from practically every country of the world and from every branch of surgery, constituted a body of 10,700 surgeons. The twenty-second annual congress was held in St. Louis, Mo., Oct. 17-21, 1932, with an attendance of over 2000 surgeons.

The official journal of the college is *Surgery, Gynecology, and Obstetrics*. The officers for 1932-33 are: President, Dr. J. Bentley Squier, New York City; president-elect, Dr. William D. Haggard, Nashville, Tenn.; vice-presidents, Dr. Evarts A. Graham, St. Louis, Mo., and Dr. Alexander R. Munroe, Edmonton, Albt., Canada; treasurer, Dr. Frederic A. Besley, Waukegan, Ill. Dr. Franklin H. Martin is director-general, and Dr. Malcolm T. MacEachern and Dr. Bowman C. Crowell are associate directors. Headquarters are at 40 East Erie Street, Chicago.

**SURGERY.** See MEDICINE AND SURGERY.

**SURINAM, soō'ri-nām', DUTCH GUIANA, gé-a'na.** A possession of The Netherlands on the north coast of South America. Area, 54,291 square miles; population, Jan. 1, 1931, about 153,300. Paramaribo, the capital, had 47,318 inhabitants. **SVALBARD (SPITSBERGEN).** An Arctic archipelago under Norwegian sovereignty, situated from 240 to 480 miles north of Norway between 10° and 35° E. longitude and 74° and 81° N. latitude. Area, about 25,000 square miles; population, 491, in winter of 1930-31; administrative headquarters, Green Harbor.

**SWARTHMORE COLLEGE.** A nonsectarian institution for higher education in Swarthmore, Pa. The 1932-33 enrollment was 551. The teaching staff numbered 78. The total endowment was \$6,250,000. President, Frank Aydelotte, LL.D.

**SWEDEN.** A constitutional monarchy occupying the eastern and larger part of the Scandinavian peninsula. Capital, Stockholm; reigning sovereign in 1932, King Gustaf V.

**AREA AND POPULATION.** With a gross area of 173,174 square miles (land area, 158,510 square miles), Sweden had a population at the census of 1930 of 6,141,516, as compared with 5,904,489 in 1920. The urban population in 1930 was 1,955,666. For the five years 1926 to 1930, births averaged 96,986 annually and deaths 73,624, the annual excess of births being 23,362. The birth rate per 1000 inhabitants in 1930 was 15.4 and the death rate 11.7. The population of the chief cities in 1931 was: Stockholm, 514,333 (419,449 in 1920); Göteborg, 247,900; Malmö, 129,927; Norrköping, 61,799; and Helsingborg, 56,620.

**PRODUCTION.** About one-half of the population

is engaged in agriculture and related industries, although the arable area comprises only 9,201,000 acres, or 9.1 per cent of the total area. There were (1931) about 3,135,000 acres of permanent meadows, and 53,736,000 acres of forests and pasture. The aggregate value of field crops in 1931 was \$220,167,000 (\$254,462,000 in 1930), of which hay contributed \$72,255,000 (\$77,317,000 in 1930); oats, \$25,242,000; potatoes, \$22,717,000; wheat, \$19,734,000; and rye, \$10,825,000. Beet sugar production for 1931-32 was 143,000 metric tons.

Iron-ore exports in 1931 were less than half those of 1930, owing to reduced German demand, and most mines operated only three days a week. The output of pig iron in 1931 was 384,000 metric tons (459,780 tons in 1930); of steel ingots, 542,000 tons (610,824). Coal production (1930) was 397,960 metric tons; iron ore, 11,236,000 tons. The shipyards in 1931 turned out 20 vessels totaling 112,703 gross tons (including 107,766 gross tons of motor vessels).

COMMERCE. As compared with 1930, the 1931 imports declined 13 per cent in value and exports about 28 per cent. The quantity of imports was about the same as in 1930. Imports were valued at 1,439,400,000 kronor (\$363,448,000), as compared with 1,662,175,000 kronor (\$445,463,000) in 1930, and exports at 1,122,400,000 kronor (\$283,406,000), as against 1,550,351,000 kronor (\$415,571,000).

FINANCE. For the fiscal year ended June 30, 1931, closed state accounts showed a net surplus of 2,132,000 kronor when changes in reserved appropriations were accounted for. Ordinary revenues were 782,844,000 kronor (\$209,802,000) and ordinary expenditures 762,040,000 kronor (\$204,227,000). The budget for 1931-32 estimated receipts at 747,057,000 kronor and expenditures at 803,084,000 kronor and that for 1932-33 was estimated to balance at 896,086,000 kronor.

The total debt on June 30, 1931, was 1,845,644,000 kronor (\$494,633,000), of which 170,000 kronor represented the floating debt. The unit of the currency is the krona, plural, kronor), with a par value of \$0.2680; the average exchange value in 1931 was \$0.2525 and in 1930 \$0.2685.

COMMUNICATIONS. At the end of 1931, Swedish railways reported 10,255 miles of line, of which 4196 miles were state owned and 6059 miles were privately owned. During 1930, the railways carried 69,555,000 passengers and 41,978,000 metric tons of freight, earning gross receipts equivalent to \$89,912,000.

GOVERNMENT. Executive power is vested in the King, who acts through a responsible ministry known as the Council of State, at the head of which is the Minister of State, or premier. Legislative power is in the Diet (Riksdag) of two chambers. Premier at the beginning of 1932, Carl Gustav Ekman (People's party). For changes in 1932, see *History*.

HISTORY. The Swedish economic system sustained a severe shock during 1932 as a result of the suicide in Paris on March 12 of Sweden's leading industrialist and financier, Ivar Kreuger (q.v.). As the organizer and manager of the Swedish Match Company and the large holding company Aktb. Kreuger and Toll, Stockholm, with its associated companies, his death and the subsequent revelation of his extensive frauds and manipulations over a period of eight years caused

heavy losses to Swedish stockholders. Of the 899,000,000 kronor loss on securities reported by Swedish investors during 1932, 684,000,000 kronor (\$183,312,000 at par) represented the loss on securities of the Kreuger companies. It was estimated that about 30 per cent of the Kreuger and Toll participating debentures, 41 per cent of the Kreuger and Toll stock, and 40 per cent of the Swedish Match Company stock were in the hands of Swedish investors.

However the industries affected by the Kreuger scandal employed only about 2½ per cent of the nation's industrial workers. Not all of these were thrown out of employment. While the Kreuger and Toll holding company and two associated concerns were declared bankrupt by the City Court of Stockholm on May 24, the Swedish government granted the Swedish Match Company a three months' moratorium in which to reorganize. A still incomplete statement of the financial affairs of Kreuger and his companies, published by the receivers in September, showed that the Kreuger and Toll company had a deficit of more than 270,000,000 kronor (\$48,330,000). The "match king's" personal estate showed assets of \$17,775,897 and liabilities of \$208,538,627, or a deficit of \$191,762,730.

Immediately upon Kreuger's death, the Swedish government intervened to prevent further injury to the financial and economic structure. On March 13, it obtained authority from parliament to grant a month's moratorium on all private payments. The Stock Exchange in Stockholm was closed and three days later Ernst Lyberg, former Minister of Finance, was appointed by the government to supervise the Kreuger and Toll concern during the moratorium. In order to maintain the solvency of the Skandinaviska Kreditaktiebolaget, one of the country's largest banks which had advanced large credits to Kreuger, the government was forced to supply funds totaling 214,000,000 kronor. This was done through an increase in the national debt.

Among the affiliates of the Swedish Match Company was the International Match Corporation of New York, which went into receivership on April 13. In the bankruptcy proceedings it was revealed that Kreuger's American bankers had disposed of some \$250,000,000, of his securities without having positive evidence of satisfactory collateral. In Stockholm the investigating commission found forged Italian Treasury bills aggregating some \$80,000,000 in Kreuger's safe. A contract purporting to grant Kreuger the Italian match monopoly and bearing the name of Finance Minister Mosconi of Italy was declared by Premier Mussolini to have been forged. It was also discovered that Kreuger had distributed bounties to a number of Swedish politicians, editors, and leading public figures, among them K. Kilbom, leader of the Communist party and Premier Ekman, founder and leader of the People's party. The latter received two 50,000-kronor contributions for his party.

The disclosures concerning Premier Ekman forced his resignation on August 6. He was succeeded, pending the quadrennial elections of September 18, by an interim People's party ministry headed by F. T. Hamrin. In the September elections, the Social-Democrats increased their vote to 1,039,249 from 873,931 in 1928 and their representation in the lower chamber to 104 from 90. The standing of the other parties in the new parliament, with the previous standing in par-



entheses, was: Conservatives, 58 (73); Agrarians, 36 (27); People's party, 20 (28); Communists, 8 (8); Liberals, 4 (4); total, 230. The Conservative party suffered its worst defeat, the comparatively new Agrarian party gaining nine seats chiefly at the expense of the Conservatives. The losses of the People's party were attributed to its acceptance of funds from Kreuger shortly before state aid was advanced to the latter's tottering enterprises.

As a result of the election Premier Hamrin resigned (September 19) and on September 26 a minority Social-Democratic ministry was formed under Per Albin Hansson. The other members included: Foreign Affairs, R. Sandler; Justice, K. Schlyter; Interior, G. Möller; Finance, E. Wigforss; Agriculture, P. Sköld; Commerce, F. Ekman.

In his declaration of policy, Premier Hansson promised a foreign policy aiming at the "limitation of military and economic armaments," a better balance between imports and exports, unemployment insurance, more effective old-age pensions, and farm relief. The tariff issue played the leading part in the political campaign. The Swedes, who had a large favorable balance of trade with Great Britain, were perturbed by the Ottawa Conference and by the revised British tariff, effective in November, which extended tariff preferences to Canada and other Dominions whose products competed with those of Sweden in the British market. At the end of the year negotiations were in progress for a readjustment of British-Swedish tariff relations.

**SWEDENBORGIANS.** See NEW JERUSALEM, CHURCH OF THE.

**SWEDISH LITERATURE.** See SCANDINAVIAN LITERATURE.

**SWIMMING.** Although the United States men swimmers were soundly defeated by the Japanese in the Olympic games, there was a general improvement noticeable in swimming in the United States in 1932 as well as in all parts of the world. As in other years world records were shattered with amazing regularity and Miss Eleanor Holm set no less than fourteen new backstroke marks. This wholesale record breaking had its good feature in attracting record crowds to the meets. The Olympic natatorium was jammed for every race and spectators were turned away at several of the indoor meets held at the New Athletic Club and the Illinois Athletic Club in Chicago.

Some of the outstanding performances of the year were the 150-yard backstroke of George Kojac's in 1:37 $\frac{1}{10}$ , a new world's record; Leonard Spence's 220-yard breaststroke standard of 2:44; and the New York Athletic Club 400-yard relay mark of 3:31 $\frac{1}{10}$ . Among the best marks set by Miss Holm in her activities were 100-yards backstroke in 1:11 $\frac{1}{10}$ , and 220-yards in 2:57 $\frac{1}{10}$ .

The Los Angeles Athletic Club won both the men's and women's indoor team championships, although the Californians were beaten by the New York A.C. in a dual meet. The Illinois A.C. won the water polo championship. No men's outdoor championships were held but the Women's Swimming Association took the women's outdoor team title. Clarence Crabbe captured the individual all-round title for men while Miss Helene Madison and Miss Katherine Rawls, 15-year-old Florida marvel, secured the respective indoor and outdoor crowns for women. Crabbe

and Miss Madison deserted the amateur ranks after the Olympic games.

The University of Michigan was supereminent in college ranks, winning the Big Ten championship as well as the National Collegiate A.A. title. Yale won the Eastern Intercollegiate League race and also garnered most of the individual honors. Stanford was best in the Pacific Coast Conference. Pennsylvania in the East, Illinois in the mid-West, and Southern California on the Pacific Coast were best in college water polo.

**SWINE.** See LIVESTOCK.

**SWITZERLAND.** A federated republic in the centre of Europe. Capital, Bern (Berne).

**AREA AND POPULATION.** With an area of 15,940 square miles, Switzerland had a census population on Dec. 1, 1930, of 4,066,400, as compared with 3,880,320 on Dec. 1, 1920. The population of the principal cities at the census of 1930 was: Zürich, 249,820; Basel (Basle), 148,063; Geneva, 142,812; Bern, 111,783; Lausanne, 75,915. Births during 1931 numbered 68,249; deaths, 49,414; the excess of births over deaths, 18,835. The estimated population in 1931 was 4,080,720.

**PRODUCTION.** Of the total working population of about 1,950,000, 26 per cent were engaged in agriculture and 44 per cent in industry. The gross value of agricultural and livestock production (1931) was 1,355,550,000 francs (\$261,621,000 at par), against 1,370,850,000 francs (\$264,574,000) in 1930. Agricultural prices remained relatively high. Production of the chief crops, in bushels, in 1931 and 1930 (in parentheses) was: Wheat, mixed grain, and spelt, 5,489,000 bushels (5,769,000); rye, 1,402,000 (1,484,000); barley, 565,000 (496,000); oats, 2,308,000 (2,659,000); potatoes, 27,410,000 (21,678,000). Wine production was 18,288,000 gallons in 1931.

Factories in operation averaged 8062 annually for the years 1922-25, 8514 in 1929, and 8488 in 1930. The chief manufacturing industries were: Machinery, apparatus, and instruments; cotton textiles; metallurgy; chemicals; food and beverages; paper, leather, and rubber; woodworking; silk and rayon. The percentage of the total production normally exported by leading industries was: Watches and watch movements, 92 per cent; cotton yarn and fabrics, 60; dyes, 90; chocolate, 40; cheese, 67.

**COMMERCE.** Due to its high degree of dependence upon export markets, Swiss industry in 1931 was badly crippled by a 24 per cent decline in the value of exports, as compared with 1930. Imports declined 12 per cent in value but increased 6 per cent in quantity. The figures were: Imports, 2,214,808,000 francs (\$427,458,000) in 1931, and 2,526,048,000 francs (\$487,527,000) in 1930; exports, 1,334,916,000 francs (\$257,839,000) in 1931, and 1,746,323,000 francs (\$337,040,000) in 1930.

Swiss statistics show exports to the United States of \$17,790,000 in 1931 (\$27,826,000 in 1930), and imports for consumption from the United States of \$31,370,000 (\$39,528,000 in 1930).

In 1932, import values declined 31.3 per cent and export values 35.7 per cent, as compared with 1931.

**FINANCE.** The closed Federal accounts for the fiscal calendar year 1931 showed revenues of 428,399,843 francs and expenditures of 426,145,035 francs, leaving a surplus of 2,254,808 francs (the Swiss franc, par \$0.1929, exchanged at \$0.1940 in 1931). This compared with the 1930

revenues of 433,106,233 francs, expenditures of 426,374,014 francs, and surplus of 6,732,219 francs. The budget for 1932 provided for revenues of 409,088,000 francs, expenditures of 417,988,000 francs, and a deficit of 8,900,000 francs. The total state debt on Dec. 31, 1931, was 4,885,585,000 francs, of which 1,963,286,000 francs represented the debt of the Confederation and 2,922,299,000 francs the debt of the Federal railways.

**COMMUNICATIONS.** The Swiss Federal and private railways in 1930 had 3354 miles of line. During 1931 the Federal lines carried 122,516,000 passengers and 17,784,000 metric tons of freight, with gross receipts of 387,231,000 francs (\$74,736,000).

**GOVERNMENT.** The Federal Assembly delegates chief executive authority to a Federal Council of seven members elected for three years. The chief magistrates are the President of the Confederation and the Vice President of the Council, who are elected by the Federal Assembly for one year. President in 1932, Dr. Giuseppe Motta; Vice President, Edmund Schulthess.

**HISTORY.** The usual peace and order of Geneva was broken on Nov. 9, 1932, when militiamen, brought to the city to maintain order at an anti-Socialist meeting, fired upon a crowd of Socialist demonstrators, killing 11 and wounding 45. One soldier was killed. The Geneva trade unions called a 24-hour sympathetic strike on the day of the victims' funerals, after which the city relaxed into its accustomed quiet. By a 6 to 5 decision, the Permanent Court of International Justice on June 7, 1932, upheld the Swiss case in the 13-year-old Franco-Swiss dispute over the free zone of Upper Savoy and the district of Gex near Geneva. The decision required France to alter its customs line (see **WORLD COURT**). The Federal Assembly on December 15 elevated Edmund Schulthess to the Presidency for 1933. Marcel Piletgolaz was elected Vice President.

**SYDNEY HARBOR ARCH.** See **BRIDGES**.

**SYMPHONY ORCHESTRA.** See **MUSIC**.

**SYNCHRONOUS MOTORS.** See **DYNAMO ELECTRIC MACHINERY**.

**SYRACUSE UNIVERSITY.** A nonsectarian institution of higher learning for men and women in Syracuse, N. Y., founded in 1870. The 1932 autumn enrollment was 5102; the extension school enrollment was 1270; and the summer session enrollment was 1907. The faculty numbered 656 for the year 1931-32. The productive funds of the university amounted to \$5,170,382 while the income for the year was \$1,908,669. Chancellor, Charles Wesley Flint, D.D., LL.D.

**SYRIA.** A mandated territory of France in western Asia, bounded by the Mediterranean on the west, by Palestine, Trans-Jordan, and Iraq on the south and east, and by Turkey on the north. Capital, Beirut (Beyrouth).

**AREA AND POPULATION.** The total area is about 77,220 square miles and the population in 1930 was estimated at 3,100,000 (2,191,000 at the 1926 census). The population in 1929 was divided among the four administrative divisions as follows: Syrian Republic (capital, Damascus), 1,696,638; Lebanese Republic, or Greater Lebanon (capital, Beirut), 862,018 (342,388 Christians and 292,247 Moslems); the Government of Latakia (capital, Latakia), 286,920; and the Government of Jebel Druze (capital, El Suweideh), 51,780. The autonomous Sanjak of Alexandretta is part of the Syrian Republic. The bulk of the population is of Arab origin and

Arabic is the language most widely used. There were (1929) 1,514,755 Moslems, 505,419 Christians, 227,930 Alawiyya, and 86,125 Druses. The estimated population of the chief cities in 1930 was: Damascus, 200,000; Aleppo, 225,000; Beirut, 170,000.

**PRODUCTION.** The bulk of the population is engaged in agriculture and stock raising. Syria and Lebanon in 1930 had 3,207,000 acres of arable land, 818,000 acres of permanent meadows and pastures, 419,000 acres of trees, shrubs, and bushes, and 544,000 acres of woods and forests. Livestock in 1930 numbered 385,000 cattle, 2,682,000 sheep (producing 14,133,000 pounds of wool in 1931 and 19,000,000 pounds in 1930), 1,795,000 goats, 52,000 horses, and 139,000 mules and asses. Production of the chief crops in 1931 was: Wheat, 13,929,000 bushels; barley, 14,193,000 bushels; oats, 570,000 bushels; corn, 1,376,000 bushels; potatoes, 1,576,000 bushels; tobacco, 13,889,000 pounds; olive oil, 3,942,000 gallons (in 1931-32); cotton, 8,126,000 pounds (1931-32); silk cocoons, 6,206,000 pounds.

**COMMERCE.** Including transit goods, imports and exports in 1931 totaled \$39,596,000 and \$16,379,000, respectively. Excluding a transit trade valued at \$6,235,000, imports in 1930 were valued at \$49,805,000 and exports at \$17,769,000. France was again the chief source of imports in 1931, followed by the United Kingdom.

**FINANCE.** Preliminary budget results for 1931 showed receipts of 17,940,740 Syrian-Lebanese pounds and expenditures of 16,512,510 Syrian-Lebanese pounds. Comparative figures for 1930 were 18,694,920 and 16,578,740 Syrian-Lebanese pounds, respectively. Budget estimates for 1932 balanced at 17,057,490 Syrian-Lebanese pounds. On June 19, 1931, Syria paid 244,000 Turkish gold pounds (about \$1,073,600) in servicing its share of the Ottoman public debt. The unit of currency is the Syrian Lebanese paper pound, based on the French franc (1 pound equals 20 francs); it exchanged at \$0.784 in 1930.

**GOVERNMENT.** The Constitution of the Syrian Republic adopted May 14, 1930, granted the republic powers equivalent to those of an independent state, except that control of foreign relations and similar functions were retained by France conterminous with her exercise of the mandate. There is a legislature, elected for four years, which in turn elects a president for a term of five years. The president must always be a Moslem. The Constitution of the Republic of Lebanon, as modified May 8, 1929, vests executive power in a president elected for six years by the Chamber of Deputies, and legislative power in the Chamber, composed partly of elected delegates and partly of presidential appointees. Latakia and Jebel Druze are administered by French governors, assisted by partly nominated and partly elected councils. A French army is in occupation of the entire country, however, and final power rests with the French High Commissioner. High Commissioner in 1932, Henri Ponsot, appointed Oct. 12, 1926.

**HISTORY.** *The Syrian Constitution.* The year 1932 witnessed the organization of constitutional government in the Syrian Republic in accordance with the organic statute promulgated by the French High Commissioner in May, 1930. The first general election under the Constitution was held Jan. 5, 1932. The Nationalists, who at first refused to recognize the Constitution, finally decided to participate in the election. Antagonism

between Nationalists and Moderates led to riots and bloodshed toward the end of 1931 and the French authorities were forced to postpone for several months the elections in Damascus, Hamah, and Doma. The final electoral returns showed 54 Moderates and 15 Nationalists in the Chamber of Deputies. Ahmed Ali Bey el-Abed, a Moderate, was elected President of the Syrian Republic on June 11, after the Chamber's first attempt to elect a president had ended in disorder. In the formation of the Cabinet, however, the Moderates received only two portfolios, while the Nationalists obtained the four most important ones.

The Nationalists, nevertheless, continued their violent agitation against the French mandate and the Moderates. Anti-French political speeches were made in the mosques and at Aleppo bomb-throwing, murders, strikes, and demonstrations were reported. The French were finally forced to issue a public safety decree, under which some 70 Nationalist agitators, including a dozen notables, were imprisoned. The world depression affected the finances of the Syrian Republic also, and in midsummer the Council of Ministers effected drastic economies in governmental salaries, pensions, allowances, and general expenditures.

*Lebanese Constitution Suspended.* While the Syrian Republic was experiencing an inauspicious introduction to constitutional government, the Lebanese Constitution was suspended as unworkable in May after having undergone four revisions by the French authorities in six years. The net result of representative government had been a steady increase in government officials, salaries, and general expenditures without tangible results other than the enrichment of professional politicians. In suspending the Constitution, the High Commissioner appointed M. Debbas, President of the Republic, as a sort of dictator, assisted by a council of directors nominated by himself. M. Debbas by the end of the year had completely reorganized and simplified the governmental machinery, eliminated many abuses, and reduced expenditures by approximately one-half.

*Other Developments.* The boundary line between Syria and Iraq was approved by the Council of the League of Nations on November 25. It followed lines recommended by the Council's commission of inquiry. M. Ponsot, the French High Commissioner, visited Istanbul, Turkey, in October in connection with negotiations for the demarcation of the Turko-Syrian boundary, which were under way between the French and Turkish governments. Meanwhile a number of prominent Syrian Arabs were promoting a movement for a Pan-Arab federation to resist foreign domination and imperialism. The movement, known as Istiqlalism, was divided on the proposal for the union of Syria and Iraq under King Feisal of Iraq. On Jan. 8, 1932, Anthony Aridah, Archbishop of Tripoli in Syria since 1908, was elected Patriarch of the Maronites to succeed Patriarch Elias Hoyek, who died in Beirut on December 23. See *ARCHAEOLOGY*.

**TADZHIKISTAN.** See *SOVIET CENTRAL ASIA*.

**TAHITI.** See *OCEANIA*.

**TAIWAN.** See *FORMOSA*.

**TALKING PICTURES.** See *MOTION PICTURES*.

**TANGANYIKA** (tän'gän-yé'ka) **TERRITORY.** An African territory bounded on the north by Kenya and Uganda, west by Belgian

Congo and Northern Rhodesia, south by Portuguese East Africa, and east by the Indian Ocean. It is administered by Great Britain under a mandate approved by the League of Nations. Area, about 374,000 square miles; population (1930 estimate), 4,852,244 natives, 6876 Europeans, and 25,481 Indians. The native population consisted chiefly of tribes of mixed Bantu race. The European population (1931 census) was 5189 males, 2974 females. The capital Dar-es-Salaam (pop. 25,000) and Tanga (pop. 11,000) are the chief seaports. Revenue in 1930-31 amounted to £1,749,478 and expenditure to £2,102,501. Budget estimates for 1931-32 placed revenue at £1,911,500 and expenditure at £1,904,919. Governor in 1932, Lieut.-Col. Sir George Stewart Symes, appointed January, 1931.

**TANGIER**, tăn-jér'. The international zone of Tangier is situated in northwestern Morocco, fronting the Atlantic Ocean at the entrance to the Straits of Gibraltar. The zone has an area of about 225 miles and a population estimated at 65,000, nearly all of whom reside in the port city of Tangier. The manufacture of cigarettes, the chief industry, employed about 700 persons. Under the international protocol of 1928, the Tangier zone was permanently neutralized and demilitarized. The zone has large autonomous powers, legislative authority being vested in an international Assembly of 27 members, but a committee of control, composed of the consuls of Powers signatory to the Act of Algeciras, possesses veto and certain other powers. Administration is delegated to an administrator. Administrator in 1932, M. Le Fur (French).

**TANKERS.** See *SHIPBUILDING*.

**TARIFFS.** See *CANADA*; *GREAT BRITAIN*; *IRISH FREE STATE*; *AUSTRIA*; *FRANCE*; *ITALY*; *UNITED STATES*; *BELGIUM*; *NETHERLANDS*, *THE*, under *History*.

**TASMANIA**, táz-mā'nī-a. A state of the Australian Commonwealth, consisting of the island of that name and several other smaller islands. Area, including the island of Macquarie (170 square miles), 26,215 square miles; population (1921 census), 213,780; estimated, Mar. 31, 1932, at 221,584. Births in 1931 numbered 4702; deaths, 2057; and marriages, 1501. The excess of immigration over emigration was 41 for the same year. Hobart, the capital, with suburbs had 58,100 inhabitants (Mar. 31, 1932); Launceston with suburbs had 4543. Revenue for 1931-32 amounted to £2,385,495; expenditure, to £2,657,109; net debt on June 30, 1932, £23,243,821.

Executive power is vested in a governor, acting through a responsible ministry, and legislative power in a legislative council (upper house) of 18 members and a house of assembly (lower house) of 30 members. The House of Assembly (1931 election) comprised 18 Nationalists, 11 Labor, and 1 Independent. Governor in 1932, Sir Herbert Nicholls. Premier and Treasurer, J. C. McPhee. See *AUSTRALIA*.

**TAXATION.** The outstanding event of the year 1932 in the matter of taxation was, beyond question, the enactment by Congress of the Revenue Act of 1932 which went into effect in July and which provided (see the article *PUBLIC FINANCE*) one of the largest increases of taxation ever enacted by the government of the United States in time of peace. As summarized by the Secretary of the Treasury this act called for:

(1) Increase in the corporation income tax rate from 12 to 18% per cent, with an additional tax at three-fourths

of 1 per cent on corporate net income for the years 1932 and 1933 reported on consolidated returns, and with no specific credit for corporations with small incomes.

(2) Increase in the normal rates on individual income from 1½, 3, and 5 per cent to 4 and 8 per cent; elimination of tax credit for earned income; reduction in personal exemptions from \$3500 and \$1500 to \$2500 and \$1000 for married persons or heads of families and single individuals, respectively; surtaxes graduated from 1 per cent on net income in excess of \$6000 and not in excess of \$10,000, up to 55 per cent on net income in excess of \$1,000,000; and other income tax changes, the most important of which limits the deduction of losses from sales or exchanges of stocks and bonds held for a period of two years or less to the amount of gains derived from similar transactions with provision for a one-year carry-over, with certain limitations, of the excess of such losses over such gains for a given year.

(3) An additional tax on estates at graduated rates, with an exemption of \$50,000, the additional tax to be paid to the Federal Government without tax credit for payment of State inheritance taxes; and a gift tax at rates graduated up to 38½ per cent on net gifts in excess of \$10,000,000 with an exemption of \$50,000.

(4) Manufacturers' excise taxes on numerous articles, including lubricating oil, brewer's wort, automobiles, trucks, parts and accessories, tires and inner tubes, gasoline, candy, chewing gum, soft drinks, jewelry, toilet preparations, furs, domestic and commercial consumption of electricity, radios, mechanical refrigerators, sporting goods, and cameras.

(5) Other miscellaneous taxes, including new and increased stamp taxes, increased taxes on admissions, and new taxes on telephone, telegraph, cable, and radio messages, checks, leases of safe deposit boxes, transportation of oil by pipe line, and the use of boats.

(6) Increases in postal rates.

The continual dwindling of the supply of revenue both in the Federal treasury and in those of the several States made the year 1932 notable both for the increasing of the burden of taxation in several of the States, as well as under the Federal government, and also for the resumption of discussions and controversies about possible sources of new revenue that had been permitted to lie quiet for a good while in the past. Distressed conditions on the part of large bodies of unemployed led to the consideration of taxes and the enlargement of the weight of taxation in sundry places in a degree not previously thought wise or sound. Similarly the constant demand for some means of temporarily enlarging the immediate resources of the States led to the adoption of measures for the issuance of new public debt obligations at times, and to an extent, not previously thought of. The dangers and possible risks involved in this widespread growth of taxation called further earnest attention from many economists and public men and, in consequence, there was inserted into the Democratic platform a pledge for a reduction of 25 per cent in the total budget of the nation with corresponding promise of relief either from old, or from threatened new, taxes. See LAW IN 1932.

**STATE INCOME TAXES.** The outstanding development of the income tax during 1932, so far as the several States were concerned, was in New York where income tax rates were temporarily

increased 100 per cent. Wisconsin likewise doubled her rates, and Mississippi more than doubled hers, while reducing exemptions. Tennessee adopted an income tax in 1931, and the Supreme Court of that State has held it unconstitutional in 1932. Illinois adopted such a tax in 1932, which is now before the Supreme Court of the State. Constitutionality is also under advisement in other commonwealths. The Supreme Court of the United States has handed down two important constitutional decisions: *Pacific Co. Ltd. vs. Johnson*, in which it is held that gross income may include all interest received from tax-exempt Federal, State, or municipal bonds, while in *Fox Films Corporation vs. Duval* it is held that royalties received from copyrights and patents are subject to State taxation. In inheritance taxes, there was no important development during 1932.

**SALES TAXES.** Considerable development, however, occurred during the year in the field of sales taxes, and taxes on retail transactions. Electric power and its sales constitute the basis of a new tax of 2 per cent in Louisiana, with the first report of results on September 1, 1933. A tax on electric power by kilowatts has been adopted in Idaho. In South Carolina, the subject is under adjudication. In Mississippi, the old sales tax has given place to a substitute effective until June 30, 1934, in which rates rise from 1 per cent to 2 per cent as against ¼ of 1 per cent to 1 per cent. Retail store taxes on chain stores have been adopted by Arizona and Wisconsin, rates ranging from \$10 to \$50 in the latter and from \$3 to \$25 in the former State; while in Louisiana a tax of \$15 to \$200 available for local needs but exempting small gasoline stations has been passed. New gasoline taxes, moreover, have been adopted in Kentucky and Virginia, while enlargement has been ordered in Tennessee, Mississippi, New York, and Massachusetts. Truck registration and other automobile fees have likewise been widely added to. Higher rates for "trailers"—\$8 per ton instead of \$4—have been set in New York, with a temporary increase of 65 per cent on trucks, busses, and trailers. Higher highway taxes have been established in Mississippi and higher rates on common carriers in Kentucky and Louisiana. Taxes on gross earnings of common carriers have been held unconstitutional in Montana.

**EXCISE TAXES.** The chief interest of 1932 in the field of excise taxes has been afforded by taxes on soft drinks in Louisiana and a tobacco tax in the same State. The rate on cigarettes is one-fifth of a cent each, with cigars \$2 per thousand to \$13.50 per thousand, according to price. In Mississippi, tobacco products other than cigars and cigarettes have been included as subject to excise taxation. Both in Kentucky and Louisiana a tax on oleomargarine has been established.

COMPARISON OF NUMBER OF RETURNS AND INCOME TAX FOR THE CALENDAR YEARS 1928, 1930, AND 1931, INDIVIDUAL RETURNS OF NET INCOME OF \$5,000 AND OVER.\*

Net income classes	Number of returns			Income tax (thousand dollars)			Percentage decrease			
	1928	1930	1931	1928	1930	1931	Number of returns	to	to	Income tax
							1928	1930	1928	1930
							to	to	to	to
							1930	1931	1930	1931
\$5,000-\$10,000 .....	561,114	505,715	385,837	21,344	16,590	11,693	9.9	23.7	22.3	29.5
10,000-100,000 .....	359,576	251,490	167,141	409,058	208,184	114,344	30.1	33.5	49.1	45.1
100,000 and over .....	15,780	6,152	3,142	700,341	237,716	107,896	61.0	48.9	66.1	54.6
Total .....	936,470	763,857	556,120	1,180,743	462,440	238,933	18.5	27.1	59.1	49.4

\* Preliminary Statistics of Income; returns filed to Aug. 31, 1929, 1931, and 1932, respectively. For sake of comparability with available figures for 1931, preliminary rather than final figures are used for 1928 and 1930.

Stock transfer taxes were increased in New York from 2 cents to 4 cents. Other minor changes in excise taxation are to be found in various States, with proposed alterations under advisement in several of the larger commonwealths.

**FEDERAL INCOME TAX RECEIPTS.** Description has already been given of the new income tax legislation of the year 1932 and of the preparations for still further enactments that were in the making at the close of the twelvemonth. The actual income situation had shown great deterioration, as indicated by the summaries of the receipts and of their distribution.

According to the Secretary of the Treasury:

As shown by the table, a decline of 18.5 per cent in the number of these returns for 1930 as compared with 1928 was accompanied by a decrease in taxes reported of 59.1 per cent; a further decline for 1931 as compared with 1930 of 27.1 per cent in the number of returns was accompanied by a decrease in taxes of 49.4 per cent. Taxes for 1931, aggregating \$233,900,000, were thus only about one-fifth of the total of \$1,130,700,000 for 1928. Two-thirds of the decline of about \$896,800,000 in individual income taxes which took place from 1928 to 1931 occurred in the net income classes of \$100,000 and over, due to the shift in taxable incomes from the high income group to lower income groups. In 1930 the shift in taxable incomes resulted principally from the decline in profits from the sale of real estate, stocks, bonds, etc., while in 1931 it reflected decreased income from all sources, particularly from dividends.

The returns showing net income of \$100,000 and over declined in number from about 16,000 in 1928 to approximately 6000 in 1930, and to about 3000 in 1931.

**TAXONOMY.** See BOTANY.

**TAX RATES.** See MUNICIPAL GOVERNMENT.

**TEACHING.** See EDUCATION IN THE UNITED STATES.

**TECHNOCRACY.** The term "technocracy" was coined in 1919 by William H. Smyth, an engineer, inventor, and social economist of Berkeley, Calif. It was used by him in an article entitled "Technocracy—National Industrial Management," which appeared as the second of three articles published in the magazine *Industrial Management*. The second appeared in the issue of March, 1919. His definition of the term is, "A theory of social organization and a system of national industrial management. It implies scientific reorganization of national energy and resources, coordinating industrial democracy to effect the will of the people."

Later, Mr. Smyth expanded the three original articles by the addition of nine further articles, all of which were printed during 1920 and 1921 in the *Gazette of Berkeley, Calif.* The entire series was republished in booklet form in 1921 under the title "Technocracy." Ten years later, in July, 1931, the *Gazette* published a further article by Mr. Smyth, using the same title—"Technocracy"—in which he referred to the former series: "This series of twelve essays, entitled Technocracy, were assembled in pamphlet form in 1921, and between one and two thousand copies mailed to outstanding people and members of Congress." The article pointed out the basic similarity existing between his earlier theories and the proposal of Stuart Chase, in *Harper's Magazine*, May, 1931, for the revivification of the War Industries Board to serve as a Peace Industries Board.

The theory developed by Mr. Smyth may be condensed somewhat as follows: He recalled with what willingness the people of any given country had responded to a common national aim during the recent war. Referring especially to the United States he drew particular attention

to the great effectiveness of the War Industries Board, a board composed of technicians and scientists which so directed, or was tending to direct, the industrial output of the entire nation as to preserve an accurate balance between supply and demand, production and distribution. "For this unique experiment in rationalized industrial management," said Mr. Smyth, "I have coined the term Technocracy."

From this "germ of a novel and significant idea—a pioneer idea in the ancient art of self-government," Smyth reached a logical conclusion: "Let us organize our scientists, our technologists, our exceptionally skilled; let us commandeer, conscript, and enlist their loyalty, their devotion, their enthusiasm, their intelligence, their talents, their accomplishments for the purposes of Peace and the realization of a noble national purpose."

The purpose of such a body would be to study production and consumption, to watch the upward and downward curves of demand, to interpret the trend of human wants, to encourage the satisfaction of those wants. "From this coordinated army of science, technology, and skill should be selected a representative and comprehensive national council of scientists as managing directors." Such directors would be chosen through recognized capability and social worth.

The control of the machine, its production, and distribution is the paramount aim of a technocracy—a national industrial democracy. The machine is the servant of man, not man's master; and solely by rigid observance of a predetermined output can man retain his mastery. Price has been the measure of supply and demand; but with demand known and supply correctly gauged, price would no longer fluctuate from peaks to valleys. In fact, Smyth says: "Ownership or 'money' would take the form of certificates issued by the clearing house, exchangeable for any desired form of effort or products. These certificates would be the medium of exchange. By this suggested method business would become scientific barter very similar to that which we were forced to adopt in the money panic of 1907 in the form of 'clearing house certificates.'"

"The savings of any man would be recorded in the tally house and would be available to him at any time whether he desired to provide for his old age or spend it improvidently. And there would not be any shrinkage in the value of the certificates.

"He has placed in the tally house one or fifty pairs of shoes, and whether he draws against them to-day or twenty years hence, he will be entitled to one or fifty pairs of shoes."

The basic principles upon which Smyth's economic structure is built are found in his book *Concerning Irascible Strong* (1926). They are:

**The Individual.** The main function of society is to oppose its combined effectiveness to every natural and artificial condition which tends to hamper the freedom of the individual, in so far as the acts of the individual are consistent with the community objective.

**Sustenance.** The products of labor or effort are the results of life energy expressing itself through an individual, upon his environment, to the end that this individual may and shall express more individual life.

Ownership of products therefore is as essentially inherent in the producing individual as the faculties from which the products flow.

Thus products are, in right and reason, inalienable from the producing individual either by himself or by others—except for the equivalent of the product.

**Mutuality.** Equal liberty is the natural right of every person. It is mutual, but only to the point where it does not interfere with the liberty of another. But it must be

given some directive purpose and yet given free rein so that each person may express himself.

**Family.** As the social and political unit, the family is entitled effectively to voice its united objectives and to be represented in the conduct of all community affairs. One family, one vote.

**Progress.** The community's most valuable and vital assets are its children; therefore, self-preservation makes it imperative that the highest intelligence and most unremitting effort be expended upon their preparation for carrying forward the national objective.

**Increase.** The women are the natural wards of the community, for its life and well-being are inseparable from theirs. By right of womanhood's natural function every woman is therefore entitled to maintenance and protection as a first charge upon the community resources. Realized motherhood places the community under obligation proportional to the benefit accruing to it. In this benefit the mother is, in equity, entitled to participate directly.

**Opportunity.** Every individual is entitled to equal opportunity, to the end that self-expression may have fullest scope and the individual thus be enabled to reach his highest effectiveness for self-realization and for the welfare of the community.

**Prosperity.** Nature's resources are its gifts to all; they are man's inalienable environment; they are his common heritage and birthright.

**Inheritance.** As it is only by and through the organization of the community that an individual can socially function, it is inherently right and reasonable that the surplus product of that functioning should accrue to the community at his death.

**Entitled to Rights.** To sum up these social functions it might be added that the individual is entitled to his rights, the right to think, the right to a private religion, to his own family life, if he wishes it. The duty of society, which is, under my definition, all the people, is to aid him in the free expression of his own private life.

The individual is entitled to the products of his labor. He should not be forced to pay tribute at every turn to some predatory group which takes his money in the form of interest, profit and credit charges.

**Importance of Family.** As the basis of any society, the importance of the family as a unit is axiomatic. Hence they have group rights and should be able to express them as a unit, since the sum of their single rights still does not constitute a group want or right.

As a part of the family or group right, the need for children is vital to both the individual and to society.

The right to inheritance should be abolished and the worldly goods or wealth at the time of death should revert to the society which actually gave it value and which, as a group, contributed to its creation.

It is obvious that the proposed form of government savors no whit of communism, and smacks but lightly of socialism. It recognizes fully that no form of government in the United States would be tolerated that did not recognize the fundamental rightness of (a) private property, (b) equality of opportunity, and (c) personal liberty extending to the boundaries of the equal liberties of others.

The greatest stress is laid by Smyth—in fact, his paramount concern—upon the determination of the national objective, "the living, moving, and effective will of a democracy." He asks, "Is there anything strange, startling, revolutionary, or impractical in the proposal of national purpose? If not, what does a national objective really mean in its social implications?" The question is answered thus:

It proposes a commonplace institutional and constitutional arrangement for amalgamating individual effort, energy, urge, and friction into mass movement—massing futile individual struggles into effective community kinetic force. It proposes an initiative institution for translating individual "needs" into social "wants"—an institution socially responsive to human growth and development. It proposes a rational convention for changing conditions as they are into conditions as we think they ought to be, and without social disturbance—the substitution of self-conscious social evolution for irrational revolution. . . .

Should the idea appeal to a sufficiently large number of citizens to make it a realizable ideal, there would naturally follow a gradually growing discussion, at first confined to comparatively few interested individuals, thence spreading to groups and the public press. Eventually a time would arrive when every intelligent indi-

vidual would have a clarified notion of his own desires, hopes, aspirations, ambitions, and social outlook.

When the time was thus ripe, every adult would be given the opportunity to express himself—his wants and his views as to the provisions of the proposed objective—through the medium of the Census Bureau.

In connection with this census record a nationally representative committee would be elected, whose duty it would be to arrange and classify, and extract from these many-directed expressions of desire the essence, substance, and vital significance of all these various aspects of social wants.

Then, from these concentrations as material, the committee would formulate the provisions of the objective. . . .

This Affirmative Constitution should be a charter by the sovereign people guaranteeing effective freedom for the individual—a great people's book of life and liberty—the Gospel of Democracy.

This then gives a general idea of the character of a national objective.

This document, when formulated, should be published broadcast for a sufficient length of time to permit of its being thoroughly discussed and criticized. It should then be taken up again by the National Committee for such revision as might be found advisable in view of the public criticism.

It would then be submitted to the people. . . .

In essence the proposition seems to be simple and common sense; an army has a definite purpose, a business has a definite purpose; a nation (and above all an industrial democracy) should have a definite purpose. An army is officered by military specialists; a business organization is officered by business specialists; an industrial democracy—a democracy of technical industries—should be officered by technical specialists, should be in the form and in fact a purposive *Technocracy*.

His views further coincide with the later proposal of Stuart Chase in the suggestion, "The Great National Objective should be renewed every ten years, or at least every generation."

It will be noted, however, that Chase proposes that the job of the "Peace Industries Board" "shall be to draft a Ten Year Plan for the United States," and "for many months the total energy of the Board would be devoted to the formulation of the Ten Year Plan. Thereafter, it should continue to serve as the coordinating, driving force to put the plan into operation. . . . What the Board's Ten Year Plan would provide, no man knows pending its completion." Smyth, on the other hand, insists that the people themselves should determine the plan, the function of the Board being merely to direct that plan.

In 1932, Howard Scott brought the term "Technocracy" into the limelight by using it as the name of "a research organization, founded in 1920, composed of scientists, technologists, physicists, and biochemists" which was organized "to collect and collate data on the physical functioning of the social mechanism on the North American continent, and to portray the relationships of this continent and the magnitude of its operation in quantitative comparison with other continental areas of the world." The organization, "Technocracy," according to Mr. Scott, was to establish a new technique in social mensuration, "that is to say, a process for determining the rates of growth of all energy-consuming devices within the limits of the next most probable energy state."

An article by Mr. Scott, appearing in *The Living Age*, December, 1932, had been preceded by other articles not bearing his authorization in other publications which presented some of the findings of the organization. The data thus presented, although promptly challenged as to correctness by other technicians, were so startling in character—tending to demonstrate the amazing growth of modern machine power and the declining importance of man power in production—as to command almost immediately the atten-

tion of the entire country. The theories of Mr. Scott are succinctly given by Allen Raymond in *Current History*, February, 1933:

Together with the certainty of fast approaching chaos, it was first reported that the little group of scientists conducting the "Energy Survey of North America" were working out from the data and laws which they had discovered a new plan for society to which also the name "Technocracy" had been given. Under this new plan, the inordinately productive capacities of the modern machine would be used for the benefit of every one, but with all considerations of prices for commodities abandoned.

By channeling the energy from steam, oil, gas and water power available for such a state, the natural resources at its command, and the declining importance of man-power in production, the scientists claimed to have discovered that a vastly higher standard of living for every one on the North American Continent could be obtained with far less effort than is now expended. Poverty could be abolished. Insecurity could be wiped out. For a few days of work each week by persons between the ages of 21 and 45, under scientific management, every one in America could have a scale of consuming power measured at perhaps \$20,000 a year, according to the value of the 1929 dollar.

Dollars, as such, however, would have to be abandoned. No currency based on such an inexact measure of commodity values as gold or silver is any longer workable. The "Technocrats," as they have come to be called, envisage the distribution of "energy certificates," to take the place of money. These certificates are to be based on the amount of energy in human labor or fuel consumption, required to produce any given commodity to be bought, from cigarettes to automobiles.

The Technocrats propose to balance production of goods with consumption by giving every one the right to consume, on an equal basis, without regard to the share in production which an individual consumer has earned. In this sense, the society which they propose to set up is seen to resemble a Communist or a Socialist order. But the Technocrats are careful to disavow any connection with Communist or Socialist philosophies. They scorn both of these methods of managing society as no more up-to-date than capitalism.

See articles by Wm. H. Smyth in *Industrial Management*, issues of February, March, and May, 1919; Wm. H. Smyth, *Technocracy* (Berkeley, Calif., 1921), and *Concerning Irascible Strong* (New York, 1926); articles by Howard Scott, in *The Living Age*, December, 1932, and in *Harper's*, January, 1933.

**TELEGRAPH AND CABLE.** The supply of accurate time to subscribers of telegraph companies is a service which has been performed for some time but in the last year there has been a much increased interest in the practice, a much greater demand and, as a consequence, a greater activity in the improvement of the technical details. There are now hundreds of thousands of such subscribers in the U.S.A. Three types of service are performed (a) sending out the "noon-beats" each day for use in correcting master-clocks; (b) sending out coded impulses at intervals throughout the day (these are known as jeweler's beats as they are principally used by jewelers to correct their time-pieces); (c) synchronizing clocks every hour. About 120,000 clocks are checked in this manner most of them rented by subscribers.

The telegraph companies have installed additional equipment for carrier current telegraphic circuits, making it possible to add ten carrier current circuits over a 4-wire open-air system which continues to operate with the usual d.c. multiple system. The carrier current circuits are capable of handling printers. Great assistance has been rendered to commercial air transportation by supplying information about the weather in the form of weather maps by telegraph to each major airport. This information is supplied broadcast by teletypewriter. The year 1932 marked the one-hundredth anniversary of the

conception of the telegraph by Morse although it was four years later before he had a practical set to demonstrate. In 1932 the Western Union moved into its new building in Boston and put into operation its new plant.

**TEL EL ARMARNA.** See *ARCHÆOLOGY*.

**TELEPATHY.** See *PSYCHICAL RESEARCH*.

**TELEPHONY.** During 1932 oversea telephone service was extended to several localities hitherto isolated from the world's network of telephone lines. The following places were reached through existing transmitting stations: the principal cities of the Union of South Africa, Bangkok in the Kingdom of Siam, the Balearic Islands in the Mediterranean, the cities of Alexandria, Cairo, and Port Said in Egypt, the greater portion of the Republic of Peru, and the city of Lisbon in Portugal. In addition, a new station was constructed near Miami, Florida, through which radio-telephone service was extended to Colombia, Venezuela, and Nassau in the Bahama Islands. About 92 per cent of the 33,400,000 telephones in the world can be reached from any telephone connected with the Bell system. During 1932 ship-to-shore telephone service was extended to 9 additional liners, making 15 in all at the end of the year.

The continuing effect of the severe depression in general business during 1932 was reflected to a certain extent by the telephone industry in the United States mainly through decreased usage of available facilities. During the year there was a decrease in the number of telephones in service and in the average daily telephone traffic. On Jan. 1, 1933, the total telephones in this country numbered approximately 17,550,000 and there was a daily average of 74,425,000 local conversations and 2,575,000 toll conversations. The total investment in telephone plant and equipment represented about \$4,725,000,000 on Jan. 1, 1933, and on that date there were 87,000,000 miles of telephone wire in service. The investment in telephone plant and equipment decreased only slightly during 1932 whereas the miles of telephone wire in service actually increased. By the end of 1932, more than one-third of all the telephones in this country were served from dial system central offices. In the Bell System, over one-fifth of the subscribers' telephones were of the hand-set type.

During 1932 continued progress was made in extending the telephone cable network, notably in the completion of the cable between Kansas City and Dallas. This cable links Dallas and other Texas points with the storm-proof cable network covering most of the eastern part of the United States. Direct New York-Dallas telephone circuits, 1850 miles in length (the longest direct all-cable telephone circuits in the world), are routed through this cable.

Noteworthy improvements have been made in private branch exchanges. One type recently developed employs a combination of manual and dial equipment. Local calls and outgoing calls are handled by the dial equipment, while incoming calls and certain types of outgoing calls are handled by operators at a manual board. This equipment has been designed chiefly for very large installations where the number of extensions may be several thousand or more, and the number of trunks to the central office several hundred. Teletypewriters have been applied to the distribution of weather maps over extensive networks in connection with aeroplane service.



Outline maps printed in light colors are placed in the machines and information regarding weather conditions at each observing station is typed on these maps by means of signals transmitted from a central weather bureau. When maps are not being received the machines may be used for routine private wire traffic. With this arrangement weather information is available at many airports hours sooner than with previous methods.

In January, 1932, the Trans-Canada Telephone System was formally opened by the Governor-General of Canada. See CANADA.

**TELETYPEWRITER.** See TELEPHONY.

**TELEVISION.** The art has reached that stage in which, after considerable exploitation of the preliminary steps, the scientists have settled down to an endeavor to iron out the practical difficulties and make a useful device instead of a toy. The Radio Corporation of America gave a demonstration in May for the benefit of its numerous licensees. Reports state that the cathode ray tube was used with good effect but it was stated that the method was in the laboratory stage. Many of the scientists are endeavoring to develop the cathode ray oscillograph as a means of reproducing and projecting the image. In this a beam of electrons makes a spot of light on the screen. This beam may be moved back and forth in two coördinate axes by two electric fields produced by varying voltages. As the electron beam has no inertia there is no time lag and no appreciable amount of power required. If the beam is varied in intensity by varying the potential which produces it or varying the focus, the effect of modulation is produced. Another means being tried in England is the cold light of great intensity produced by activating mercury vapor in a tube by means of an induced field. This, it is claimed, modulates a very high intensity of light with a minimum of power and time lag, but a scanning disk is required. One experimenter modulates a beam of light from an electric arc by reflecting it from a mirror attached to a rochelle salt crystal so cut and arranged that when a varying potential is applied to the crystal it turns and twists, thus moving the reflected beam slightly. The reflected beam is sent through a diaphragm to the scanning wheel, and any movement of the beam causes the diaphragm to cut off a part of the beam, thus modulating the intensity of the light received by the scanning disc.

Those interested in receiving television broadcasts, and there are several stations giving a regular schedule of experimental broadcasts, have found it quite a convenience that most of the power stations in any given district are tied together or synchronized. Thus a two-pole motor will run at exactly the same speed no matter where it is connected and at the same speed as all other two-pole motors on the system. That is, they will all be in synchronism. This makes it possible to do the refined pulling into phase, or regulating with very little power. In England a demonstration was given of broadcasting a television subject on a radio wave of six meters.

**TEMPLE UNIVERSITY.** A coeducational institution of higher learning in Philadelphia, Pa. The 1932 autumn enrollment was 10,353. The faculty had 738 members. The income totaled \$1,869,889. President, Charles E. Beury, LL.D.

**TENNESSEE. POPULATION.** According to the Fifteenth Census, the population of the State on

Apr. 1, 1930, was 2,616,556, as against 2,337,885 in 1920. Memphis, the most populous city, had (1930) 253,143 inhabitants; Nashville, the capital, 153,866; Chattanooga, 119,798; Knoxville, 105,802.

**AGRICULTURE.** The accompanying table shows the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod. Bu.	Value
Corn	1932	2,927,000	59,418,000	\$17,825,000
	1931	2,927,000	73,175,000	26,843,000
Cotton	1932	1,104,000	450,000 <sup>a</sup>	15,725,000
	1931	1,115,000	594,000 <sup>a</sup>	15,830,000
Hay	1932	1,244,000	1,085,000 <sup>b</sup>	9,344,000
	1931	1,275,000	1,206,000 <sup>b</sup>	13,152,000
Tobacco	1932	135,000	110,565,000	11,056,000
	1931	161,000	135,240,000 <sup>c</sup>	10,008,000
Sweet potatoes	1932	75,000	6,600,000	2,508,000
	1931	68,000	5,440,000	3,536,000
Potatoes	1932	53,000	3,657,000	2,633,000
	1931	57,000	3,363,000	2,892,000
Wheat	1932	272,000	2,584,000	1,447,000
	1931	252,000	4,410,000	2,734,000

<sup>a</sup> Bales. <sup>b</sup> Tons. <sup>c</sup> Pounds.

**MINERAL PRODUCTION.** Production continued highly diverse as to the component minerals. Coal, the foremost among them, contributing about one-fourth of the total value of the mineral production of 1930, declined to a quantity of about 4,170,000 short tons for 1931, from 5,130,428 for 1930; by value, the product of 1930 totaled \$8,417,000. The production of cement fell to 3,287,966 barrels (1931), from 3,822,598 (1930); by value, to \$3,810,271 (1931), from \$5,315,693 (1930). The production of phosphate rock, fairly well maintained in 1930 at 611,045 long tons, in value \$2,938,525, fell off in 1931. The total value of the State's mineral product, duplications eliminated, was \$32,499,380 for 1930; for 1929, \$40,719,706.

**FINANCE.** State expenditures in the year ended June 30, 1931, as reported by the U. S. Department of Commerce, were \$55,293,026 (of which \$31,339,073 was for highways). Revenues were \$37,192,691. Funded debt outstanding on June 30, 1931, totaled \$87,018,676, of which \$47,200,000 was for highways. Net of sinking-fund assets, the debt was \$36,450,153.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 3940.61. In the year previous, about a mile of new line had been put in operation.

**EDUCATION.** The number of persons of school age (7 to 18 years) in the State in 1931 was reported as 627,609. There were enrolled in the public schools, in the academic year 1931-1932, 641,551 pupils. Of these, 562,387 were in common schools or elementary grades, and 79,164 were in high schools. For 1931, the latest year for which the figures were obtainable, the expenditure for public-school education totaled \$23,299,800. For that year, the salaries of teachers approximated an average of \$700 a year.

**POLITICAL AND OTHER EVENTS.** A State act of December, 1931, to create an income tax, was declared by the State Chancellor, R. B. C. Howell, on May 14 to be unconstitutional. In the State primaries on August 4 Hill McAlister appeared to have received the highest Democratic vote for the gubernatorial candidacy. His opponent Lewis S. Pope, however, contested the result. John E. McCall of Memphis was chosen Republican candidate for Governor. The primary contest dealt largely with the need of reduction in State tax-

ation, the leading candidates of both parties pledging themselves to reduction. The State government was in some difficulty early in the year, because of deficient revenues, but was able to float a loan of \$9,000,000 in 15-year 6 per cent bonds in April.

**ELECTIONS.** The popular vote of November 8 was cast for the Democratic National ticket by about 2 to 1. For President, the officially reported totals were: Roosevelt (Dem.), 259,817; Hoover (Rep.), 126,806. Seven Democrats and two Republicans were elected as Representatives to the Seventy-third Congress. Hill McAlister (Dem.), was elected Governor, defeating John E. McCall (Rep.), and Lewis S. Pope (Independent). L. D. Hill, Democratic incumbent, was re-elected State railroad commissioner.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, Henry H. Horton; Treasurer, Hill McAlister; Comptroller, Roy C. Wallace; Secretary of State, Ernest N. Haston; Auditor, P. H. Williams; Attorney-General, L. D. Smith (deceased) and Roy H. Beeler (successor); Commissioner of Education, P. L. Harned.

**Supreme Court:** Chief Justice, Grafton Green; Associate Justices, A. W. Chambliss, Colin P. McKinney, W. H. Swiggert, William L. Cook.

**TENNESSEE, UNIVERSITY OF.** A State institution of higher education, nonsectarian and co-educational, in Knoxville, with colleges of medicine and dentistry and schools of pharmacy and nursing in Memphis and a junior college in Martin, founded in 1794. The total enrollment for 1931-32 was 6136, of whom 1973 were registered in the summer session. The faculty numbered 219. The endowment funds amounted to \$452,958; the income for the year 1931-32 was \$2,067,705. There were 128,500 volumes in the library. There were constructed during 1932 a new alumni memorial gymnasium and auditorium and a tower to the library. President, H. A. Morgan, LL.D.

**TENNIS.** The history of lawn tennis in 1932 is again the tale of the wizardry of H. Ellsworth Vines, Jr., twenty-one-year-old Californian, but in 1932 he was forced to share the limelight with an aging veteran—Jean Borotra, who captured the Davis Cup from the United States in 1927. At historic Wimbledon, at Roland Garros Stade, at Auteuil, and at Forest Hills, Vines proved his superiority and claim to first place in world ranking. At Wimbledon, his first appearance in the all-England championships, he defeated H. W. (Bunny) Austin, English star, in straight sets in the final. Then, in the fifth match for the Davis Cup he outplayed Henri Cochet, who had ruled the tennis world for five years. In September at Forest Hills he met Cochet in the national singles final and again won. This did not help regain the Davis Cup, most prized trophy of tennis. The United States youngsters swept through their early round matches and then in the inter-zone final toppled Germany, surprise victor over England in the zone final. Vines and Wilmer Allison, Texan, were the United States singles players. Cochet was selected for the French, and at the last moment Borotra was drafted for his country when René LaCoste was unable to regain the form that had made him world champion before Cochet's rise. In the first match that day in July at Auteuil Borotra defeated Vines. In the second match of the day Allison bowed to Cochet. The United States team

of Allison and John Van Ryn won the doubles the next afternoon but the Cup stayed in France when Borotra again reached the heights and defeated Allison to open the third day's play. This match went five sets, and Borotra had to overcome a two set disadvantage to win. Allison had set point but could not get past the Basque. In the anti-climax, Vines beat Cochet, giving France the cup, three matches to two.

Borotra and Jacques Brugnon, of France, won the doubles at Wimbledon, beating Fred Perry and G. Patrick Hughes of England in the final. The mixed doubles was captured by Miss Elizabeth Ryan, Californian, and Enrique Maier of Spain. Misses Joan Sigart and Doris Metaxa of Belgium paired to win the women's doubles. Mrs. Helen Wills Moody showed her continued complete dominance of the women of the world by taking the women's singles crown at Wimbledon. She defeated Miss Helen Jacobs, fellow Californian, in the final, but did not return to the United States to participate in the women's national tournament. Miss Jacobs, who had been rated second to Mrs. Moody for years, ran off with the title. Miss Jacobs teamed with Miss Sarah Palfrey to win the doubles. In the final of the singles Miss Jacobs defeated Miss Carolin Babcock, another Californian, the youthful sensation of the season. In the Wightman Cup matches, the United States women downed the English again.

Vines teamed with his old partner Keith Gledhill to capture the national men's doubles at Longwood. Gledhill was also on the winning side in the intercollegiate doubles when he played with J. Coughlin. George Lott won the national clay court championship, and paired with Bryan Grant to win the doubles. Frankie Parker, sixteen-year-old schoolboy from Milwaukee, was the sensation of the newcomers to top ranking among the men. Parker studded his campaign by toppling Lott, veteran campaigner, in four of five matches (losing in the national). Parker captured the national junior title, the Canadian singles and the Western singles. Lott teamed with Van Ryn to win the national indoor singles at New York in March after Gregory Mangin, former Georgetown University star, had gained the singles crown. Mrs. Marjorie Morrill Painter took the national indoor title for women and with Mrs. Marjorie Gladman Van Ryn won the doubles, too. Mrs. Moody won the French women's crown in her other appearance of the year.

William Tilden dominated the growing professional ranks, forming his own company of professional players and touring the United States and Europe. The national outdoor singles were taken by Karel Kozeluh, Czechoslovakian, and the indoor by Richards.

**TERRITORY OF NEW GUINEA.** See NEW GUINEA.

**TEXAS. POPULATION.** According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 5,824,715, as against 4,663,228 in 1920. Houston had (1930) 292,352 inhabitants; Dallas, 260,475; San Antonio, 231,542; Fort Worth, 163,447; El Paso, 102,421; Austin, the capital, 53,120.

**AGRICULTURE.** The table on page 784 shows the acreage, production, and value of the principal crops for 1932 and 1931.

**MINERAL PRODUCTION:** Petroleum, the source in ordinary years of three-fifths or more, by value, of the total of the State's mineral product,

Crop	Year	Acreage	Prod. Bu.	Value
Cotton ..	1932	13,922,000	4,445,000 <sup>a</sup>	\$187,795,000
	1931	15,469,000	5,320,000 <sup>a</sup>	148,162,000
Corn ....	1932	5,707,000	102,726,000	25,682,000
	1931	5,286,000	91,680,000	20,288,000
Grain sorghum	1932	4,065,000	63,008,000	11,841,000
	1931	3,871,000	60,000,000	15,600,000
Wheat ...	1932	2,958,000	29,580,000	9,170,000
	1931	3,892,000	56,045,000	20,176,000
Oats ....	1932	1,749,000	41,976,000	5,457,000
	1931	1,732,000	58,888,000	11,189,000
Hay ....	1932	763,000	826,000 <sup>b</sup>	4,405,000
	1931	748,000	780,000 <sup>b</sup>	5,997,000
Sweet potatoes	1932	100,000	7,600,000	2,888,000
	1931	77,000	5,544,000	3,493,000
Rice ....	1932	185,000	8,880,000	3,552,000
	1931	205,000	10,762,000	5,811,000
Potatoes .	1932	62,000	4,154,000	3,323,000
	1931	67,000	4,891,000	4,206,000
Barley ..	1932	210,000	3,570,000	607,000
	1931	221,000	5,194,000	1,195,000

<sup>a</sup> Bales. <sup>b</sup> Tons.

continued subject to the effects of high productive capacity, during 1931, in the East Texas area and of public activity bearing on the limitation of the output of wells. The quantity of petroleum produced rose to 332,437,000 barrels (1931), from 290,457,000 (1930); the value of the product fell, owing to the exceeding of normal demand, to \$170,950,000 (1931), from \$288,410,000 (1930).

Natural gas, for which figures covering 1931 were not at hand, increased to a production of 517,880,000 M cubic feet for 1930, from 464,928,000 M for 1929; by value, to \$71,873,000 (1930), from \$67,474,000 (1929). Sulphur producers' shipments of this virtual monopoly of Texas fell to some 1,376,500 long tons (1931), from 1,989,917 (1930); in value, to some \$24,800,000 (1931), from \$35,800,000 (1930). The total value of the State's mineral product was \$450,373,151 for 1930; for 1929, \$495,815,500.

FINANCE. State expenditures for the fiscal year ended Aug. 31, 1931, totaled \$106,023,295. This included \$71,418,296 for the operation and maintenance of the State's general departments (including \$30,540,864 apportioned for education to minor civil divisions); \$35,181,662 representing outlays for permanent improvements; and \$23,337 interest on the State debt. Total revenue receipts were \$110,738,248, of which the sales tax on gasoline produced \$30,216,810. The net State indebtedness on Aug. 31, 1931 was \$4,440,745.

TRANSPORTATION. The total number of miles of railroad line under operation on Jan. 1, 1932, was 17,203.56. In the year previous, 172.69 miles of line had been put in operation; 37.89 miles abandoned.

EDUCATION. The State's apportionment for schools was maintained at \$17.50 per capita, and an increase was made in appropriation for State aid to rural schools. The future of State assistance, however, was unsettled by the adoption of an amendment to the State constitution doing away with the ad valorem tax on homesteads up to the value of \$3000, whereby it seemed likely that State revenue would be much impaired. Notwithstanding the financial difficulties of the year only a limited number of cases were reported in which local authorities reduced the teachers' salaries. For the academic year 1931-1932 the number of persons of school age in the State was reported as 1,567,704. There were enrolled in the public schools 1,309,746 pupils. Of these,

1,052,827 were in elementary grades; in high schools (grades eight to eleven, inclusive), 256,919. Salaries of teachers, by the year, averaged \$1025 for all; for the white alone, \$1078; for the colored, \$629. For the year 1930-1931, the latest for which the figure was obtainable, the total of expenditures for public-school education was \$81,880,950.

LEGISLATION. A special session of the Legislature proposed, for determination by popular vote at the November election, an amendment to the State Constitution, whereby homes, up to the value of \$3000 in each case, should be exempted from payment of the State's ad-valorem tax. The estimated yearly tax receipts subject to the proposed exemption were reckoned at \$9,000,000.

Another special session was called after the Federal decision of October 24 (see *Political and Other Events*, below) invalidating the State's contested restriction on the production of petroleum. A new oil-conservation measure was enacted, specifically permitting the Texas Railroad Commission to make restrictions on the production of petroleum in order to provide that the market demand for the commodity be not exceeded.

An important enactment, made in September, provided that the State have exclusive control over construction and maintenance of all State highways; that counties and road districts cease to furnish money therefor, except for the purchase of rights of way; and that all debt incurred by counties and road districts for roads of the State highway system and due to mature after Jan. 1, 1933, be paid out of a fund of the State, to be realized from the allocation of 1 cent a gallon from the existing tax on gasoline.

POLITICAL AND OTHER EVENTS. A further ruling, adverse to the Democratic party's practice of excluding Negroes from the primary election, was rendered by the United States Supreme Court on May 2 (opinion by Justice Cardozo). This decision held unconstitutional the State law, passed subsequently to the Federal Supreme Court's decision of 1927, and giving the party the power to prescribe its own qualifications for membership. The same law had been affirmed a few weeks before, on another matter, by the Texas Supreme Court, which ruled that the Democratic party could exclude persons who would not take a pledge to support its candidates. There resulted a paradoxical situation, summed up in Texas opinion by the assertion that, as the court decisions stood, the party could exclude white men but could not exclude Negroes. The Federal decision came too late to allow Negroes to vote in the primary of 1932. The State law of 1931 to limit the planting of cotton was held void by a State District Court decision of February 1 and was not enforced. A special Federal Court of three judges rendered on October 24 a decision interpreted as invalidating the system of regulations of the State Railroad Commission prorating the production of petroleum among the producers. The court found that these regulations had not been limited to the prevention of physical waste of the product, but had unwarrantably been extended to the prevention of "economic waste." The result of this decision was to render insecure the administrative measures of control over the oil fields, particularly in east Texas, that had been put in effect the year before.

In the Democratic primary on July 25 ex-Gov. Miriam A. ("Ma") Ferguson outran Governor Sterling for the nomination for Governor. The popular vote favored by about 2½ to 1 a proposal to reconsider the State prohibition laws.

**ELECTIONS.** The popular vote of November 8 was cast for the Democratic National ticket by nearly 8 to 1. For President, the officially reported totals were: Roosevelt (Dem.), 753,304; Hoover (Rep.), 96,682. Democrats were elected to all the State's 21 seats in the House of Representatives for the Seventy-third Congress, 3 being elected at large and 18 by districts. All those elected, save the 3 Representatives-at-Large and 1 other, were the actual incumbents. Mrs. Miriam A. Ferguson, former Governor, was elected Governor on the Democratic ticket, defeating Orville Bullington (Rep.), despite some support accorded him by Democrats opposed to the Ferguson faction. The Democratic State ticket and Legislative majority were, as usual, elected.

Nine amendments to the State Constitution were adopted by popular vote; seven of them related to taxation or to the voting or issuing of bonds. Their chief provisions were: that property might be sold for tax delinquency without court suit, but could be redeemed within a year after sale by a payment 25 per cent above the price paid at such sale; that the State must collect delinquent taxes within 10 years; that only holders of taxable property might vote at bond elections; that the offices of tax collector and tax assessor (and of sheriff in counties of less than 10,000 inhabitants) be consolidated; that homesteads up to the value of \$3000 be exempted from ad-valorem State tax.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, Ross S. Sterling; Lieutenant-Governor, Edgar E. Witt; Secretary of State, Jane Y. McCallum; Treasurer, Charley Lockhart; Comptroller, George H. Sheppard; Attorney-General, James V. Allred.

**Supreme Court:** Chief Justice, C. M. Cureton; Associate Justices, T. B. Greenwood, William Pierson.

**TEXAS, UNIVERSITY OF.** A State institution of higher education in Austin, with a medical

1932 summer session had an enrollment at the main university of 4198, of whom 2008 were men and 2190 women. There were 357 members on the faculty. The income from legislative appropriation, fees, and income from trust and special funds amounted to \$34,870,382. The libraries contained 493,155 volumes. The building programme, inaugurated in 1930, was advanced still further through the construction of the following buildings: Engineering (costing \$387,944); library (\$916,603); home economics (\$311,419); architecture (\$273,329); geology (\$297,809); physics (\$478,276); men's dormitory (\$167,524); union (\$369,622); and auditorium (\$189,959). President, Harry Yandell Benedict, Ph.D., LL.D.

**TEXAS TECHNOLOGICAL COLLEGE.** A State coeducational institution in Lubbock, Tex., opened in 1925. The enrollment for the long session 1931-32 was 2155. Enrollment for the fall term 1932-33 was 1951 (school of agriculture, 169; school of engineering, 333; school of home economics, 176; school of liberal arts, 1273). Of this number 1175 were men and 776 were women. The faculty for 1932-33 numbered 125 members. The State appropriations for the year amounted to \$428,300 and the income from students fees amounted to approximately \$52,000. There were approximately 54,000 volumes and pamphlets in the library. President, Bradford Knapp, D.Agr.

**TEXTILE INDUSTRY.** The textile industry in the United States during 1932 suffered further decline with a total rate of operation 10 per cent lower than in 1931, according to the annual review number of *Textile World* (New York), on which the accompanying information is largely based. After a slight increase in operation following the beginning of the year, the spring months witnessed a sudden and sharp decline in the consumption of all fibres, until July consumption was about one-third less than March. This was followed by an even sharper increase in consumption, with October at the peak of the year's consumption. Prices in all lines dropped incredibly, and resulted in "cut-throat" selling methods that extended its evil effects down through the wholesaler, retailer, and to the consumer who saw no reason why he should buy today when to-morrow's price would be lower.

UNITED STATES FOREIGN TRADE IN TEXTILES AND TEXTILE FIBRES  
[From U. S. Department of Commerce]

	Exports		Imports	
	1931	1932	1931	1932
Cotton, unmanufactured . . . . .	\$325,592,719	\$345,164,534	\$ 6,070,265	\$ 6,690,247
Cotton, semi-manufactures . . . . .	9,818,248	9,276,255	1,787,494	
Cotton, manufactures . . . . .	50,256,204	36,248,341	38,864,549	26,969,488
Jute and manufactures . . . . .	3,194,822	1,388,805	37,658,456	22,468,685
Flax, hemp and ramie, and manufactures . . . . .	262,461	101,549	29,797,735	20,430,366
Other vegetable fibre and manufactures . . . . .	4,323,980	1,013,995	17,161,406	14,836,011
Wool and mohair, unmanufactured . . . . .	69,667	31,651	22,872,115	6,028,804
Wool, semi-manufactures . . . . .	513,172	393,113	2,104,648	1,156,867
Wool manufactures . . . . .	2,483,973	832,628	20,799,958	2,746,482
Hair and manufactures . . . . .	1,251,996	903,325	2,783,429	1,363,758
Silk, unmanufactured . . . . .			192,287,543	114,325,809
Silk manufactures . . . . .	9,562,598	4,543,828	15,631,149	5,915,126
Rayon or other synthetic textiles . . . . .	3,848,763	2,492,177	4,743,093	2,620,578
Miscellaneous textile products . . . . .	12,447,947	6,411,215	19,297,027	8,441,840
Total . . . . .	\$423,626,550	\$408,801,741	\$411,735,937	\$244,035,905

branch in Galveston; the main university was opened in 1883. For the autumn term of 1932 the enrollment at the main university totaled 6132, of whom 4093 were men and 2039 women; the enrollment in the medical branch was 478. The

The consumption of wool (q.v.) for the year 1932 was 385,521,940 lbs., or a drop of almost 25 per cent from 513,743,129 lbs. in 1931.

The output and consumption of rayon for 1932 as estimated by *Textile World* follows on page 786,

	Production	Consumption
Belgium .....	9,545,000	5,980,000
Britain .....	72,530,000	68,400,000
Canada .....	7,145,000	8,350,000
France .....	39,670,000	22,500,000
Germany .....	54,640,000	67,000,000
Holland .....	16,545,000	3,000,000
Italy .....	71,875,000	25,700,000
Japan .....	66,320,000	56,600,000
Switzerland .....	11,650,000	5,750,000
United States .....	181,000,000	149,500,000
Others .....	17,450,000	95,000,000
Total .....	498,870,000	502,730,000

As compared with 1931 production was increased by about 4 per cent.

The consumption of cotton during the year aggregated but 8 per cent lower than in 1931, and the spread between spot cotton and print cloth closed the year at 10.9 cents, the same as in January. The control maintained over mill production resulted in a total sale of cotton goods at 4.8 per cent over production; consequently, stocks declined 26.1 per cent during the year to the lowest supply as of December 31, on record. The production of cotton textiles dropped to 6,445,342,000 sq. yds., according to a survey of the Association of Cotton Textile Merchants of New York. This was the lowest for any year in the past 10 years and was 9.5 per cent below 1931, though only slightly lower than in 1930. See COTTON.

New textiles developed during the year include the use of latex compounds, especially a yarn-covered latex-core thread, called "lastex," which is woven into elastic fabrics for many purposes—hosiery, garments, bathing suits, etc. The material is said to be far more durable than articles previously woven of rubber.

**THAYER, WILLIAM SYDNEY.** An American physician, died in Washington, D. C., Dec. 10, 1932. He was born in Milton, Mass., June 23, 1864, and was graduated from Harvard University with the A.B. degree in 1885 and with the M.D. degree in 1889. After serving some years at the Johns Hopkins hospital as resident physician he was appointed in 1896 associate professor of medicine at the Johns Hopkins medical school under Sir William Osler, then professor of the principles and practice of medicine. He became attending physician and head of the dispensary department at the hospital in 1898 and assistant physician in 1906. From 1900 to 1918 he was professor of clinical medicine, making important investigations in malarial fevers, typhoid fever, and bacterial endocarditis and being the first to report clinically the third sound of the heart. During the World War he was chief medical consultant to the American Expeditionary Forces in France, attaining the rank of brigadier general in the Medical Corps and receiving the Distinguished Service Medal. On his return to the Johns Hopkins medical school he was made professor of medicine, which chair he held until his retirement as professor emeritus in 1921.

**THEATRE.** During 1932, as was natural, the conditions prevailing throughout the commercial world continued to exert a comparably depressing effect upon the theatre as a business institution and, resultantly, to afflict the drama, as a creative art, with something akin to paralysis. Playwrights, with extraordinarily few exceptions, appeared to be reserving their best efforts for a more favorable day. New productions were less numerous than in normal years and averaged

lower in quality. Relatively short runs were the order of the times, even for many of the more deserving offerings, and quick, decisive failures were distressingly frequent though usually merited.

In New York, after a winter and spring through which the mediocrity of the dramatic offerings in general caused a comparatively small number of items of higher grade to loom perhaps more important by contrast than they might normally have done, the summer respite arrived early, was unprecedentedly thorough, and took weeks longer than usual to subside. Even then the new fall season opened lamely, and not until well after an upturn in business conditions as a whole had been detected and proclaimed, in October, did the quality of the new plays commence to disclose marked improvement.

The very first production of the new year, Benn W. Levy's *The Devil Passes*, chanced to be not only one of the few high spots but also one of the best acted presentations of the season. Partly whimsical, partly mystical in character and pleasantly optimistic in tone, it belonged in about the same category as *The Passing of the Third Floor Back* and *The Servant in the House* of an earlier day. Its cast was easily one of the outstanding aggregations of the year and included Arthur Byron, Robert Loraine, Cecilia Loftus, Basil Rathbone, Mary Nash, and a charming young English actress, Diana Wynyard, who had played her same rôle in a recent London staging of the piece. This was closely followed by a very serious and tragic but significant drama by T. C. Upham entitled *Lost Boy*, depicting the plight of a child who, though innocent, becomes embroiled with the law and suffers the consequences of confinement in a correctional institution where little attention is given to its inmates as individuals despite the dangers of such a system for youths of a character-forming age. In the title rôle young Elisha Cook, Jr., gave a strikingly realistic portrayal of the effect of environment upon the unfortunate juvenile hero, a performance which was followed within the year by two others of similar nature.

Virtually the sole recognition accorded to the classic drama, other than Shakespeare, during the year in New York was a short series of matinees of Sophocles' *Electra* with Blanche Yurka in the name part and Mrs. Patrick Campbell as Clytemnestra, presumably suggested by the interest then attaching to Eugene O'Neill's modern trilogy on the same theme.

Moderate success attended a mystery melodrama, *The Black Tower*, by Ralph Murphy and Lora Baxter, and then came Philip Barry's new comedy, *The Animal Kingdom*, which, with Leslie Howard in its leading rôle, promptly established itself as one of the year's few genuine hits. Written in the author's cultured and sophisticated style, the play visualized an interesting contrast between marriage of the flesh and of the spirit. *Jewel Robbery*, the third piece by the Hungarian Lazo Fodor to be presented in English within a few months, subsisted but six weeks despite its amusing continental flavor and engaging performances by Mary Ellis, Basil Sydney, and Eugene Powers.

A drama by Dan Totheroh called *Distant Drums*, his first since *Wild Birds* of seven years earlier, failed, not so much in the recognition as in the success it deserved. It contained an im-

agitative, atmospheric picture of the hardships encountered by the sturdy pioneers who undertook the long and difficult Western journey by ox train over the Oregon trail in 1848, underlaid with a peculiar and indescribable suggestion of mysticism and foreboding that gave the piece something of the quality of epic poetry. It received an admirable production at the hands of Guthrie McClintic and had the great advantage of a sensitive and glowing portrayal by Pauline Lord and other excellent performances by Edward Ellis, Arthur Hohl, Edward Pawley, Beulah Bondi, and Eda Heinemann, yet was unable to linger beyond five weeks. On the other hand *Whistling in the Dark*, a mystery melodrama with a highly farcical slant by Laurence E. Gross and Edward Childs Carpenter, achieved a run of between four and five months by virtue, in large measure, of the engagingly comic acting of Ernest Truex.

In mid-February the American stage suffered a severe and irreparable loss in the death of Mrs. Minnie Maddern Fiske, whose long and brilliant career in the theatre, dating from her childhood, had contributed so much not merely to the enjoyment of discriminating playgoers, but to the cause of better drama and to an appreciation of the dignity of the art of acting.

In February, also, Arthur Goodman's speculative drama, *If Booth Had Missed*, prize winner of the preceding year in the annual Long Play Tournament of the Little Theatre organizations as presented by Columbia University amateurs, quite failed to measure up to the requirements of a professional production, notwithstanding the interesting feature provided by an exceedingly creditable impersonation of Abraham Lincoln by Daniel Poole, an actor reported never before to have appeared on any stage.

Then followed one of the daintiest and most charming light comedies of the year in John Van Druten's *There's Always Juliet*, exquisitely played by Herbert Marshall and Edna Best, which deservedly caught the public fancy, continuing throughout the spring. All this time and, in fact, ever since its première on the night after Christmas, 1931, the hilarious and broadly satirical musical comedy, *Of Thee I Sing*, had been without a rival in its field. In mid-February, however, a competitor made its appearance in *Face the Music*, a lively concoction with book by Moss Hart and music by Irving Berlin, both executed in much the same absurdly topical and satirical spirit as the earlier piece. With Mary Boland, hitherto of the purely dramatic stage, J. Harold Murray and Hugh O'Connell, among others, to give added zest to the proceedings it scored a very substantial run but succumbed early in the summer to the general desuetude, while *Of Thee I Sing* proved sturdy enough to flourish continuously and was still going strong as the year closed. Incidentally, the committee responsible for the annual award of the Pulitzer Prize for the original American play best representing the "educational value and power of the stage" once more courted criticism by voting it for the first time to a musical production, none other than *Of Thee I Sing*.

For its first new production of 1932 the Theatre Guild selected an Irish play, Denis Johnston's *The Moon in the Yellow River*, first shown at the Abbey Theatre in Dublin the year before. The piece was a distinctive and searching, though discursive, dramatic essay on Irish politics, and

was retained in the bill only long enough to cover the Guild's subscription requirements. *Child of Manhattan*, by Preston Sturges, proved a rather cheap and tawdry comedy yet met with moderate success. With this offering an ex-chorus girl, Peggy Fears (Mrs. A. C. Blumenthal), entered the ranks of the independent producers. Early in March, Laurette Taylor returned to the New York stage after a long absence, appearing in a programme consisting of revivals of two Barrie plays, *Alice-Sit-by-the-Fire*, in which she gave a charming performance of the rôle previously enacted by Ellen Terry and Ethel Barrymore, and the exquisite one-act comedy, *The Old Lady Shows Her Medals*, wherein she fell far short of the original portrayal by Beryl Mercer.

A Ziegfeld extravaganza, *Hot-Cha!* came next, exploiting chiefly the antics of Bert Lahr in a Mexican setting, with airs by Lew Brown and Ray Henderson. This achieved the not very startling total, for its producer, of 119 performances. *Night over Taos*, a play by Maxwell Anderson dealing with the Spanish dominion over New Mexico, was briefly tried out by the serious and ambitious Group Theatre. Then came a lively spring diversion, *The Warrior's Husband*, by Julian Thompson, a piece possibly inspired by the recent resuscitation of Aristophanes' *Lysistrata* but in any event attaining an abundance of comic effect by reversing the familiar order of masculine and feminine prerogatives and by modernizing the ancient Greek legendary style to a degree just short of burlesque. Previously intended as a starring vehicle for Hope Williams, it was finally done with a cast of which Romney Brent, Katharine Hepburn, Irby Marshall, and Colin Keith-Johnston were the principal members. A piece entitled *Intimate Relations* gave scope to Blanche Ring's talents in broad comedy for the duration of one month, and a run of about the same length was the lot of an exceptionally intense drama by Frederick Schlick, *Bloodstream*, depicting the terrors of Southern convict labor in the coal mines. Its all-male cast consisted of both white and Negro players.

An event of the year, even if not a tremendously important one, was the production by the Theatre Guild of Bernard Shaw's latest output, *Too True to Be Good*, which had its world première in Boston on March 1, and arrived in New York a month later. The work was highly undramatic in form, consisting primarily of a collection of dialogues, ending with a particularly striking monologue, embodying the author's characteristic opinions on a varied assortment of topics. It did, however, provide a capital medium for several effective bits of acting by a company recruited especially for the occasion, of which outstanding members were Beatrice Lillie, Hope Williams, Hugh Sinclair, Ernest Cossart, and Claude Rains. The play was not a popular success, its run scarcely exceeding the minimum required for the Guild's subscription. A notably interesting revival in April was A. A. Milne's *The Truth about Blaysds*, first presented by Winthrop Ames some ten years earlier. Guthrie McClintic, formerly associated with Mr. Ames and now a producer on his own account in conjunction with his wife, Katharine Cornell, was responsible for the disinterment of the piece, which had the enormous advantage of the reappearance of O. P. Heggie in his original rôle of the pseudo-poet, and Pauline Lord, Effie

Shannon, Ernest Lawford, and Frederic Worlock for the other principal characters.

A vivid, sensational, and disquieting melodrama, *Merry-Go-Round*, written by two young college men, Albert Maltz and George Sklar, both graduates of Professor Baker's Yale Workshop course, was so obviously designed to exploit the iniquities of municipal politics in New York along the lines of recent disclosures that it ran afoul of the city authorities, who were said to have interposed all possible obstacles to its public representation. Though provocative of much discussion, and made especially interesting through the performance of young Elisha Cook, Jr., as an innocent victim of political expediency, the play was far too harrowing to endure for long. But at about the same time another first offering from a new playwright, *Another Language* by Rose Franken, made its appearance and met with such favor that it was able to continue not only throughout the summer but on into the new year. The piece was an uncommonly appealing character study in comparative perceptions as demonstrated through the various members of a single family and was most engagingly acted by Dorothy Stickney, John Beal, whose recent advent has already been noted above, Margaret Wycherly and, in a lesser degree, Glenn Anders.

The remainder of the spring producing season brought little of interest or importance. An unusually mild type of mystery thriller by Edgar Wallace, *The Man Who Changed His Name*, had a brief career with Frank Conroy, its sponsor, in the title rôle and Fay Bainter playing opposite. Even the popularity of Jane Cowl underwent a rather severe test with *A Thousand Summers*, by Merrill Rogers, the theme of which was the ardent attachment of a youth of 21 for a woman of 36. As the final presentation of a long and spectacular career in the amusement field Florenz Ziegfeld staged a revival of one of his most pronounced musical successes of recent seasons, *Show Boat*.

Summer in the New York theatre was uneventful to an extreme degree. By mid-July only six playhouses were open and of their occupants two were survivals from 1931 and two others were revivals. New offerings proved uniformly short-lived.

The drama of the early fall season most nearly approaching the qualities of a hit was *Clear All Wires!*, a swift-moving farce-comedy by Samuel and Bella Spewack, in which Thomas Mitchell had the hectic part of a resourceful Moscow correspondent of an American daily paper, forced by circumstances not only to manufacture his own sensational news story but to figure in it as hero besides. The middle of September brought also the first musical offering of the new season, a revue, *Flying Colors*, which, with Clifton Webb, Charles Butterworth, Tamara Geva, and Patsy Kelly as the principal entertainers, lasted out the year.

*Success Story*, by John Howard Lawson, the Group Theatre's first offering of the season, was a striking and unhackneyed rendering of the long-conceded postulate that worldly success is by no means a synonym for attainment of the heart's desire. The performances contributed by Luther and Stella Adler, members of a family well known on the Yiddish stage, were particularly interesting. Early in October the practiced hand of Rachel Crothers was again evident in

her *When Ladies Meet*, a skillfully constructed and cleverly written comedy. It proved one of the year's most substantial hits. Highly creditable portrayals by Frieda Inescort, Selena Royle, Spring Byington, and Walter Abel contributed their share to this happy result. The play dealt in novel fashion with the domestic triangle theme.

The Theatre Guild fared rather badly with its opening production, a dramatization by Owen and Donald Davis, father and son, of Mrs. Pearl S. Buck's Pulitzer Prize novel, *The Good Earth*, a work whose scope and style were such as to render it very poorly adapted for the stage. Even vivid portrayals by Nazimova, Claude Rains, and Henry Travers were of no avail to keep the piece running beyond the minimum demands of the subscription arrangement. The Abbey Theatre Company from Dublin, best known as the Irish Players, appeared in New York for a limited engagement with a repertoire about evenly divided between old favorites and new offerings and met with such favor that a return engagement was found necessary to supply the demand.

An interesting family party occurred when Grace George and her step-daughter, Alice Brady, co-starred in *Mademoiselle*, an adaptation by Miss George from a recent French play by Jacques Deval. This was the first time these two talented actresses had ever appeared in the same cast. The piece scored a considerable success. The most pronounced hit of a purely dramatic nature during the entire fall season was *Dinner at Eight*, by George S. Kaufman and Edna Ferber.

*Dangerous Corner*, an original play by the British novelist, J. B. Priestley, was one of the durable attractions of the year—a piece full of surprises and extremely well acted by Colin Keith-Johnston, Jean Dixon, Mary Servoss, Stanley Ridges, Cecil Holm, and others. *Carry Nation*, by Frank McGrath, was an interesting and rather striking dramatic biography of the famous and picturesque temperance crusader of a quarter century ago, of whom Esther Dale, previously known only as a singer, gave an extraordinarily truthful and sympathetic portrait. Eva LeGallienne signaled the reopening of her Civic Repertory Theatre, after a year's lapse, by reviving Molnar's *Liliom* with both Joseph Schildkraut and herself in the rôles they played in the original production by the Theatre Guild. There were subsequently added to the organization's roster a biographical drama by Eleanor Holmes Hinkley entitled *Dear Jane* and based upon the life of Jane Austen, and, to celebrate the Lewis Carroll centenary year, a remarkably skillful dramatization by Florida Friebus and Miss LeGallienne of *Alice in Wonderland* and *Through the Looking Glass* combined.

*The Late Christopher Bean*, a free adaptation by Sidney Howard of a recent Parisian comedy by René Fauchois proved eminently susceptible of Americanization, with Pauline Lord as star.

*Music in the Air*, by Jerome Kern and Oscar Hammerstein, 2d, proved a substantial hit with Natalie Hall, Reinald Werrenrath, Walter Slezak, Tullio Carminati, and Al Shean agreeably concerned in its unhackneyed operatic romance. Ruth Draper and Cornelia Otis Skinner both filled highly successful limited engagements in the metropolis. In November New York had its first opportunity of seeing the London hit, *Autumn Crocus*, by C. L. Anthony, as well as of making the acquaintance of the extraordinarily prepossessing young Czech actor, Francis Lederer, whom



it promptly took to its heart. The play itself had an uncommon degree of wholesome charm blended with gentle pathos and refined humor, and attracted gratifying patronage.

The outstanding hit in the musical field of the season as covered in this chronicle was *Take a Chance*, a Schwab and de Sylva production, presented with a cast of eminent entertainers. *Gay Divorce* achieved substantial popularity. The revue entitled *Walk a Little Faster*, braving the pre-holiday quietude, was sustained by the presence of Beatrice Lillie in something approaching her best form, aided by the always mirth-provoking team of Clark and McCullough.

By presenting S. N. Behrman's scintillating comedy, *Biography*, as its second offering of the season, the Theatre Guild did much to counteract the handicap of its ill-judged opening with *The Good Earth*. Ina Claire played the central rôle.

Katharine Cornell inaugurated her personal tenancy of the Belasco just before Christmas with a distinguished and wholly unconventional presentation of *Lucrece*, a less distinguished translation by Thornton Wilder of Andre Obey's *Le Viol de Lucrece*. Special incidental music composed for the occasion by Deems Taylor, a picturesque setting and costumes by Robert Edmond Jones, and acting of a very high order by Miss Cornell in the title part, Pedro de Cordoba as Collatine, and Brian Aherne as the Tarquin combined to mark an event of unusual significance.

The final week of the year brought an ironical comedy entitled *Honeymoon*, by Samuel Chotzinoff and George Backer; another revival by Walter Hampden of *Cyrano de Bergerac*; and *Girls in Uniform*, a translation by Barbara Burnham of that tragically pathetic German play of Christa Winsloe's that had already become known as the source of a notable talking picture, *Maedchen in Uniform*, for which, however, the ending had been modified. In the American stage version Florence Williams, an unknown actress, gave a particularly intelligent and moving performance in the all-important rôle of the girl, Manuela, with Rose Hobart and Roberta Beatty in the two essential contributory characters.

THE THEATRE IN EUROPE. Conditions among the theatres of Europe were not essentially different from those in America. In London G. K. Chesterton in *The Judgment of Dr. Johnson* presented that famous personality in a benign light and an imaginary setting with Boswell, Burke, and John Wilkes as other features of his drama. Sybil Thorndike figured in the title rôle of *The Dark Saint*, an adaptation of a 40-year-old work by François de Curel, a searching and emotional piece with a nun as its central character.

In February Oscar Asche tempted fate with an all-star production of Shakespeare's *Julius Caesar*. There was a notable tendency to resort to revivals of musical comedy successes of some decades back. Other features of the spring season in London were Maurice Browne's interesting presentation of John Hastings Turner's *Punchinello*; James Bridie's *Tobias and the Angel*, a humorous but somewhat uncertain retelling of the Biblical story; a drama by Clifford Bax called *Rose Without a Thorn* in which the chief figures were Henry VIII and his fifth queen, Catherine Howard; an interesting speculative work by Graham Rawson offering a seemingly logical solution of the mystery that precipitated the World War, *Rudolph of Austria*; *Dr. Pygmalion*, a smart comedy by Harrison Owen, with Gladys Cooper

and Ronald Squire; Ivor Novello's entertaining *I Lived with You*, in which the author also assumed the leading rôle; and an able dramatization of Mary Webb's novel, *Precious Bane*. In addition there appeared an English adaptation by John Drinkwater of the historical drama, *Napoleon: the Hundred Days*, of which one of the authors was Benito Mussolini.

*Wings Over Europe*, though of British authorship, finally reached a London production several years after its American presentation by the Theatre Guild. In May appeared J. B. Priestley's *Dangerous Corner*, already mentioned as a subsequent New York success. Toward summer Marie Tempest introduced an American importation in *The Vinegar Tree*. Then came *Even-song*, a dramatization by Edward Knoblock and Beverley Nichols of the latter's novel.

In September, Noel Coward's *Words and Music*, a satire in revue form, was hailed in some quarters as his best work of that type thus far. The same month brought a welcome revival of Shaw's *Cæsar and Cleopatra*, as well as the first British presentation of Chlumberg's *Miracle at Verdun*.

C. L. Anthony (Miss Dodie Smith) scored another hit with *Service*, a play depicting the effect of the depression on a department store and its staff. Cyril Maude emerged from his retirement to try to help save a slight comedy, *Once a Husband*, by Margot Neville and Brett Hay. Somerset Maugham's tragic and bitter indictment of postwar conditions, *For Services Rendered*, limped through the tag-end of the year despite its brilliant production. The final weeks, oddly enough, brought a surprising number of plays, including several of British authorship, that had first been seen in America.

THEATRE GUILD. See THEATRE.

THEOSOPIHICAL MOVEMENT, THE. The Theosophical Movement is limited to no formal organization. It is furthered by the various bodies calling themselves Theosophical to the extent that they are faithful to its aim of promoting the universal brotherhood of humanity by spreading the high ethics and the consistent and inspiring philosophy which the race has inherited from the great spiritual teachers of the past.

During 1932 several important articles long out of print were made available in pamphlet form, including *Some Words on Daily Life* (written by a Master of Wisdom); Madame H. P. Blavatsky's *Hypnotism: Black Magic in Science, Kosmic Mind, What Are the Theosophists?* and two articles on Christmas; and *Environment and Aphorisms on Karma* by William Q. Judge. Mr. Judge's *Epitome of Theosophy* was translated into Dutch and published during the year. The stand of Theosophy on the dangers of "mental" or "spiritual" healing is set forth in a brochure published in 1932, entitled, *The Laws of Healing—Physical and Metaphysical*.

THEOSOPIHICAL SOCIETY, AMERICAN. The American section of the Theosophical Society, a world-wide organization founded in 1875 by Mme. Helena P. Blavatsky and Col. Henry S. Olcott. World Headquarters were later established at Adyar, India, near Madras. In 1932 branches existed in 48 nations, on six continents. The American Theosophical Society had, in 1932, 182 local lodges. The president of the society was Sidney A. Cook. Headquarters are in Wheaton, Ill.

THESSALY. See GREECE.

**THIRD INTERNATIONAL.** See COMMUNISM.

**THOMAS, ALBERT.** A French statesman, died in Paris, May 8, 1932. He was born in Champigny-sur-Marne, June 16, 1878, and attended the École Normale Supérieure in Paris. With the publication of *Le Syndicalisme Allemand* in 1903 his ability was recognized by Socialist leaders, and the following year he was made assistant editor of *L'Humanité* by Jaures, the founder. He became one of the leaders of the reformistic section of the Socialist party, opposing the more revolutionary doctrines that then tended to dominate the French trade unions. Elected in 1910 to the Chamber of Deputies, his political genius was recognized by his successful intervention in the French railroad strike of that year. On the outbreak of the World War he joined his regiment, but after a few weeks of service at the front he was recalled by the government to organize on an efficient basis the production of munitions. In May, 1915, he became under-secretary of State for munitions and a year later took over the newly constituted portfolio of National Industry, including munitions and transportation, which he held in both the Briand and Ribot ministries. On the outbreak of the Russian Revolution he was sent as a special Socialist envoy to Petrograd, where he was successful in persuading Alexander Kerensky, premier of the Russian Provisional Government, to undertake the great offensive of the spring of 1917. At the International Labor Convention held in Washington in November, 1919, he was appointed director of the International Labor Office, which was established under the auspices of the League of Nations in Geneva.

**THOMAS, NORMAN.** See SOCIALISM.

**THOMPSON TROPHY RACE.** See AERONAUTICS.

**THRACE, WESTERN.** See GREECE.

**THURINGIA.** See GERMANY.

**TIBET,** ti-bët' or tib'et. A central Asian territory extending eastward from the Pamirs to the border of China; nominally under the suzerainty of China. Area, estimated at 463,200 square miles; population, approximately 2,000,000. Capital, Lhasa, with a population of 15,000 to 20,000. The temporal ruler of the country is the Dalai Lama, or Living Buddha. During 1932 war was in progress on the Tibet-Szechuan border. See CHINA and MONGOLIA under *History*.

**TICK FEVER.** See VETERINARY MEDICINE.

**TIDES.** See METEOROLOGY.

**TIMBER CONSERVATION BOARD.** See FORESTRY.

**TIMOR ARCHIPELAGO.** See NETHERLAND INDIA.

**TIN.** The latest returns on the output of tin from the countries that officially reported showed a total of about 145,000 tons. By countries the returns were: Malaya, 51,000 tons; Bolivia, 30,800 tons; Netherland India, 30,000 tons; Siam, 12,000 tons; Nigeria, 7300 tons; United Kingdom, 598 tons. Because of a greatly decreased consumption, a quota system was effective in 1932, under which the Federated Malay States were limited to 38,904 tons. Imports of tin ore into the United States in 1932 amounted to 17 tons, valued at \$4364, and of tin bars, blocks, pigs, etc., to 39,998 tons valued at \$16,473,998.

**TIBOL, tè-röl'.** A former crownland of Austria-Hungary, divided between Italy and the Republic of Austria by the Treaty of St. Germain.

**TOBACCO.** Tobacco production in the United States in 1932 was estimated at 1,033,330,000 pounds, or less than two-thirds as much as in 1931. The harvested acreage totaled 1,432,700 acres, compared with 2,015,500 in 1931, while the 1932 average acre yield was 721 pounds, 75 less than in 1931.

In other important producing countries the estimated 1932 crops of tobacco, as reported by different official agencies were, for Japan, 138,230,000 pounds; Italy, 88,382,000; Hungary, 84,877,000; France, 70,100,000; Greece, 59,981,000; Germany, 51,257,000; Turkey, 50,706,000; Algeria, 39,683,000; Bulgaria, 31,306,000; Czechoslovakia, 33,069,000; Belgium, 13,518,000; and Spain, 13,228,000 pounds. The Canadian crop comprised about 49,000,000 pounds, and the crop in Cuba in 1932 was estimated at 34,692,600 pounds versus 80,670,040 in 1931.

The Commissioner of Internal Revenue reported that collections from internal revenue taxes on tobacco in the United States for the fiscal year 1932 amounted to \$398,578,618.56, a decrease of \$45,697,884.06, or 10.29 per cent compared with the previous year, the second and largest decrease since 1921, for which economic conditions appeared responsible. The receipts from taxes on small cigarettes amounted to \$317,533,080.02 which was 79.66 per cent of the total taxes collected on tobacco, and \$41,382,107.82 under 1931. The taxes collected on smoking and chewing tobacco declined to \$58,030,155.75 in 1932 from \$58,376,942.03 in 1931; on large cigars to \$14,207,697.50 a decrease of \$3,817,787.84; and on snuff to \$6,846,301.69, a decrease of \$344,164.47 compared with 1931. Approximately 90 per cent of the total tobacco receipts were collected in North Carolina, Virginia, Kentucky, New Jersey, California, and Ohio in the order named. The Commissioner of Internal Revenue reported that in the calendar year 1931 there were manufactured 117,064,214,454 cigarettes weighing less than 3 pounds per 1000, nearly 6,737,972,000 less than in 1930. A considerable setback in consumption, especially of high-priced tobacco products, was indicated in 1932. Exports of leaf tobacco declined from 524,498,000 pounds in 1931 to 411,159,500 pounds in 1932.

**TOBAGO.** See TRINIDAD.

**TOGOLAND,** or Togo, tō'gō. A former German protectorate in West Africa; divided between Great Britain and France Sept. 30, 1920, as mandated territory of the League of Nations.

**TOLEDO, UNIVERSITY OF THE CITY OF.** A municipal, coeducational institution of higher learning in Toledo, O., founded in 1872. The enrollment for the autumn of 1932 totaled 2187. The faculty had 70 full-time members. The income for the year amounted to approximately \$577,900. President, Henry John Doermann, Ed.D.

**TONGA or FRIENDLY ISLANDS.** A British protectorate consisting of three groups of islands in the Pacific. Area, about 385 square miles; population (1930), 29,611 including 480 Europeans. Capital, Nukalofa. Queen in 1932, Salote. High Commissioner, Sir A. G. M. Fletcher.

**TONGKING (TONKIN).** See FRENCH INDOSCHINA.

**TORONTO, UNIVERSITY OF.** An institution of higher education in Toronto, Ont., Canada, founded in 1827 and supported by the provincial government. The 1932 autumn enrollment was 7527. The faculty numbered 902 members. The total expenditure for the year 1931-32 for sal-

aries and maintenance was \$2,867,947. President, Henry John Cody, M.A., D.D., LL.D.

**TOSCANINI, ARTURO.** See MUSIC.

**TOUMAY, JAMES WILLIAM.** An American forester, died in New Haven, Conn., May 6, 1932. He was born in Lawrence, Mich., Apr. 17, 1865, and was graduated from the Michigan Agricultural College in 1889, later studying at Harvard. He served as professor of biology at the University of Arizona during 1891-98 and as acting director of the Arizona Agricultural Experiment Station during 1897-98. For two years he was superintendent of tree-planting in the division of forestry of the U. S. Department of Agriculture, and was then called to Yale on the establishment of the school of forestry there. He was successively assistant professor of forestry (1900-03), professor of forestry (1903-09), and professor of silviculture (1909-10). In 1910 he became dean of the school, distinguishing himself as an administrator in making the institution a force in the development of forestry in the United States. In 1922 he resumed the chair of silviculture.

**TOWN PLANNING.** See CITY AND REGIONAL PLANNING.

**TOYNBEE, PAGET.** A British scholar, especially known for his studies in Dante, died at Burnham, Buckinghamshire, May 13, 1932. He was born at Wimbledon, near London, Jan. 20, 1855, attended Haileybury College, Hertfordshire, and Balliol College, Oxford, and was a private tutor during 1878-92. With the publication in 1894 of *Index of Proper Names in the Works of Dante* he embarked on a career that enhanced the prestige of English Dante scholarship.

**TRADE UNIONS.** **TRADE UNION LABELS.** On Feb. 18, 1932, President Hoover signed a bill authorizing trade union members in the District of Columbia to adopt a significant emblem for the products of the labor of their members and to punish illegal use or imitation of these. This passage of a "union label law" for the District of Columbia makes the total jurisdictions in the United States authorizing the use of such devices and giving trade unions recourse against imitations, forty-five.

**CANADA.** For the first time since 1924 trade union membership declined in Canada in the year 1931. Out of a total of 310,554 trade unionists reported for the year, there was a decrease in membership of 11,905. The distribution by membership of the leading organizations was as follows: the international craft unions had a membership of 188,219; the "One Big Union" had a membership of 24,260; the Industrial Workers of the World had a membership of 3466; the Canadian Central Labor organizations had a membership of 48,509; directly chartered local unions had a membership of 8840; independent units had a membership of 12,099; the National Catholic Unions had a membership of 25,151. The accompanying table indicates the distribution of members of Canadian labor organizations by trades or crafts.

**GERMANY.** Despite the severity of the depression in Germany, German trade unions have shown a remarkable ability to weather the storm, losses in membership being comparatively slight. The 31 unions which form the German Federation of Labor (*Allgemeiner Deutscher Gewerkschaftsbund*) had a membership of 4,948,209 at the end of 1929, and by the end of 1930 had

Trade group	Number of members	Per cent
Railroad employment .....	90,356	29 10
Building trades .....	56,744	11 83
Public employment personal service and amusement trades .....	33,530	10 80
Mining and quarrying .....	23,111	7 44
Other transportation and navigation .....	22,873	7 37
Metal trades .....	17,802	5 78
Clothing, boot and shoe trades .....	15,680	5 05
Printing and paper-making trades ..	14,965	4 82
All other trades and general labor ..	55,483	17 87
Total .....	310,544	100 00

shown a decrease of but 230,640, or 4.7 per cent. The loss was chiefly due to separations by recent members who, because of this, were entitled either to no benefit or to only limited benefit. See UNEMPLOYMENT.

**TRANSCAUCASIAN SOCIALIST FEDERATED SOVIET REPUBLIC.** One of the seven constituent republics of the Soviet Union, occupying the region between the Caspian and Black seas south of the Caucasian Mountains and north of Persia and Turkey. It is divided into the three republics of Armenia, Azerbaijan (Azerbaidzhan), and Georgia. Azerbaijan includes the autonomous area of Nagorny Karabakh; Armenia, the autonomous republic of Nakhichevan; and Georgia, the Abkhaz and Adjara autonomous republics, and the autonomous area of South Ossetia. See ARMENIA, AZERBAIJAN, GEORGIA, and UNION OF SOVIET SOCIALIST REPUBLICS.

**TRANSFORMERS.** See ELECTRICAL TRANSMISSION AND DISTRIBUTION.

**TRANS-JORDAN.** An Arab territory in Asia Minor, under British protection as a part of the Palestine Mandate, although governed by a local Arab administration under Amir Abdullah Ibn Hussein, elder brother of King Feisal of Iraq. It is bounded on the north by Syria, west by Palestine, south by Arabia, and east by Iraq and Arabia. The area is uncertain; the partly nomadic population is estimated at 260,000, of whom 220,000 are Arab Moslems, 30,000 Arab Christians, and 10,000 Caucasian elements. Arabic is the official language. Capital, Amman, with 12,000 inhabitants. British Resident in 1932, Lt.-Col. C. H. F. Cox.

**TRANSVAAL.** See SOUTH AFRICA, UNION OF.

**TRAPSHOOTING.** See SHOOTING.

**TRAVEL BOOKS.** See LITERATURE, ENGLISH AND AMERICAN.

**TREATIES.** See UNION OF SOVIET SOCIALIST REPUBLICS, AUSTRALIA, CANADA, ITALY, FRANCE, AND HUNGARY under *History*; ARBITRATION, INTERNATIONAL; and LEAGUE OF NATIONS.

**TREES.** See FORESTRY.

**TRENGGANU.** See UNFEDERATED MALAY STATES.

**TRIBAL STUDIES.** See ANTHROPOLOGY.

**TRINIDAD.** A West Indian island, north of the mouth of the Orinoco River, which with Tobago, constitutes a British colony. Area of Trinidad, 1862 square miles; of Tobago, 114; total population, according to the census of 1921, 365,913; estimated, Jan. 1, 1931, at 413,119, largely natives of African descent or East Indians. The white population consists of English, French, Spanish, and Portuguese. Capital, Port of Spain, with 69,534 inhabitants. See BRITISH WEST INDIES.

**TRINITY COLLEGE.** An institution for the higher education of men in Hartford, Conn. For the autumn term of 1932 the enrollment was

438. There were 45 members on the faculty. The endowment fund of the college was \$3,328,256, and the income totaled \$324,456. During 1931-32 a new chapel, dormitory, and dining hall were completed. President, Remsen B. Ogilby, Litt.D., LL.D.

**TRIPOLITANIA**, trĕp'ô-lĕ-tā'nyā. The western district of the Italian colony of Libia on the north African coast. Area, estimated at about 342,000 square miles; population (1931 census), 540,580 including 30,866 white. Capital, Tripoli, with about 70,000 inhabitants. See CYRENAICA.

**TROLLEY CARS**. See ELECTRIC TRANSPORTATION.

**TROTting**. See HORSE RACING.

**TROY**, ANCIENT. See ARCHÆOLOGY.

**TRUCK CROPS**. See HORTICULTURE.

**TRUCKS**, MOTOR. See AUTOMOBILES.

**TRUST COMPANIES**. See BANKS AND BANKING.

**TUAMOTU ISLANDS**. See OCEANIA, FRENCH ESTABLISHMENTS IN.

**TUBERCULOSIS**. See MEDICINE AND SURGERY; VETERINARY MEDICINE.

**TUCKER, HENRY ST. GEORGE**. An American lawyer and Congressman, died in Lexington, Va., July 23, 1932. He was born in Winchester, Va., Apr. 5, 1853, and was educated at Washington and Lee University, from which he received the A.M. degree in 1875 and the B.L. degree in 1876. After admission to the Virginia bar he practiced in Staunton. In 1888 he was elected to the House of Representatives and served until 1897. He then succeeded his father, John Randolph Tucker, as professor of constitutional and international law and equity at Washington and Lee University, being also dean of the law school from 1899 to 1902. From 1903 to 1905 he was dean of the schools of jurisprudence and law, and politics and diplomacy at Columbian (now George Washington) University. He was elected to Congress in 1922 and was reelected to the succeeding 68th to 72d Congresses.

**TUFTS COLLEGE**. A nonsectarian institution for the higher education of men and women in Medford, Mass., founded in 1852. The registration for the autumn term of 1932 was 1982. There were 473 faculty members. The productive funds of the college amounted to \$7,964,876, and the income for the year was \$917,800. President, John Albert Cousens, LL.D.

**TULANE UNIVERSITY OF LOUISIANA**. An institution of higher education in New Orleans, founded in 1834. Although the professional schools are coeducational, there is a separate undergraduate department for women. Enrollment for the autumn of 1932 was 2998. The productive funds for the fiscal year ending Aug. 31, 1932 amounted to \$10,073,052; the income for the year to \$1,245,655; and gifts and bequests to \$128,737. The library contained 161,029 volumes. President, Albert Bledsoe Dinwiddie, Ph.D., LL.D.

**TUNGSTEN**. See PHYSICS.

**TUNIS (TUNISIA)**. A French protectorate in North Africa, situated on the Mediterranean coast east of Algeria, west of Tripolitania, and north of the Sahara and Libyan deserts. Area 48,332 square miles; total population (Mar. 22, 1931 census) 2,410,692 including 195,293 Europeans and 2,159,151 Arabs and Bedouins. Tunis, the capital, had 202,405 inhabitants in 1931.

Imports in 1930 were valued at 2,107,455,000 francs and exports at 1,127,233,000 francs (franc equals \$0.0392 at par). French Resident-General,

Minister of Foreign Affairs, and President of the Council of Ministers in 1932, M. Manceron.

**TUNNELS**. In the past tunnel operations have, in the majority of cases, been connected with railroad projects. During the last year or two, years of great interest to the tunnel expert, while there have been a large number of major tunnel projects under way, almost all of them have been for other than railroad purposes. In land tunneling the greatest tunneling operations the world has ever known have been undertaken in connection with great hydraulic works. The task of boring four huge by-pass tunnels, 56 ft. in diameter, for the Hoover Dam, has been noted under DAMS. The Hetch-Hetchy water supply for San Francisco involves 28.6 miles of tunnels through the Coast range. In general, these long lines are not attacked from the portals alone, a feature which makes the famous Simplon still a record undertaking, but from several intermediate shafts or audits as well.

The Hetch-Hetchy project has been in part completed by force account, that is day labor, under the supervision of the city engineers. Bids, however, have been called for for its completion by contract.

The Los Angeles-Colorado River aqueduct is another great water supply project involving some 85 miles of tunnel construction. See AQUE-DUCTS.

In New York City the new deep distributing tunnel for water supply, described in previous YEAR BOOKS, has been practically completed. This Tunnel No. 2 involved excavation equal in difficulty to Tunnel No. 1, which was incidental to the Catskill Water Supply construction of some 20 years ago. While the earlier work, however, was considered a very ambitious and novel undertaking, Tunnel No. 2 has been practically completed within four years and almost without notice. Under the East River section of this work a zone of faulted rock was encountered which gave considerable trouble. Six months work was required to put the 21 ft. tube through this 50 ft. of water bearing, disintegrated rock. We have noted in previous YEAR BOOKS the great difficulties encountered in soft, water bearing rock in some Italian, Japanese, and American works. This 50 ft. seam, 500 ft. beneath the East River developed a hydrostatic head of 250 lbs. per sq. in., and was only conquered after horizontal steel sheet piling had been driven in shield form and thousands of bags of cement had been forced into the loose rock by gravity.

Another large size tunnel operation has been carried on in connection with the Swift River water supply for Boston, Mass. A 25 mile tunnel is to make the connection between the old Wachusett supply and the new Swift and Ware River supplies. The 14 mile section to the Ware is completed and the 11 mile extension to the Swift is under way. In addition, a large section (28 ft. high and 30 ft. wide) tunnel is being driven for diversion purposes, like the Hoover Tunnels, to permit the construction of the Swift River reservoir—an earthfill dam project. It is about 1000 ft. long and interesting drill carriages have been designed, similar to those used on the Hoover Dam tunnels, to expedite the work.

Among the other hydraulic tunnel operations now under way mention should be made of the 4 mile Big Bottom power tunnel near Portland, Ore., for the famous Oak Grove development.

Tunnel No. 5, a  $4\frac{1}{2}$  mile bore, on the Owyhee project of the Bureau of Reclamation was holed through on October 30. Both these bores are of about the same length as the famous Hoosic Tunnel in Massachusetts, but, unlike the earlier work, they have hardly received a notice in the technical press.

The C. P. R. (Canadian Pacific Railroad) Tunnel known as the Wolfe's Cove Tunnel, at Quebec, although only a mile long, has attracted considerable attention because of the use of the unusual full-width bottom-heading method. This distinctly European tunnel practice has found little favor in America where top-heading followed by bench removal has always been preferred to bottom-heading plus stoping. The use of a drag scraper for mucking was also an interesting feature of the Quebec work. Evidently most satisfactory progress was made for the job was completed in 11 months. The C. P. R. has also completed a 4600 ft. tunnel under the city of Vancouver, B. C.

In the field of subaqueous tunneling there are two features which make the Boston-East Boston Vehicular Tunnel of universal interest. The old cast-iron liner plates, so characteristic of earlier subaqueous works, have been abandoned at Boston for steel plates. A section or ring of steel plates weighs about one-third as much as the older cast-iron and is hence far less costly.

The second noteworthy feature of the Boston tunnel is the unusual muck removing equipment. In most of the New York work the river mud is so soft that the bulk of it is not excavated, it is simply forced aside by the shield and only enough is admitted (usually less than one-third) to enable the operators to keep the shield on line and grade. The material encountered in Boston is largely a stiff blue clay and will have to be practically fully excavated. Accordingly, a special system of belt conveyors, with an unique arrangement for passing muck through the air lock bulkhead, was installed. This system was rated at a capacity of 35 to 40 cu. yds. of muck per hour and conveys this material to a dumping platform or storage hoppers above street level. It was completely described in the *Engineering News Record* of June 30, 1932 and represents one of the most recent developments in the mechanization of tunnel operations.

**TURATI**, tōo-ra'tè, FILIPPO. An Italian Socialist leader, died in Paris, France, Mar. 28, 1932. He was born in Canzo, Como, Italy, Nov. 26, 1857. On his graduation from the University of Bologna in 1877 he practiced law for a while but abandoned this profession to enter politics and journalism, serving as manager and editor of *La Critica Sociale*, the monthly organ of the Socialist party, from 1891 to 1903. Later, as the chief spokesman of the Reformists or Constitutionalists, he became the leader of the Italian Socialist party. In 1896 he was elected to Parliament, but three years later was sentenced to 12 years' imprisonment for the part he was thought to have taken in provoking the Milanese bread riots of 1898. After two years' imprisonment, however, he was released, returning to the seat in the Chamber of Deputies which he occupied during seven changes of government. In 1904 Enrico Ferri succeeded in supplanting him in the leadership of the Socialist party, but in 1910 the Milan Congress endorsed his Reformist policy by a vote of two to one, and he continued to lead the more numerous section of the Socialists.

He acted also during this period as editor of the Socialist daily, *Avanti*. When the Socialist party split in 1922 into Unitarians and Maximalists as a result of Communist agitation, Turati joined the more moderate wing, the Unitarians. The party was dissolved in 1926, on account of the attempt made by one of its members on the life of Mussolini, and after 1927 Turati made his home in Paris where he was the leader of the political Italian émigrés.

**TURBINES.** See STEAM TURBINES.

**TURCOMAN REPUBLIC.** See SOVIET CENTRAL ASIA.

**TURKEY.** A republic occupying a large part of Asia Minor and contiguous territory in the Balkan Peninsula; also comprising Imbros, Tenedos, and the Rabbit Islands in the Aegean Sea. Capital, Ankara (Angora).

**AREA AND POPULATION.** With at total area estimated at 294,492 square miles (285,235 square miles in Asia and 9257 square miles in Europe), Turkey had a population estimated at 14,100,000 on Jan. 1, 1930, as against 13,648,270 at the census of October, 1927. The population density was 46.3 per square miles and the urban population (residing in places of 5000 inhabitants or more) was 20.4 per cent of the total. The population of the chief cities (exclusive of suburbs) at the 1927 census was: Istanbul (Constantinople), 690,857, of whom 245,982 resided in the city proper; Izmir (Smyrna), 153,924; Ankara (Angora), 74,553; Adana, 72,577; Bursa (Brusa), 61,690; Konya, 47,596. The population is mainly Turkish, with several millions Kurds (in the eastern Provinces), Lazes, and Jews.

**PRODUCTION.** About 67.7 per cent of the total population was engaged directly in agriculture at the census of 1927; modern farming methods are gradually being introduced. There were 14,129,000 acres under cultivation in 1930. Production of the chief crops in 1931 was: Wheat, 115,741,000 bushels; barley, 91,861,000 bushels; corn, 22,046,000 bushels; oats, 12,745,000 bushels; tobacco, 99,207,000 pounds; olive oil, 3,469,000 gallons (in 1931-32); raisins, 68,343,000 pounds (1931-32); figs, 61,729,000 pounds (1931-32). The wool clip in 1931 was 14,800,000 pounds; mohair, 8,267,000 pounds. In 1932, yields of cereals, tobacco, and opium were below normal, while raisin, fig, olive oil, and filbert crops were above average. Mineral output (1931) was: Coal, 1,116,000 metric tons; emery, 3488 tons; chrome, 25,387 tons; boracite, 6501 tons.

**COMMERCE.** As compared with 1930, imports and exports decreased 13.8 per cent and 15.8 per cent, respectively, in 1931. Imports were valued at 126,660,000 Turkish pounds (\$59,758,000), as against £T147,554,000 (\$89,439,000) in 1930, while exports totaled £T127,275,000 (\$60,048,000), as compared with £T151,454,000 (\$71,274,000) in 1930. Cotton fabrics (\$13,356,000), machinery (\$5,171,000), sugar and confectionery, and wool fabrics were the leading imports in 1931. General imports from the United States were \$1,943,000 (\$1,539,501 in 1932); general exports to the United States were \$5,982,000 (\$5,389,796 in 1932). As a result of the adoption of an import quota system, the favorable balance of trade increased from about £T615,000 in 1931 to £T15,322,000 in 1932. The 1932 imports totaled £T85,984,000 and exports £T101,306,000.

**FINANCE.** Due to continued adverse economic conditions and the imposition of import quotas on Nov. 16, 1931, budget receipts declined sharply.

Revenue estimates were reduced from £T222,732,000 for the fiscal year ended May 31, 1931, to £T186,705,000 for 1931-32, and to £T169,354,800 for 1932-33. Actual revenues for 1931-32 were provisionally estimated at about £T160,000,000, and a considerable deficit was anticipated. For 1932-33, budget expenditures were estimated at £T169,146,000, the estimated surplus being £T208,053.

According to a new agreement reached in principle Dec. 14, 1932, Turkey's share of the Ottoman debt was to be replaced by new bonds in the sum of 895,435,000 French francs (about \$35,101,000), bearing interest at  $7\frac{1}{2}$  per cent and payable annually in gold. The unit of currency is the Turkish pound, par value about \$4.40 United States currency, which exchanged at an average of \$0.4718 in 1931.

**COMMUNICATIONS.** Turkey's extensive railway construction programme, launched soon after the establishment of the republic to meet the economic and strategic needs of the country, was nearing completion in 1932. The Samsun-Sivas line, about 250 miles long, was completed in September, 1932. It linked the port of Samsun on the Black Sea with central Anatolia. At the end of 1930 there were 3432 miles of railway line in operation, of which 2011 miles were operated by the government and 1421 miles by concessionary companies.

**GOVERNMENT.** Ghazi Mustapha Kemal Pasha, first President of the Turkish Republic, was re-elected May 4, 1931, for his third consecutive term, which expires in 1935. The Ministry appointed by him was headed by Ismet Pasha. Two new Ministries, of Agriculture and of Customs and Monopolies, were established by act of the Grand National Assembly of Dec. 29, 1931.

## HISTORY

**INTERNAL DEVELOPMENTS.** Although Turkey suffered severely from the effects of the world depression during 1932, the Kemalist régime made steady progress with its programme of nationalism and economic self-sufficiency. The collapse of farm prices and the restriction of foreign markets increased the poverty of the people while constantly declining revenues forced the government to increase taxation and introduce additional economies. In March, the government was forced to postpone for four years payments of treasury bonds due to armament and public works contractors. Almost all imports except quota goods were prohibited after September 1 by a decree of August 20. Later new quotas were announced, effective Oct. 1, 1932, to Feb. 15, 1933, including many articles imported from the United States.

In an effort to train the Turks in industrial technique, the government extended its control over industry; it operated the railways, the merchant marine, the cloth factories supplying the army and navy, and monopolies of tobacco, salt, gunpowder, and alcoholic drinks. The state also provided much of the capital used in banking. In July, the Minister of War announced that a contract had been awarded to an American company to establish an air service throughout Anatolia. The service was to be a Turkish government monopoly. American engineers were engaged for one year to supervise the manufacture of planes at the Kaiseriyyeh factory. The Turkish Central Bank was opened on Jan. 1, 1932. In May

a treaty was signed with the Soviet Union by which Turkey secured \$8,000,000 worth of machinery. With this the Turkish government hoped to stimulate the domestic production of cotton goods and other articles. By a law of June 5, a long list of occupations were reserved to Turks; it affected thousands of Greeks, Italians, and Persians.

In connection with its political programme, the government engaged Professor Malche of the University of Bern to reorganize the University of Istanbul. It was planned to place the whole educational system upon a modern scientific basis. The campaign carried on for several years to substitute Turkish for Arabic culminated when the Koran was read in Turkish for the first time in the mosque of St. Sophia, at Istanbul, on the Night of Power in the month of Ramazan. Attended by President Mustapha Kemal Pasha and some 2000 persons, a congress on the Turkish language was held in Istanbul from September 26 to October 6. Steps were taken for modernizing the language, eliminating foreign elements in it, and bringing the written language nearer the spoken language.

On December 25, it was announced that the government would adhere to the international conventions limiting the trade in narcotics, restrict the cultivation of the opium poppy to medicinal needs, and set up special courts to try smugglers and illegal manufacturers of drugs. On May 20, Dr. Paul Monroe, director of the International Institute of Teachers College, Columbia University, was appointed president of Robert College, Istanbul, and of Constantinople Woman's College. He succeeded Dr. Caleb G. Gates.

**FOREIGN RELATIONS.** The Turkish government pursued an active foreign policy during 1932 which was designed to promote exports and safeguard its neutrality in the event of a European war. In April Premier Ismet Pasha and Foreign Minister Tewfik Rushdi Bey visited Moscow, where they signed an agreement to barter Turkish raw materials in return for \$8,000,000 worth of Soviet machinery. On May 22, they visited Rome, where they renewed with Premier Mussolini the 1928 treaty of neutrality, arbitration, and conciliation. Italy advanced a credit of \$15,420,000 to Turkey, of which one-third was to be furnished in the form of machinery and industrial material, one-third in cash, and one-third was to be credited toward payment for four torpedo boats and two submarines, which Italy had agreed to build for Turkey.

On July 6, Turkey became a member of the League of Nations. Adjustment of the Turkish-Persian frontier and the restoration of the old trade between Trebizond, Turkey, and Tabriz, Persia, by improvement of the highway was arranged for by the Minister of Foreign Affairs while on a visit to Tehran, Persia, in February. In January a commercial treaty and extradition pact with Iraq was signed. Later in the year negotiations were opened with the French government for a settlement of questions involving the French mandate in Syria. Demarcation of the Turkish-Syrian boundary, purchase by Turkey of the railway from Adana to Nisibin, and the repatriation of Turkish citizens in Syria were among the matters discussed. See IRAQ, ITALY, PERSIA, LEAGUE OF NATIONS, and UNION OF SOVIET SOCIALIST REPUBLICS; UNITED STATES OF EUROPE.

**TURKS and CAICOS ISLANDS.** See JAMAICA.

**TURNER, FREDERICK JACKSON.** An American historian, died in Pasadena, Calif., Mar. 14, 1932. He was born in Portage, Wis., Nov. 14, 1861, and was graduated from the University of Wisconsin in 1884, and with the Ph.D. degree from Johns Hopkins University in 1890. After serving as professor of American history at the University of Wisconsin from 1892 to 1910, he was called to Harvard University, where he held the same chair until his retirement as professor emeritus in 1924. Among his works are *Rise of the New West* (1906) and *The Frontier in American History* (1920) and such monographs as *The Character and Influence of the Indian Trade in Wisconsin*; *Policy of France towards the Mississippi Valley in the Period of Washington and Adams*; *Western State Making in the Revolutionary Era*; *The West as a Field of Historical Study*; *Dominant Forces in Western Life*; and *Contributions of the West to American Democracy*.

**TURNER, GEORGE.** An American lawyer and senator, died in Spokane, Wash., Jan. 26, 1932. He was born in Edina, Mo., Feb. 25, 1850. After the Civil War he became associated with a brother in the practice of law in Mobile, Ala., and was U. S. marshal for the southern and middle districts of Alabama during 1876-80. Removing to Washington, he was associate justice of the Supreme Court of that Territory during 1884-88. In 1889 he was a member of the convention which formed the constitution on ratification of which Washington was admitted to the Union. In 1896 he was elected to the U. S. Senate. On the conclusion of his term in 1903 he was appointed a member of the tribunal to settle the Alaska boundary dispute between the United States and Canada. During 1913-14 he served on the International Joint Commission, which had been established four years previously on the occasion of the Boundary Waters Treaty between the United States and Canada.

**TUSKEGEE NORMAL AND INDUSTRIAL INSTITUTE.** A nonsectarian normal and industrial school for the higher education of Negro men and women in Tuskegee, Ala., founded in 1881 by Booker T. Washington. The enrollment in the 1932 summer session was 320; that for the autumn term was 1391. There were 261 members on the faculty. The endowment amounted to \$7,564,863, and the income for the year to \$491,940. The library contained 20,000 volumes. There were completed during the year a new library and science building. President, Robert Russa Moton, LL.D.

**TUTUILA.** See SAMOA.

**TWENTIETH AMENDMENT, PROPOSED.** See LAW IN 1932.

**UBANGI-SHARI.** See FRENCH EQUATORIAL AFRICA.

**UGANDA, ō-gān'dā, PROTECTORATE.** A protectorate of Great Britain in East Africa bounded on the north by the Anglo-Egyptian Sudan, west by Belgian Congo, south, by Tanganyika, and east by Kenya. Area, 94,204 square miles (13,616 square miles of water); population, 1931 census, was 3,553,534 including 3,536,267 natives, 14,150 Asiatics, 2001 Europeans. Capital, Entebbe; commercial centre, Kampala.

**UKRAINE.** A region in southwestern Russia known officially as the Ukrainian Soviet Socialist

Republic. See UNION OF SOVIET SOCIALIST REPUBLICS and POLAND, under *History*.

**ULCERS.** See MEDICINE AND SURGERY.

**ULTRA-VIOLET.** See PHYSICS.

**UNDERHILL, FRANK PELL.** An American pharmacologist, died in New Haven, Conn., June 28, 1932. He was born in Brooklyn, N. Y., Dec. 21, 1877, and was graduated from Yale University in 1900, receiving the Ph.D. degree in 1903. He became instructor in physiological chemistry at the Yale medical school in 1903 and was promoted to assistant professor in 1907, professor of pathological chemistry in 1912, professor of experimental medicine in 1918, and professor of pharmacology and toxicology in 1921. During the World War he was lieutenant colonel in the chemical warfare service, being commanding officer in charge of the research work at the New Haven station on methods of treatment for gas poisoning. In October, 1918, while on duty with the A.E.F. in France, he was United States representative to the Interallied Gas Warfare Conference in Paris. He was also chairman during 1917-19 of the committee on biological chemistry of the National Research Council.

**UNDERWRITING.** See INSURANCE.

**UNEMPLOYMENT.** **UNEMPLOYMENT INSURANCE IN THE UNITED STATES.** The pioneer State in the country to write an unemployment insurance code on its statute books was Wisconsin where, on Jan. 28, 1932, the governor signed an act setting up an insurance fund, based entirely upon employer contributions, for the purpose of rendering financial aid to unemployed persons. The Wisconsin legislature provided that before June 1, 1933, it was necessary for employers of at least 175,000 workers to establish voluntarily some unemployment insurance plan; after that date the act was to become automatically compulsory. The statute further provided that voluntary plans for unemployment insurance were to be submitted to the Wisconsin industrial commission for its approval. In order to assist in carrying out the law, the legislature provided that any county or municipality might, subject to the approval of the industrial commission, establish and maintain local free employment offices; also the industrial commission was empowered to establish such offices on its own responsibility. For these activities the industrial commission was given an appropriation of \$25,000 until June 30, 1933. The Wisconsin unemployment insurance law contains the following provisions: First, all employers employing 10 or more persons for four or more months during the preceding calendar year are included in its operations. Excluded classes are the following: Farm laborers, domestic servants, public officers, school teachers, interstate railroad employees, or any one who is unable or unwilling to work normal full time. Second, contributions to the unemployment reserve fund are to be made by the employer at the rate, of the first two years of contribution, of 2 per cent of his annual payroll. Salaries of employees receiving more than \$1500 per year or \$300 or more per month are not included. When a reserve has been built up amounting to \$55 per employee, the rate of contribution by the employers is reduced to 1 per cent; employer contributions to the reserve are to cease when the reserve per employee amounts to \$75. Whenever the reserve falls below \$75, contributions are to recommence. Also, the employer is obliged to contribute to the



administration fund at the rate of two-tenths of 1 per cent of his annual payroll. Any agreement between employer and employee, by which the latter agrees to pay any part of the regular contribution, is void but employees may contribute voluntarily in order to obtain higher benefits. Third, benefits for total unemployment become payable after a waiting period of two weeks and are to be paid at the rate of \$10 a week, or 50 per cent of the average weekly wage, whichever is lower, unless the wage is less than \$5, when the benefit is to be \$5. For partial unemployment, the benefit is the difference between the employee's actual wages and the weekly benefit to which he would be entitled if totally unemployed. An additional \$1 per week is provided if the employee attends a vocational or other school during the period of unemployment. The maximum period of benefit in any one calendar year is limited to 10 weeks. No benefits are to be paid if the employee has lost his job because of misconduct or has quit voluntarily or because of a trade dispute or because the place of business is destroyed, if he earned \$1500 or more during the preceding 12 months. Fourth, the actual fund is to be administered by the State industrial commission. Fifth, penalties of fine and imprisonment are set up in the statute for violations of the act.

This was the only statutory action taken in the country during the year. However, as subsequent developments showed, there was every reason to believe that other commonwealths would shortly follow in Wisconsin's footsteps. Not only had public interest been aroused by the stand taken by the American Federation of Labor and by recommendations made by various legislative and administrative commissions, but the increasing feeling that with the great advances of technological developments the United States was destined to see a sizeable group of unemployed persons even in normal times indicated that the whole subject was already advanced beyond the realm of debate. One such commission report was the Interstate Commission on Unemployment Insurance made up of representatives of the Governors of New York, Ohio, Massachusetts, Pennsylvania, New Jersey, and Connecticut. The chairman of this commission was Mr. Leo Wolman of New York, and the other members were Messrs. Charles R. Blunt of New Jersey, A. Lincoln Filene of Massachusetts, C. A. Kulp of Pennsylvania, W. M. Leiserson of Ohio, and W. J. Couper of Connecticut. The report of the commission, published in February, 1932, made the following recommendations: (1) The establishment of State-wide systems of compulsory unemployment reserves. (2) The payment by each employer into a reserve fund of a contribution amounting to 2 per cent of his payroll. (3) Payments made by each employer were to constitute the unemployment reserve of his firm and be so treated in the accounts. (4) The maximum benefit should be 50 per cent of an employee's wage, or \$10 a week, whichever was lower; and the maximum period of benefit should be 10 weeks within any 12 months. Provision also was to be made for short-time unemployment. (5) The financial responsibility of any employer was to be strictly limited by the amount of his unemployment reserve. (6) When the accumulated reserve per employee exceeded \$50, the employer's contribution was to be reduced to 1 per cent of his payroll and when his

reserve reached \$75, contributions were to cease. (7) The State was to act as the custodian investor and disbursing agent of the reserve funds. (8) The State should take prompt steps to extend its public employment service. (9) The unemployment authority of the State should create stabilization agencies.

UNEMPLOYMENT IN THE UNITED STATES. Because of the absence of governmental figures it is impossible to declare exactly the number of unemployed persons in the United States. Recourse is necessary to estimates, the bases of which are so very meagre in almost all cases that no more than a guess is ever possible. The first and last compilation of unemployment ever made by the Federal Government was that of January, 1931. The only Federal figures in existence are those based on the reports to the Federal Bureau of Labor Statistics made each month by nearly 65,000 industrial establishments. These figures, however, do not show unemployment but the number of persons actually at work in the particular plants and factories reporting. The only agency to endeavor a national estimate is the American Federation of Labor which bases its calculations on the number of unemployed trade unionists in the country. In October, the American Federation of Labor estimated that totally unemployed persons in the United States numbered about 11,000,000.

In New York City alone in the same month, about 1,150,000 persons, or more than one-third of the working population of the city, were estimated to be unemployed by the Welfare Council. The unemployment census taken by the New York Police Department, on the basis of a house to house canvass, found that there were 525,034 able bodied persons unemployed. On these breadwinners there were dependent an additional group of 460,000 persons making a total of 985,034 residents of New York who were victims of unemployment.

THE SHARE-THE-WORK MOVEMENT. As a result of a national conference of banking and industrial committees of the twelve federal reserve districts, called by President Hoover and meeting in Washington on August 26, there was drawn up a coordinated nation-wide programme to cope with the economic depression along voluntary lines. President Hoover, in discussing the question of unemployment, said:

As a matter of national policy, the shortening of hours is necessary not alone to meet the need of the moment but it may be necessary to take up the slack in the future from the vast and sudden advances in labor-saving devices. As the result of conferences similar to this nearly three years ago many industries realigned their operations by shorter hours to retain hundreds of thousands of workers who would otherwise have been dismissed.

Nevertheless, the still further spreading of available work in industrial, commercial, and service activities, especially with every recovery of employment, would be a vital contribution.

While I heartily favor the purpose of these plans, I agree with both the employers and the leaders of labor whom I have consulted that its direction is not properly the function of government, except as applied to the operation of government service. Moreover, with all the various phases of employment and operation to be met in private business, no general rule can be applied. Results must be achieved through cooperation on the part of employers and employees suited to each locality and industry. I suggest you should consider the effective part which you can play in further forwarding organization to this end.

In accordance with the recommendation of President Hoover, there was established a sub-committee with Walter C. Teagle, president of

the Standard Oil Company of New Jersey, as chairman, to promote increased employment through the share-the-work movement. The movement was started by Mr. Teagle's committee on August 27 and was to be carried out under a uniform plan in all sections of the country. It was proposed to urge all employers to take on additional workers and to adjust the hours so that over a given period the total of workers would have been employed the same amount of time. It was Mr. Teagle's hope that as a result of this programme at least 2,000,000 additional men and women would be put back to work.

By the middle of October it was estimated that at least 3500 firms and companies in the United States had tried the scheme.

**SENATE COMMITTEE ON UNEMPLOYMENT INSURANCE.** During the year a Senate committee on unemployment insurance, created by a resolution of the upper chamber to investigate the subject in the United States and foreign countries and made up of the Hon. Felix Hebert of Rhode Island (chairman), Hon. Otis F. Glenn of Illinois, and Hon. Robert F. Wagner of New York, submitted its report (Senate report No. 629), based on numerous hearings and the study of foreign systems. The committee's report (actually the majority report and signed by Senators Hebert and Glenn), pointed out that there were two schools of thought concerned with the problem of unemployment relief. One of these insisted upon public responsibility and, therefore, the establishment of a compulsory system through the agency of the government, and the other that the solution of the problem should be left to private agreement between employers and employees. The committee declared that the views of those who insisted upon social responsibility were somewhat as follows: (1) That unemployment was due to social and not industrial causes and that, therefore, it was incumbent upon society to assure the worker against unemployment. Hence, funds for relief were to be contributed not by employers but by the State and Federal governments. (2) In view of the fact that unemployment was national in character, it was necessary to relieve it by national legislation. Those who insisted that the problem was a matter for private consideration and settlement centred their arguments on the following contentions: (1) American industry should be given an opportunity to work out its own unemployment problems without government intervention. (2) Foreign experiences showed that it was impossible to work out an unemployment insurance scheme on an actuarial basis. (3) Some plan might be successfully operated if kept within certain specified limits as to coverage; however, the experiences of foreign countries showed that this was not possible. (4) Any compulsory plan was bound to be constantly subject to pressure to increase its benefits, extend the limits of coverage, relax the safeguards, and generally expand the system to a wholesale relief scheme supported by public funds and paid for by taxation. On this point the committee report observed that the basic condition of insurance calls for the accumulation of reserves. "Inasmuch as unemployment is not predictable, it follows that there will be not a little difficulty in finding a basis from which to proceed to the accumulation of the necessary reserves. The studies of the actuaries have not brought them to any final

conclusions. Such studies have demonstrated that unemployment insurance as insurance will not relieve those conditions which its advocates claim, and in no event will it prove a major factor in the solution of the general problem. That the knowledge of the subject now available is inadequate upon which to base a sound and practical scheme is conclusive, the experience of the Governments of England and Germany fully demonstrate."

The report's signers agreed that any system of federal unemployment insurance would be impractical if not undesirable. They pointed out that the difficulties of establishing a system included the following: the determination as to the extent of coverage to be provided; the fixing of rates of contribution and unemployment benefits to the varying conditions in different parts of the country; the probability that a constitutional objection existed to Federal legislation for the relief of unemployment. However, some form of relief of unemployment was imperative and there were two possible solutions, first, recourse to the establishment of compulsory reserves maintained by industries, to which employers might contribute; and, second, voluntary reserves maintained by the industries themselves with the cooperation of their employees. Congress was not in the position to legislate on either of these methods and might only recommend courses of action. The majority report indicated that it favored the former as a feasible method in the following words:

Having reached the conclusion that some form of reserves for the relief of the workers of the country should be provided by individual employers, with the possible cooperation of employees, and not by the Federal Government or by the States, yet the Federal Government as well as the States may well consider it to be not without the scope of their powers or of their obligations to their citizens to contribute in some measure to the removal of difficulties which exist and which may recur. We, therefore, recommend that the Federal Government contribute to such systems of private unemployment reserves to the extent of permitting employers who maintain them to deduct some portion, if not all, of the contributions thereto out of their income for tax purposes, just as they are now permitted to deduct as a part of the cost of doing business, all sums paid for insurance against the risks of workmen's compensation and other forms of insurance coverage.

Mr. Wagner, minority member of the committee, presented a separate report in which he made the following points: (1) It was necessary to establish reserves to mitigate the evil consequences of unemployment. (2) Such insurance reserves to be successful should be inaugurated under compulsory State legislation and be supervised by State authority. (3) The Federal government should encourage State action by co-operating through the establishment of a nation-wide employment service and by allowing employers to deduct from their income tax a portion of their payments into unemployment insurance reserves. (4) Every system of unemployment insurance was to be organized to provide incentives to the stabilization of unemployment. (5) Insurance funds should be actuarially sound. (6) Compulsory unemployment insurance placed all employers on an equal footing. (7) Compulsory unemployment insurance preserved the mobility of the worker and kept his hands free in attempting to improve his economic position. (8) "Unemployment insurance will beneficially affect not only the workers but agriculture, industry, and trade; all alike profit from sustained purchasing power." In conclusion

Senator Wagner declared: "Sound business and good conscience both demand that, in dealing with unemployment, we abandon the methods of poor relief, with its ballyhoo, its inadequacy, inequality, and uncertainty, which are a drain on the sympathy of the giver, and a strain on the character of the taker. Let us, like civilized men and women, organize intelligently to prepare to-day for the exigencies of the future."

**REPORT OF THE BRITISH ROYAL COMMISSION.** On November 7, the Royal Commission on Unemployment Insurance, after having studied the question for two years, submitted majority and minority reports. The majority report, which had the backing of the Conservatives, declared for the principle of unemployment insurance, gave the continuance of the system its support, and favored its extension to agricultural workers and domestic servants. The report also declared that the government was to assume responsibility for training and educating unemployed persons, particularly young men and women. The majority report also recommended that insurance benefits be given to unemployed persons during a period between 13 and 39 weeks each year, depending upon the length of time the unemployed person had been insured and had contributed to the unemployment insurance fund. It also recommended the continuation of the so-called "means test," of which more is said below. More significant, perhaps, than even these recommendations was the realization on the majority members of the commission that unemployment in Great Britain was apparently a permanent phenomenon and that, therefore, it devolved upon the state to supplement unemployment insurance funds by the dole system.

The minority report, supported by the Labor members, was a more liberal document. It recommended that fixed sums be granted by the government to all unemployed persons during the entire period of their unemployment, regardless of whether or not they had regular employment or had made contributions to the insurance fund. The report also recommended the abolition of the "means test." See GREAT BRITAIN under *History*.

**OTHER UNEMPLOYED MARCHES.** In the Netherlands and in the United States, as well as in Great Britain, unemployed persons engaged in marches to the countries' capitals in order to demonstrate before national legislative bodies. See NETHERLANDS, THE, under *History*; COMMUNISM under *United States*.

**UNEMPLOYMENT IN FOREIGN COUNTRIES.** The following figures, as reported by the *Monthly Labor Review*, indicate numbers of unemployed persons in various countries of the world for the month last ascertainable in 1932: *Australia* (unemployed trade unionists), 122,340 in September as compared with 90,739 in September, 1930; *Austria* (number of unemployed in receipt of compulsory insurance benefits), 275,840 in September as compared with 163,894 in September, 1930; *Belgium* (wholly unemployed persons receiving benefits from unemployment insurance societies), 165,596 in August as compared with 23,693 in September, 1930; *Canada* (per cent of trade unionists unemployed), 21.4 per cent in August as compared with 9.4 per cent in September, 1930; *Czechoslovakia* (number of unemployed on the live register), 453,294 in July as compared with 104,534 in September, 1930, and (unemployed in receipt of benefits from trade

union insurance funds) 168,046 in July as compared with 57,542 in September, 1930; *Danzig* (number of unemployed registered), 30,469 in September as compared with 16,073 in September, 1930; *Denmark* (unemployed receiving benefits from trade union unemployment funds), 97,130 in September as compared with 27,700 in September, 1930; *Estonia* (number of unemployed remaining on live register), 3256 in August as compared with 1414 in September, 1930; *Finland* (number of unemployed registered), 16,966 in August as compared with 7157 in September, 1930; *France* (number of unemployed in receipt of benefits), 259,237 in September as compared with 988 in September, 1930; *Germany* (number of unemployed registered), 5,100,322 in September as compared with 3,004,000 in September, 1930 and (number of unemployed trade unionists in receipt of benefits) 1,850,197 in September as compared with 1,965,348 in September, 1930; *Great Britain and Northern Ireland* (wholly unemployed persons receiving compulsory insurance), 2,279,779 in September as compared with 1,579,708 in September, 1930 and (temporary stoppages in receipt of compulsory insurance) 645,286 in September as compared with 608,692 in September, 1930; *Hungary* (Social Democrats and trade unionists unemployed), 28,186 in August as compared with 22,252 in September, 1930; *Irish Free State* (unemployed persons receiving compulsory insurance), 57,081 in August as compared with 20,775 in September, 1930; *Italy* (wholly unemployed registered), 945,972 in August as compared with 394,630 in September, 1930 and (partially unemployed registered) 33,666 in August as compared with 22,734 in September, 1930; *Latvia* (number of unemployed remaining on the live register), 7599 in May as compared with 1470 in September, 1930; *Netherlands* (number of unemployed carried by unemployment insurance societies), 116,524 in August as compared with 35,532 in September, 1930; *New Zealand* (number of unemployed trade unionists), 55,203 in July as compared with 38,028 in March, 1931; *Norway* (number of unemployed remaining on the live register), 27,543 in August as compared with 17,053 in September, 1930; *Poland* (number of unemployed registered with employment offices), 187,537 in August as compared with 170,467 in September, 1930; *Rumania* (number of unemployed remaining on the live register), 32,809 in July as compared with 39,110 in September, 1930; *Saar Territory* (number of unemployed registered), 39,063 in July as compared with 7527 in September, 1930; *Sweden* (trade unionists unemployed), 80,975 in August as compared with 34,963 in September, 1930; *Switzerland* (wholly unemployed receiving benefits from unemployment funds), 35,700 in July as compared with 7792 in September, 1930 and (partially unemployed receiving benefits from unemployment funds) 54,000 in July as compared with 26,111 in September, 1930; *Yugoslavia* (number of unemployed registered), 11,940 in August as compared with 5973 in September, 1930. See POLAND under *History*; PSYCHOLOGY.

**UNEMPLOYMENT INSURANCE.** See UNEMPLOYMENT.

**UNFEDERATED MALAY STATES.** A group of five Malay states under British protection but not included in the Federated Malay

States (q.v.). They are divided in area and population as follows:

State	Capital	Area sq. mi.	Population (1931)
Johore	Johore Bharu	7,878	428,645
Kedah	Alor Star	3,648	505,309
Kelantan	Kota Bharu	5,713	862,622
Trengganu	Kuala Trengganu	5,500	179,664
Perlis	Kangar	816	49,297
Total		22,855	1,526,537

See BRITISH MALAYA.

**UNION COLLEGE.** A nonsectarian college for men in Schenectady, N. Y., founded in 1795. The 1932 enrollment of regular students totaled 844. The faculty numbered 85. The amount of endowment and income for the year was more than \$3,000,000. President, Frank Parker Day, LL.D.

**UNION OF SOUTH AFRICA.** See SOUTH AFRICA, UNION OF.

**UNION OF SOVIET SOCIALIST REPUBLICS (U. S. S. R.).** A republic comprising the greater part of the former Russian Empire. Capital, Moscow.

**AREA AND POPULATION.** According to the Soviet Union Information Bureau, which supplied much of the material used in this article, the area of the Union of Soviet Socialist Republics is 8,199,258 square miles. The population as of July 1, 1931, was estimated by the Central Statistical Board at 162,700,000. The population, according to the census of 1926-27 was 147,013,600, including 71,024,300 males and 75,989,300 females. In 1914 the population of the same territory was 138,200,000.

The Union of Soviet Socialist Republics in 1931 was composed of seven constituent republics, which in turn included 16 autonomous republics and 17 autonomous areas. The Russian Socialist Federated Soviet Republic contained 94 per cent of the area and 76 per cent of the population of the entire Soviet Union. The estimated area and population of the seven constituent republics on July 1, 1931, is shown in the accompanying table from the *Economic Review of the Soviet Union*. Also see SIBERIA; SOVIET CENTRAL ASIA.

#### AREA AND POPULATION OF THE SOVIET UNION, BY CONSTITUENT REPUBLICS, 1931

Republic	Area <sup>a</sup>	Population (thous.)	Cities	Rural Soviets
R.S.F.S.R.	19,662.9	112,181.0	515	50,139
White Russia	126.8	5,275.0	29	1,418
Ukraine	425.0	81,625.6	80	11,040
Uzbekistan	176.1	4,746.2	18	1,698
Transcaucasia	185.5	6,495.9	49	2,534
Turkmenistan	491.2	1,149.1	7	457
Tadzhikistan	141.6	1,186.5	6	376
Total	21,286.1	162,686.3	708	67,662

<sup>a</sup> Thousands of square kilometers (1 square kilometer = 0.386 square miles).

Population of cities of over 200,000, by official estimate of 1931: Moscow, 2,781,300; Leningrad, 2,228,300; Baku, 575,200; Kiev, 539,500; Kharkov, 521,500; Odessa, 475,500; Rostov-on-Don, 457,100; Tashkent, 421,800; Nizhni Novgorod, 350,300; Tiflis, 347,900; Dnepropetrovsk, 322,800; Stalingrad, 294,500; Saratov, 277,500; Sverdlovsk, 223,300; Samara, 220,400; Kazan, 202,000.

**EDUCATION.** Public education in the Soviet Union is a charge against each of the seven constituent republics and of the localities concerned.

For 1932 budgetary outlays planned for education were \$3,012,750,000, converting the ruble at par of \$0.51. For previous years the expenditures were \$2,126,950,000 for 1931, \$1,100,000,000 for 1930, \$738,500,000 for 1929, \$196,200,000 for 1913.

Universal compulsory education for children between the ages of 8-10 years was introduced for the first time at the close of 1930. The accompanying tables show the increase in school attendance.

#### ELEMENTARY AND SECONDARY SCHOOL ATTENDANCE

Year	Elementary schools	Secondary schools
1914	7,236,000	563,500
1930	11,775,500	1,599,200
1931	17,842,300	1,980,200
1932	19,001,000	4,684,800

#### ATTENDANCE IN HIGHER EDUCATIONAL INSTITUTIONS [Thousands]

Institutions	1914	1930	1931	1932
Higher education	109.9	291.4	858.2	525.7
Technicums	46.1	578.7	609.8	1,034.4
Factory training schools		568.9	1,197.8	1,863.0
Workers' faculties		247.5	831.7	500.0

**PRODUCTION, ETC.** In the Soviet Union transport and communications are conducted as federal departments. Banking is centralized in a State Bank under governmental control. Distribution is socialized, conducted partly by the co-operative societies, partly by factory stores. Industrial production is carried on largely by state enterprises under the general direction of three Commissariats, denominated respectively Heavy Industry, Light Industry, and Lumber. A State Planning Commission (Gosplan) plots the objectives for each year, and for five-year periods. A Council of Labor and Defense (STO) acts as a coordinating and standardizing body. In agriculture during the past few years there has been a rapid reorientation, the small three-strip peasant farms (averaging 12 to 14 acres in all) being merged in large-scale collective farms with varying degrees of mechanization. At the end of 1932 it was estimated that 80 per cent of the peasants' acreage had been included in the collectives. There is no private ownership of land or natural resources. The peasant minority that still continues as individual cultivators have their holdings under a sort of perpetual leasehold. A few private concessions in foreign hands survive among the state organizations for the development of natural resources.

In 1932 the energies of the population were mainly absorbed in completing the first Five-Year Plan, which was formally brought to a close December 31, in four and a quarter years.

In general the objectives of the plan were to establish the basis for a modernized industrial economy, to establish industry on a firm socialist basis and to provide the same basis for a fraction (originally estimated at one-fifth) of the agricultural output, and to raise the general standard of living. Specifically the plan envisaged an increase of 133 per cent in the output of industry, an increase of 55 per cent in agriculture, and fixed programmes for the expansion of educational and scientific work. The schedule for educational and scientific expansion were surpassed.

In industry the plan was stepped up each year after the completion of the first twelve months on Sept. 30, 1929. (Beginning Jan. 1, 1931, the Soviet fiscal year was changed from the October 1-September 30 period to coincide with the calendar year.) The new objectives for each year were set forth successively by Gosplan in "control figures," and these year by year showed an increasing advance over the schedules of the original plan. Up to 1932 the schedules of the original plan were generally surpassed; they were topped in several lines in 1932. In both 1931 and 1932 the industrial output was considerably below the goal set in the "control figures" for those years.

The results for 1932 in industry showed wide variations in different lines as compared with the schedules for the final year in the Five-Year Plan. In the oil industry the schedule in the plan was somewhat surpassed. In several branches of the machine-building industry and in the electrical industry it was greatly surpassed. On the other hand production of pig-iron was about 65 per cent of the plan, of steel even less. Coal, textiles, and other industries fell somewhat below the plan, in varying degrees.

Early in January, in an address before the Central Committee of the Communist party, Stalin stated that the average annual increase in industrial production under the plan had been 22 per cent. The original plan provided for about 20 per cent. Stalin also stated that in industry the plan had been fulfilled 93.7 per cent. Official figures for increases of production of heavy industries year by year under the plan are as follows: 1928-29, 24.3 per cent; 1929-30, 24.6; 1931, 21.7; 1932, 18.0. There was an interregnum of three months, October 1 to Dec. 31, 1929, owing to the change by which the fiscal year was made to coincide with the calendar year. During this period the output of industry increased 20 per cent as compared with the same period in 1929.

The industrial output for 1932 was about three times that of 1913. At the beginning of the Five-Year Plan the Soviet Union stood fifth among the nations in industrial output. By 1932 it had assumed second place, according to figures compiled by the German Institute of Economic Statistics.

Major items of construction under the Five-Year Plan include the following: Dnieper River dam and power plant, eventual capacity upwards of 750,000 horse power, formally opened to partial operation in the summer of 1932; the Turkestan-Siberian railway, 950 miles, completed April 1930; giant tractor factories at Stalin-grad, Kharkov, and Cheliabinsk; automobile plant at Nizhni-Novgorod with eventual annual capacity of 150,000 cars and trucks; great steel plants at Magnitogorsk in the southern Urals and Kuznets in Siberia, planned for an output equal to the entire production of Russia at the beginning of the World War, and several hundred other new industrial enterprises, many of them of imposing stature. Over 40 per cent of the machinery produced in the Soviet Union in 1932 was not made in Russia before the revolution. Output in key economic indicators for 1932, with comparison of 1927-28 (the last year before the beginning of the Five-Year Plan) and of the programme of the fifth year of the original Five-Year Plan (1932-33), is shown in the table at the head of the adjoining column.

## SOVIET INDUSTRIAL OUTPUT

	1932	1927-28	Five-Year Plan 1932-33
Coal . . . . . metric tons	64,000,000	35,400,000	75,000,000
Pig iron . . . . . do . . .	6,200,000	3,280,000	10,000,000
Steel . . . . . do . . .	5,900,000	3,370,000	10,400,000
Oil . . . . . do . . .	22,200,000	11,600,000	20,800,000
Machinery mil. rubles	5,400	740	4,840
Electrical industry . . . do . . .	1,075	221	895
Power out- put . . . mil. kwh.	13,500	5,000	22,000
Cement . . . metric tons	4,700,000	1,600,000	6,800,000
Tractors . . . . .	50,250	1,500	55,000

AGRICULTURE. A complete reorientation of the agricultural set-up was effected under the Five-Year Plan. The extent of socialization carried through far surpassed the expectations. In the original plan it was anticipated that 20 per cent of the peasants would be organized in the collectives by the summer of 1933. At the beginning of 1933 Premier Molotov announced the "socialized sector" of collective farms and state farms accounted for 80 per cent of the sown area. This rapid transition was not without its drawbacks. The new form of agriculture, involving coöperative effort on an unprecedented scale mostly among backward and undisciplined peasants, was wholly novel. The change involved grave problems of management and technical personnel, as well as of human relations. During the bumper crop of 1930 it was demonstrated that the large scale collective farms, with tractors and proper direction, were markedly more productive than the individual peasant farms with the primitive methods and outmoded equipment. However, the rather hectic advance of collectivization brought its own difficulties. The new collectives, like some of the new giant industries, suffered from what the Russians called "growing pains." There were serious errors of management and coördination. The supply of tractors and other mechanical aids could not keep up with the demand from the new farms. Because of these and other causes of a natural nature the grain harvests of 1931 and 1932 were not up to the results of 1930. The area sown to grain in 1932 fell below the expansion planned for that year. Grain exports, which were 4,768,299 metric tons in 1930 and 5,059,396 metric tons in 1931, fell off over 50 per cent during the first nine months of 1932, with the prospect of cessation until after the harvest of 1933. The prewar average was 10,700,000 metric tons.

Gross grain crops, in metric tons, were: 1913, 80,100,000; 1929, 73,796,000; 1930, 83,743,000; 1931, 76,200,000. The cultivated area by the fall of 1932 was divided as follows: state farms, 11 per cent; collective farms, 69 per cent; individual peasants, 20 per cent.

LABOR. Unemployment, which reached a peak figure of 1,700,000 at the beginning of the Five-Year Plan, was rapidly absorbed as the programme of heavy construction gained momentum. By 1931 it was replaced by a labor shortage. After a period of experimenting with various "working weeks," the greater part of the industries settled down in 1932 to a six-day week, with a uniform rest-day on the sixth day. By the summer of 1932 about 85 per cent of the workers in industry were on a seven-hour day. Trade union membership increased from 10,900,000 in 1928, at the beginning of the Five-Year Plan, to 16,500,000 in 1932, reflecting the rapid growth of industry.

COMMERCE. Soviet foreign trade held up well during the first two years of the world depression, but showed a drop of about 40 per cent during 1932. Figures for recent years are shown in the accompanying table.

## SOVIET FOREIGN TRADE

Year	Exports	Imports	Total
1927-28 ...	\$398,564,000	\$486,523,000	\$885,087,000
1928-29 ...	458,350,000	431,055,000	889,405,000
1929-30 ...	516,118,000	550,352,000	1,066,470,000
1931 .....	417,773,000	569,092,500	986,865,500
1932 .....	290,400,000	359,827,000	650,227,000

The principal Soviet exports in 1931 were: grain \$78,000,000, oil products \$60,000,000, lumber \$35,000,000, furs \$29,000,000. The principal imports were: industrial machinery and parts \$170,000,000, ferrous metals \$64,000,000, articles manufactured of iron and steel \$47,000,000, tractors and parts \$41,000,000, electrical machinery \$28,000,000.

The principal countries taking Soviet exports in 1931 were Great Britain 32.8 per cent, Germany 15.9 per cent, Italy 4.9, Mongolia 4.6, Persia 4.0. Principal countries furnishing Soviet imports were: Germany 37.2 per cent, United States 20.8 per cent, Great Britain 6.6, Persia 4.2, Czechoslovakia 3.2. In the first nine months of 1932 the United States fell to fourth place on the import list, furnishing only 4.4 per cent. The principal imports from the United States in 1931 were tractors, electrical machinery, factory and mining machinery, oil-refining equipment, construction and conveying machinery, and automotive equipment and parts. The Soviet Union was the leading foreign customer of the United States in 1931 for agricultural equipment, taking 67 per cent of all exports, and for industrial machinery, taking 28 per cent of all exports. Figures of the United States Department of Commerce for Soviet-American trade for the years 1925 through 1932 are given in the accompanying table.

## SOVIET-AMERICAN TRADE, 1925-32

Year	American exports to U.S.S.R.	American imports from U.S.S.R.	Total
1925 ...	\$ 68,900,000	\$13,200,000	\$ 82,100,000
1926 .....	48,900,000	14,100,000	64,000,000
1927 ..	64,900,000	12,800,000	77,700,000
1928 ...	74,100,000	14,000,000	88,100,000
1929 ..	84,700,000	22,500,000	107,200,000
1930 .....	114,356,000	23,839,000	138,195,000
1931 .....	103,669,000	13,206,000	116,875,000
1932 .....	12,600,000	9,600,000	22,200,000

THE BUDGET. Owing to the high degree of socialization in the Soviet Union, the growth of the budget reflects to a large extent the degree of economic progress. The first "firm" budget, that of 1924-25, balanced at 1,400,000,000 rubles. The budget for 1932 envisaged revenues and expenditures of 27,429,000,000 rubles. The budget for 1913 was 3,655,000,000 rubles (ruble equals \$0.51 at par). Over three-fourths of the budgetary revenues are now derived from the "socialized sector." The budget revenue structure for 1931, in millions of rubles, was: revenues from socialized sector, 15,871; funds provided by population, 2868 (including taxes, 1008, and national loans, 1581); miscellaneous revenues, 1715; total, 20,454.

Expenditures in the 1931 budget were propor-

tionately as follows: administration 1.9 per cent, army and navy 5.5 per cent, social and cultural 6.0 per cent, financing national economy 74.8 per cent, and other 11.8 per cent. Actual budgetary receipts and expenditures, in recent years, in millions of rubles were:

Year	Receipts	Expenditures
1927-28 .....	6,951	6,748
1928-29 .....	8,037	8,021
1929-30 .....	12,527	12,246
1931 .....	23,759	23,069

TRANSPORT. Total length of railways in 1931 was 81,000 kilometers (50,301 miles), compared with 79,934 kilometers (49,639 miles) in 1930. Railway operations in 1931 exceeded those set for 1932-33 in the original Five-Year Plan, and during the first six months of 1932 freight operations exceeded those of the same period of 1931 by 16 per cent. Freight carried in 1931 was 149.4 billion ton-kilometers, as compared with 133.9 billion ton-kilometers in 1930. In 1931 airplane lines in operation totaled 44,900 kilometers, or 27,883 miles (29,281 kilometers, or 18,184 miles, in 1930). Passengers carried were 23,000 (17,800 in 1930).

GOVERNMENT. A description of the constitution of the Union of Soviet Socialist Republics will be found in the YEAR BOOK for 1923. In December, 1932, the Council of People's Commissars (executive cabinet of the Government) was composed as follows: Chairman of the Council, V. M. Molotov; Vice-Chairmen of the Council, J. E. Rudzutak, V. V. Kuibyshev, A. A. Andreyev; Commissar for Foreign Affairs, M. M. Litvinov; Army and Navy, K. E. Voroshilov; Internal Supply, A. I. Mikoyan; Foreign Trade, A. Rengoltz; Transportation, A. A. Andreyev; Water Transportation, N. M. Yanson; Communications, A. I. Rykov; Finance, G. T. Grinko; Workers' and Peasants' Inspection, J. E. Rudzutak; Heavy Industry, G. K. Ordjonikidze; Light Industry, I. E. Liubimov; Lumber Industry, S. S. Lubov; Chairman State Planning Commission (Gosplan), V. V. Kuibyshev; Commissar for Agriculture, Y. A. Yakovlev; Labor, A. M. Tsikhon; Chairmen of the Central Executive Committee, U.S.S.R., M. I. Kalinin, G. I. Petrovsky, A. G. Cherviakov, Gazanfar Mussabekov, Netyrbay Aitakov, Faizulla Khodzhaev, and Maksim Nusratulla.

Joseph Stalin, General Secretary of the Communist party of the Soviet Union, while holding no governmental office beyond membership in the Central Executive Committee or congress, was the most powerful political figure in the country by virtue of his party leadership.

## HISTORY

INTERNAL DEVELOPMENTS. While grave internal problems still confronted the Soviet Union, the Soviet leaders had reason to view the formal conclusion of their Five-Year Plan at the end of 1932 with much satisfaction. A substantial base of heavy industry had been laid. The larger of the new plants, while still functioning imperfectly, were increasing their efficiency. During the three and a quarter years of the world depression the Soviet Union had increased its industrial output about 85 per cent. In agriculture the picture is not so clear. While there was a considerable expansion of acreage (about 19

per cent) under the Five-Year Plan, the grain harvests of both 1931 and 1932, though larger than the harvests before collectivization, were disappointing and left little surplus above bare needs. There was also a meat shortage in certain centres in the winter of 1932-33.

The Five-Year Plan was carried through at the expense of Spartan self-abnegation on the part of the general population. Personal luxuries, and many things on the border line between luxury and comfort, were ruled out. A number of necessities were rationed. This was in large measure due to the fact that the country was putting upwards of 50 per cent of the national income into new capital investment. Another factor was the emphasis on the development of heavy industry at the expense of the development of consumer's goods.

The unstable international situation and the threats of war against the Soviet Union in 1931 and part of 1932 were primary reasons for the preoccupation with heavy industry, and the establishment of economic bases in the interior, far from the border. Stalin made this clear in his report to the party leaders early in January, 1933. Admitting the shortage of consumers' goods, he added: "As it is, we have lifted the country for all time from its position as the object of the military designs of our enemies, such as China now is. That is why the party is shown to have been right in insisting on such speed in heavy industrial production. That is why the party was compelled to drive the country in order not to lose a day's peace for the U.S.S.R. It was not possible for us to wait."

Apparently the generally improved condition of Soviet foreign relations made possible a slackening of this intensive development. Tentative outlines for the Second Five-Year Plan, published early in 1932, indicated if anything an even faster pace than under the first plan. However, in his speech at the beginning of 1933 Stalin announced that during the new five-year period the industrial advance would be slowed to 13 to 14 per cent a year, that new construction would be undertaken at a more moderate pace, and that strenuous efforts would be devoted to perfecting management and technique, improving efficiency all around, and developing a more satisfactory system of distribution. The new plan formally began Jan. 1, 1933.

External handicaps during 1932 included the hostilities in the Far East, which caused an expensive diversion for the protection of the Soviet borders, and the sharp fall in commodity prices, which resulted in a decided drop in the value of Soviet foreign trade and a cutting down of orders for equipment. Internal problems included a transportation system stretched beyond its capacity; the deficiency of skilled workers, technicians and engineers for the new large enterprises; the labor turnover running to upwards of 100 per cent annually in heavy industry; defective management in a portion of the coöperative and even the state farms, complicated by sabotage among the peasants in certain villages. Still another, if less vital difficulty, was the overcrowded housing situation in cities swollen with the rapid industrialization.

Vigorous efforts were being made to meet these various problems. Work was being rushed on the most necessary additions to the transport system. Education and training for skilled workers and engineers were expanded to an extraordinary de-

gree. Various devices were tried to cut down the labor turnover. Industrial managers were forbidden to lure away labor from other plants. Attempts were made to attach penalties to habitual "floaters," the static workers receiving preference in matters of housing and food and other tangibles. The internal passport system for natives—still extant in the Soviet Union as in the Russia of the Tsars—was tightened up, both with the idea of reducing superfluous migrations and of clearing out many non-producers from the larger cities. Attempts were made to reduce the labor shortage by wholesale pruning down of white-collar workers in the offices of government institutions. Another device tried at the close of 1932 was designed to increase the number of women in industries in large cities. This was in the form of a decree restricting family food-allotments in childless homes where the wife had no outside employment.

In the case of agriculture, the Communist party made it plain at the beginning of 1933 that despite present difficulties there would be no recession from the programme of socialization. In the programme designed to carry the country through the period of shortage in farm products and to improve conditions for the future, measures of severe regimentation were mixed with reforms designed to ease conditions among the farming population.

The conduct of some of the collective farms revealed cases of gross maladministration and even active sabotage. The principals discovered were severely dealt with, with sentences of imprisonment, exile, and even death for a few conspicuous offenders. As a preventive measure the machine and tractor stations—there were some 2500 of these in 1932, each serving a group of collective farms—were given certain police powers similar to those of the G.P.U. (secret police). On the other hand the collectives and individual peasants were granted more initiative in disposing of their products in the open market, with restrictive provisions to protect the consumer against profiteering. Finally, a decree was announced changing the agricultural tax from a sliding scale based on the amount of productivity, determined after the crop was in, to a fixed tax for each farm, announced at the beginning of the season. This change removed a constant point of disaffection in the rural districts.

On the whole it might be said that while Soviet foreign policy held steadily to a "rightward" course, internal policy kept its face resolutely to the "left." This resolute clinging to the line of socialization in the face of difficulties, awoke a new "right" opposition in the party itself, or perhaps was made the excuse for a renewal of opposition by certain elements. In the fall of 1932 Zinoviev and Kamenev, the former head of the Communist International in its palmy days and the latter a lieutenant of Lenin's at the time of the revolution and for several years a cabinet officer, were expelled from the party along with a score of lesser lights. In December it was announced that the party had grown to over 3,000,000 members and that one of the periodical "cleansings" would begin forthwith for the weeding out of careerists, slackers, and other undesirable. The "cleansing" process began in the North Caucasus region, where the agricultural results had been particularly poor, and several hundred members were reported ousted. The sporadic heresies of 1932 were not regarded as be-



ing as important as the opposition movement of 1929-30, but they indicated some faltering in the party ranks in a period of stress.

**FOREIGN RELATIONS.** A notable improvement in Soviet relations with European countries was observed during 1932. It was marked by an expansion of the policy of concluding bilateral treaties of peace and non-aggression with neighbor countries. Such pacts were concluded as follows: Finland, signed January 21, ratifications exchanged August 9; Latvia, signed February 5, ratifications exchanged July 18; Estonia, signed May 4, ratifications exchanged August 18; Poland, signed July 25, ratifications exchanged November 27; France, signed November 29.

Previously five such treaties had been concluded: With Turkey in 1925; with Germany, Afghanistan and Lithuania in 1926; with Persia in 1927. Negotiations for a similar pact with Rumania were begun in 1931, but were impeded by the difficulty of finding a mutually satisfactory formula about Bessarabia, which is claimed by both countries. Litvinov, Soviet Foreign Commissar, proposed a non-aggression treaty to Japan in December, 1931, but the Japanese government held aloof during 1932.

The various bilateral pacts are similar in character and somewhat different in detail according to the problems peculiar to each instance. They are thoroughly explicit. They specifically renounce war as between the two countries concerned, they contain a pledge that no aid of any kind shall be given to a third power waging aggressive war on either of the parties, they pledge each party to refrain from participating in any treaty or agreement hostile to the other party. The treaties commit the signatories to arbitration for all disputes between them. They are accompanied by collateral agreements setting up the machinery for a continuous arbitral tribunal. Article V of the treaty with France contains the following clause:

Each of the High Contracting Parties undertakes to respect in all relations the sovereignty or dominion over all its territories as defined by article I of the present treaty, in no way to interfere in its internal affairs, and in particular to refrain from any action inclining toward incitement or encouragement of any kind of agitation, propaganda or attempts at intervention which would have the aim of violating the territorial integrity of the other party or of changing by force the political or social structure of all or part of its territory.

The conclusion of these agreements, particularly the signing of the treaty with France, materially relieved the uneasiness in the Soviet Union about a revival of the period of invasion. (See **POLAND** and **FRANCE** under *History*.)

Litvinov's concrete proposals for complete disarmament, and his alternative plan for progressive disarmament, presented to the Preparatory Disarmament Commission early in 1928, stemmed from this general policy of stabilizing the situation of the Soviet Union. The general disarmament proposals were a natural extension of that policy. The sessions of the Disarmament Conference of 1932 at Geneva found Litvinov still reiterating his proposals. See **DISARMAMENT**.

After Japanese armies invaded Manchuria in the fall of 1931, Soviet-Japanese relations grew increasingly more precarious, especially when Japanese military operations were extended to the northeastern boundary, close to the Soviet line, and a considerable agitation arose in circles in Japan to the effect that manifest destiny

called Japan to the control of Soviet territory from Lake Baikal to Vladivostok. This situation caused an expensive diversion of Soviet war supplies and men to guard the Eastern frontier. The situation continued tense into the summer of 1932, by which time more moderate counsels prevailed in Japan and the strain was gradually eased. A concomitant irritant had been the disagreements over the Soviet-Japanese fisheries pact, under which with certain restrictions Japanese fishermen were permitted to operate in Soviet waters and Japanese canneries were allowed on the Soviet coast. Both sides set forth alleged violations of the existing agreement, which was due to be renewed early in the year. Amidst recriminations the renewal was delayed. The new agreement on terms acceptable to both sides was finally signed August 13 and it materially cleared the atmosphere. There was some renewal of the tension, however, when, at the end of November, the Japanese again advanced to the Soviet border on the west in their pursuit of the insurgent Chinese General Su Pin-wen and his army. General Su was forced to retreat with his army across the Siberian boundary, where they were interned according to established custom in such matters. The Japanese demand that they be delivered up as prisoners was not complied with, and this development was hardly a soothing influence as between the two countries.

Resumption of diplomatic relations between the Soviet Union and the Chinese government at Nanking was announced at Geneva by Litvinov and the Chinese delegate on December 12. Relations had been broken off since 1927. The Soviet press interpreted the resumption as a further step in the Soviet peace programme. See **CHINA** under *History*.

On October 17 the British government gave the required six months' notice of renunciation of the temporary trade agreement with the Soviet Union signed in April, 1930. The renunciation was an outgrowth of commitments made to the Dominions in the Ottawa Conference. However considerable irritation was caused in Moscow by the form in which J. H. Thomas, Secretary of State for the Dominions, announced the decision of the government to Parliament, particularly to his reference to protecting the Dominions from competition of "sweated goods." Since British exports to the Soviet Union had increased 45 per cent in the first nine months of 1932, as compared with the same period of 1931, the denunciation of the treaty caused unfavorable repercussions in powerful sections of British industry. Negotiations for a new treaty were begun in December.

The shift of Soviet orders abroad for machinery, equipment and tools from the United States to western European countries, which began in 1931, was reflected in a marked change in the Soviet import list in 1932. The extent to which Germany, England, and Italy had ousted the United States from the Soviet market was shown in the Soviet import figures for the first nine months of 1932, as compared with those for the same period of 1930. While imports from the United States fell off nearly 90 per cent during the two years, imports from Germany, England, and Italy increased 30 per cent. During 1932 the Soviet Union was Germany's best foreign customer. In 1930 the United States stood first on the Soviet import list. In 1932 it had slipped

back to fourth place, behind Germany, England, and Persia.

A marked increase in recognition sentiment was evident in the U. S. Senate. In December, 1932, the newspapers published a poll of this subject among members of the Senate Committee on Foreign Relations. Nine members were for recognition, five against, seven non-committal. The pro-recognition group included Senator Borah, Chairman of the Committee, Senator Swanson, who was scheduled to become Chairman after March 4, and Senator Robinson, Democratic floor leader in the Senate. The negative group (all Republicans) included three defeated for reelection in November. On January 8 the Washington *Star* published a poll of all the Senators in Washington who had been reelected in November. Of these 22 urged recognition, 9 were opposed, 20 were non-committal.

See SIBERIA; SOVIET CENTRAL ASIA; TRANS-CAUCASIAN SOCIALIST FEDERATED SOVIET REPUBLIC; POLAR RESEARCH; EXPLORATION. Also FINLAND, RUMANIA, TURKEY, PERSIA, MONGOLIA, and JAPAN under *History*; COMMUNISM; MILITARY PROGRESS; NAVAL PROGRESS; ROADS AND STREETS.

**UNIONS.** See TRADE UNIONS.

**UNITARIAN CHURCH.** A denomination believing in one God in one person and, consequently, in the purely human personality of Jesus.

The one hundred and seventh annual meeting of the American Unitarian Association was held in Tremont Temple, Boston, May 24, 1932. According to latest available statistics, the denomination had 419 churches, 372 of which were active; 136,204 members; 3170 Sunday school officers and teachers, and 20,823 pupils. The denominational publications are the *Christian Register* (weekly) and the *Unitarian News Letter*. The officers of the association in 1932 were: President, the Rev. Louis C. Cornish, D.D.; secretary, the Rev. Walter R. Hunt, D.D.; treasurer, Parker E. Marean. Headquarters, 25 Beacon Street, Boston.

**UNITAS FRATRUM.** See MORAVIANS.

**UNITED BRETHREN IN CHRIST, CHURCH OF THE.** A denomination which resulted from the religious awakening of Philip William Otterbein, Martin Boehm, and their coworkers. Formally organized in Frederick, Md., in 1800, its theology is Arminian, while its beliefs are those of the earlier evangelical denominations.

The church is divided into 33 annual conferences, including those in China, Japan, the Philippines, Puerto Rico, and West Africa. In 1932 there were 1648 charges, 2960 organized churches, 1831 active ministers, 413,804 church members, 2845 Sunday schools with an enrollment of 420,994, including teachers and officers. The amount raised by the church for all purposes in 1932 was \$4,531,839. The net increase in church membership for the year was 4397.

The church maintains the following educational institutions: Bonebrake Theological Seminary, Dayton, Ohio; Otterbein College, Westerville, Ohio; Lebanon Valley College, Annville, Pa.; Indiana Central College, Indianapolis, Ind.; York College, York, Nebr., and Shenandoah College, Dayton, Va.

The *Evangel* is the paper published by the Women's Missionary Association; *The Religious Telescope* is the official paper of the church; and *The Watchword* is the young people's paper. The

United Brethren printing establishment and church headquarters are in Dayton, Ohio.

**UNITED CHURCH OF CANADA.** See CANADA, UNITED CHURCH OF.

**UNITED KINGDOM.** See GREAT BRITAIN.

**UNITED STATES. AREA AND POPULATION.** As determined by revised maps, the area of the 48 States and District of Columbia, in 1930, was 3,026,789 square miles, exclusive of oceans, the Gulf of Mexico, and the Great Lakes; non-contiguous lands (Alaska, Hawaii, the Philippine Islands, Guam, the Panama Canal Zone, Puerto Rico, the Virgin Islands, and American Samoa) had an aggregate area of 711,606 square miles; the total area of the Union and the outlying territories and possessions of the United States was 3,738,395 square miles.

The population of the continental United States (understood as exclusive of Alaska and the Canal Zone), as determined by the Fifteenth Federal Census, was 122,775,046 on Apr. 1, 1930. According to the previous census it had been 105,710,620 on Jan. 1, 1920. The respective populations of States and of territories or possessions may be found in the articles on each.

**AGRICULTURE.** See AGRICULTURE; AGRICULTURE, U. S. DEPARTMENT OF; sections on *Agriculture* under the various States; and articles on CORN, WHEAT, ETC.

**INDUSTRY AND COMMERCE.** The distinctive feature of commercial activity during the year was the almost unprecedented extent of its connection with the proceedings of the Federal Government. Activity, as indicated by loadings of freight cars and by the prices for wholesale commodities, reached the lowest stage of the two and a half years of depression early in July. See BUSINESS REVIEW; UNEMPLOYMENT.

**FOREIGN TRADE.** Both imports and exports declined for the year as a whole, in much the same manner in which they had declined for 1931. Again, in 1932, imports fell off, proportionately, from the previous year's totals, somewhat more severely than did exports. In terms of dollar totals, the exports and imports of 1932 did not come by any means as far short of those of 1931 as these, in their turn, had come short of those of 1930; the exports of 1932 were about \$806,000,000 less than those of 1931, while those of 1931 were \$1,420,000,000 below those of 1930; and the imports of 1932 lacked some \$768,000,000 of the total of 1931, whereas those of 1931 lacked fully \$971,000,000 of the total of 1930. But in percentages the losses for the respective years more nearly conformed: as to exports, 1932 ran some 33½ per cent below 1931, which in turn ran about 37 per cent below 1930; as to imports, 1932 lacked approximately 37 per cent of 1931, which in turn lacked some 32 per cent of the total for 1930. On the basis of these percentages exports dwindled somewhat less and imports somewhat more, for 1932 than for 1931. A fairly well sustained export demand for American cotton and specially negotiated exports of grains by the Farm Board were credited with some part in helping keep the total exports of 1932 from greater shrinkage; exceptional exportation to Japan was also reported.

Exports of merchandise exceeded imports, for 1932, by some \$295,212,000; this total was nearly 14 per cent below the corresponding "favorable" balance of the country's foreign trade in merchandise for 1931, which totaled \$333,654,000. For merchandise exports and imports, by months,

during 1928-32, see *FINANCIAL REVIEW* under *International Balance*.

Imports of gold totaled \$364,315,000 for 1932; exports, \$809,528,000. The chief exportation of gold was in May and June.

**MINERAL PRODUCTION.** The article *MINERAL PRODUCTION IN THE UNITED STATES* gives the latest available official figures for mineral production in the United States. The more important minerals mined in the United States are treated in separate articles. There are also paragraphs on mineral production in the articles on the individual States.

**RAILWAYS.** See separate article on *RAILWAYS*.

**SHIPPING.** See articles on *SHIPPING* and *SHIP-BUILDING*.

**FINANCE.** See the article on *PUBLIC FINANCE*.

**EDUCATION.** See the articles *EDUCATION IN THE UNITED STATES* and *UNIVERSITIES AND COLLEGES*. Separate articles on the most important universities and colleges also are given under their respective titles. Sections on education are included in the articles on the several States.

#### ADMINISTRATION

**THE PRESIDENT.** From the opening of the year until his active entrance into his campaign for reelection in October President Hoover was chiefly occupied with efforts to carry on his plan for checking economic depression. He held throughout to the guiding idea that liquidation and deflation had been overdone, that the economic emergency was due largely to "unjustified fear" and that conditions could be corrected if "timid capital" were mobilized. He altered in some respects the policy that he had previously followed: the effort to stimulate ordinary credit, as evidenced in his promotion in 1931 of the National Credit Corporation, gave way to the device of a great Government-owned institution, the Reconstruction Finance Corporation, for the direct dispensation of funds from the Treasury as loans to divers sorts of enterprises that could not borrow elsewhere; he abandoned the attitude of equanimity with which he had met the advent of Federal deficits in his message of December, 1930, and on the contrary laid great and repeated stress on the need to reestablish budgetary balance.

The chief points of the financial-economic policy that the President followed throughout 1932 were: the stimulation of finance and industry through grants of credit; the prosecution of public works as the means to provide in part for those who lacked employment; the reduction of the Government's running expenses by elimination of waste, particularly by consolidating bureaus and offices; the reduction of armaments through international agreement, with a view to saving; the increase of taxation to an extent sufficient to bring the budget in balance. He avoided the counsels of many partisans of international economic action, that the United States consider reducing the debts owed the Treasury by foreign governments, as the means toward mending the collapse of international trade, or that he initiate an international economic conference. An invitation to a future international economic conference sponsored by the British government was, however, accepted on August 2, with the understanding that there be no discussion of the course of the United States as to war debts, reparations, and tariffs.

President Hoover communicated many times

with Congress by the regular means of Presidential messages. Also, he gave out numerous public statements during the sittings of Congress setting forth his views. His public statement of May 13, called forth by a demand of the presidents of the seven leading railway brotherhoods that he take action to help foreign trade by dealing with the foreign governments' debts, set forth the doctrine that conditions demanded the use of emergency powers; that these were already being used and were to be extended, in the activities of the Reconstruction Finance Corporation; that within the limits he had proposed they did "not affect the budget"; that he "had no taste for any such emergency powers in the Government," but that they constituted a necessary "temporary mobilization."

Mr. Hoover set an example in administrative economy on July 15 by directing that his own salary be cut by 20 per cent, or \$15,000, at the same time the salaries of Vice President Curtis and of the nine members of the Cabinet, by consent, were reduced 15 per cent. These reductions coincided with the imposition of the furloughs without pay which reduced the yearly remuneration of Federal employees by one-twelfth. In conflicts with Congress Mr. Hoover sought repeatedly to make it conform to his economic policies. When the revenue measure was stalled in the Senate he took the unusual step of going to the Senate chamber in person on May 31 and addressing that body on the need of prompt and united action; the move was successful, the Senate voting the tax bill in the same day's session. On May 5 he made an attempt to dominate the House of Representatives by sending to Congress a message reproving the House for its course, particularly on the economy and emergency relief measures. In that case he was less successful, as the Congress obliged him later to accept measures not wholly in consonance with his demands.

*Treatment of Bonus Army.* The President ordered on July 28 and a mixed force of troops of the U. S. Army summarily carried out, under command of Gen. Perry L. Miles, the eviction from Washington and from Anacostia Island of the so-called Bonus Army. This was a body of war veterans from many parts of the country, chiefly needy, that had gathered at the Capital, ostensibly to urge Congress to enact a law for the immediate payment of the bonus certificates, and presumably also in the hope of finding sustenance not available to them in the places where they resided. They had been passed on from State to State by railroads or towns anxious to get rid of them and so had ultimately reached Washington, where they were organized under their own commanders and were fed largely by private donations. They were unable to influence the Senate to vote the bonus payment, but after the adjournment of Congress they remained in Washington. Money advanced by the Government to take them home induced a great number of them to depart, but a group estimated to number some 4000, including some women and children of veterans' families, remained. Part of the group, having taken possession of vacant buildings on Pennsylvania Avenue to be torn down by the Government, were ordered to leave and some of these resisted eviction by the District police. In the resulting riot at midday on July 28 one veteran was shot to death by police and several other veterans and police were wounded. The troops were ordered out at

3 p.m. and drove all the veterans from the city and from the Anacostia camp, sabres and tear gas being used and a small number of veterans receiving sabre cuts. Sympathizers with the veterans accused the President of having used undue severity. The Administration sought to prove that the situation had got out of the hands of the District Police, and that the veterans were in control of a strong radical and criminal element. Pelham D. Glassford, chief of the District police, denied that he had demanded military help and stated that he could have continued to handle the situation. President Hoover personally defended the act of expulsion in a press statement of July 29, as a necessary use of his authority to prevent "mob rule."

*Conference with President-Elect.* Shortly after his defeat in the National election President Hoover sent President-elect Roosevelt on November 13 an invitation to confer with him at the White House on the policy to be pursued with regard to foreign governments' applications for suspension of the payments of December 15 on the war debts, and likewise with regard to any other matters calling for continuity of policy. Governor Roosevelt accepted but made the reservation that the "immediate question" as to the payment on the war debts must rest on the responsibility of those actually vested with authority.

There resulted a conference of some two hours, held on November 22, of which the details were not divulged.

*Proposal of a War-Debt Commission.* In a special message sent to Congress on December 19 President Hoover recommended prompt re-examination of the debt agreements with governments that had paid or sought to pay sums due on December 15. For this purpose he proposed that Congress create a commission, which was to include leading Democrats in Congress and outside of it, as well as the Government's representatives to forthcoming international conferences on economics and on disarmament. The proposal came to nothing, as the support of the next Administration, which Mr. Hoover requested of President-elect Roosevelt, was refused by the latter, who expressed fear lest the proposed scheme of collaboration would commit his Administration as to policies.

**FOREIGN AFFAIRS.** The chief foreign dealings of the Administration had to do with the Manchurian situation, with the World Conference on Disarmament, at Geneva, with the war debts owed to the Treasury by foreign governments and the germane matters of German reparations and American trade relations, and with a proposed deep waterway down the St. Lawrence.

*Manchuria.* On January 7, moved by the extension of the Japanese occupation of Manchuria to the borders of China proper, Secretary of State Stimson addressed a note to the governments of China and of Japan declaring that the United States neither admitted any de-facto situation nor would recognize any agreement between those governments, in particular as to the integrity of China, that would impair the treaty rights of the United States, as embodied in the "open-door" policy; further that the United States would not recognize "any situation, treaty or agreement which may be brought about by means contrary to the covenants and obligations of the Pact of Paris." This declaration launched among actual international relations the so-

called "Stimson doctrine," which in its general application signified that a government's territorial acquisitions, if subsequent and contrary to the provisions of the Paris pact of 1928, were not to be recognized. See JAPAN under *History*; LEAGUE OF NATIONS; PEACE.

*Armaments.* The United States sent a delegation to the conference on disarmament which assembled at Geneva in January. President Hoover instructed this delegation to present proposals intended to reduce the arms of all nations by one-third of each nation's excess of land armaments over the "police component" or force indispensable for maintaining civil order, for which the relative size of the German army was to furnish the basis. See DISARMAMENT.

*War Debts.* Dealings with the subject of foreign-government debts owed the Treasury were of two sorts: those concerning the postponement of payment of annuities, and those concerning modification of the agreed sums to be paid. As to the former sort, the Government concluded with Great Britain and other debtor governments, toward the end of May and on the eve of the Lausanne Conference, agreements whereby the debtors whose payments had been postponed for a year by the Hoover moratorium of 1931 agreed to make the postponed payments serially over 10 years, with interest at 4 per cent. See REPARATIONS AND WAR DEBTS.

The subject of foreign taxation affecting Americans was allied to that of foreign payments to the Treasury, as foreign governments indebted to the Treasury felt impelled to adjust their financial balances with the United States in part by this means. Ambassador Edge was reported on April 27 to have signed an agreement with the French government whereby the latter was to modify its system of "double taxation" on the profits of American-owned French subsidiaries, to the extent of allowing such enterprises the alternative of diverting profits out of the country by paying a profit tax of 15 per cent and a dividend tax of 10 per cent. Mr. Edge also carried on negotiations to effect a new commercial treaty with France, seeking to improve the position of French imports from the United States as limited by the existing system of French import quotas.

*December War-Debt Payments.* The British and French Ambassadors presented notes on November 10 and 11, immediately after the National election, requesting that the United States allow postponement of the payments due December 15 on account of the war debts and a review of the agreements on these debts. A memorandum from the Belgian government to the same effect followed these on the 15th. The President, after a conference with President-elect Roosevelt, of which the details were not published, issued a statement on November 23, repeating the doctrine that the question of the war debts must be treated separately from that of German reparations, pointing out that Congress alone could alter the debt agreements, recalling that Congress had by resolution declared against any cancellation or reduction, stating the President's own opposition to cancellation, declaring that no facts had been presented by the debtor governments to justify postponement of the payments of December 15, but leaving specifically open to consideration a proposal that any such payments be made in foreign currencies, in the event of "extraordinary circumstances" impeding the

necessary transfers into dollars; the President also expressed the belief that Congress should authorize the creation of an agency to discuss war debts and germane matters with the representatives of the governments affected.

Secretary of State Stimson, in partly identical notes to the British and French Ambassadors, under date of November 25, stated that the President was prepared to recommend to Congress that it constitute an agency to examine the whole subject, but that with regard to suspension of the approaching payments no facts had been submitted by the applicants, such as could be submitted to Congress for action to that end.

A note delivered by the British Ambassador on December 1, in reply, reviewed at length the subject of the war debts as affecting Great Britain's economy and the conditions of international trade; cited the fall of British trade with the United States; pointed out that under the existing American tariff British exports to the United States had fallen far below the amounts necessary to help meet the debt payments; and alluded to the prospect that if the United States should resume collection of payments Great Britain in turn might exact payment from her own debtors and thus bring about the resumption of claims for reparations from Germany. A French note, delivered on the 2d, represented the importance of enabling France to continue assistance to European recovery, by not impairing her gold position through a continued drainage by payments to the United States; cited the Hoover-Laval statement of Oct. 25, 1931, as committing the President to recognition of the possible need of some further agreement, succeeding the Hoover moratorium, with regard to "inter-governmental obligations"; and declared that strict application of the war debt agreements "would result in creating further chaos and poverty throughout the world." A Belgian note of December 7, advancing many of the arguments in the British and French notes, declared that Belgium, if required to pay her intergovernmental debts, did not see how to "avoid turning to her own debtor," Germany.

Secretary Stimson, in turn, delivered to the British Ambassador on December 7 a note reiterating that the Administration found no possibility of postponing the debt payment of December 15, but alluded to possible means to obviate payment in dollars; it was represented that the President might consider permitting a review of the subject of the British debt at a coming Economic Conference. A note to the French government renewed demand for the French payment due on December 15. A British note of December 11 declared intention to make the payment of December 15 but proposed the subjection of this payment to later adjustment by conference, in any final settlement. The State Department replied, refusing the United States' assent to this proposal. The British payment was made nevertheless. The French ministry, endeavoring to adopt the British course, was overthrown by a vote of the French Chamber, which passed a resolution to withhold payment, in view of the American reply to the British note. Six governments, Great Britain, Italy, Czechoslovakia, Finland, Latvia, and Lithuania, met their payments of December 15; five, France, Belgium, Poland, Estonia, and Hungary, did not. See REPARATIONS AND WAR DEBTS.

*Treaty with Canada.* A treaty with Canada,

for "ensuring the completion of the St. Lawrence waterway project," was executed at Washington on July 18. It adopted the general outline of the recommendations of the International Joint Commission and provided for a system of works inclusive of the deepening of the St. Lawrence, locks and power plants at the International Rapids, the already effected Canadian enlargement of the Welland Canal, and deepened channels in the Great Lakes. See CANADA under *History*.

The treaty thus affected the disposal of water-power sites on the border of New York State, to which the government of that State asserted that it and not the United States held the effective rights, and as to which the State had under consideration plans of its own. Governor Roosevelt, prior to the conclusion of the treaty, had repeatedly urged the President that the State authorities have an opportunity of entering the negotiations before the treaty should be drawn. To the last of these requests President Hoover replied by letter of July 10, in effect, that if a treaty were concluded and ratified, then the domestic questions that arose must be settled by Congress, and that the President had no authority to enter upon agreements in respect of such domestic questions. After the execution of the treaty the Power Authority of New York State, in a published letter of July 20 to Governor Roosevelt, charged "direct violation of repeated pledges of the State Department to the effect that every effort should and would be made to reach an understanding with New York before the treaty was signed," and cited a letter of Nov. 3, 1931, from Secretary of State Stimson, containing what was submitted as an implied promise to that effect. The treaty was placed in the hands of the Senate's committee on foreign relations shortly after the adjournment of Congress.

For developments in intervention policies of the United States in Latin America, see NICARAGUA, SALVADOR, HONDURAS, HAITI, CUBA, and LIBERIA under *History*.

**HOME LOAN BANK SYSTEM.** The organization of this system of banks, as provided by enactment (see *Congress*), started with the President's appointment on August 6 of the members of the Home Loan Bank Board, the system's supervising body. Franklin W. Fort of New Jersey was made chairman of the board; William B. Best of Pennsylvania, Dr. John M. Gries of Ohio, Nathan Adams of Texas, and M. Morton Bodfish of Illinois were named members; the last two were Democrats, the rest Republicans. The stocks of the several Home Loan Banks, 12 in all, were offered in September for subscription by the institutions that were to become affiliated with the system.

Chairman Fort in the meanwhile arranged with the Controller of the Currency, as to the cases of National Banks, and with the Superintendents of Banks in the greater part of the States, as to institutions under State laws, that the receivers of closed banks be instructed to delay proceedings in foreclosure for 60 days, in order that there might be time for the new system to come into operation and make efforts to take up mortgages of homes on which foreclosures impended. The formation of the system did not prevent a widespread prevalence of foreclosure proceedings late in the year.

**FARM BOARD.** The Farm Board was shorn of a

substantial part of its resources by an act of Congress giving part of its holdings of wheat and cotton to be used for the sustenance of the needy, by the Red Cross; the act made no appropriation for the repayment of the value of the goods thus bestowed. The Board did not resume its former aggressive efforts to manipulate the markets for wheat and cotton. It followed out a programme of selling, during the year, 650,000 bales of its cotton holdings for export and sought to sell 15,000,000 bushels of wheat to China, with financing provided by the terms of the Emergency Relief Act, through the Reconstruction Finance Corporation; difficulties in obtaining this credit held back the completion of the sale up to late in December. The Farm Board disposed of a large quantity of wheat to Brazil, taking coffee in barter.

**RECONSTRUCTION FINANCE CORPORATION.** This body (for the creation of which see under *Congress*) was not strictly speaking a part of the Administration, but a separate Government-owned corporation, functioning independently of the Administration's control save as affected by the *ex-officio* element in the membership of its board of directors. It was organized on February 2, with Charles G. Dawes as its president and Eugene Meyer, governor of the Federal Reserve Board, as chairman of its board. Its four appointed directors were, in addition to General Dawes, Harvey C. Couch of Arkansas, Jesse H. Jones of Texas, and Wilson McCarthy of Utah. *Ex-officio* directors were Secretary of the Treasury Mellon (Under-Secretary Mills as alternate), Eugene Meyer, and Farm Loan Commissioner Paul Bestor. Later, under the provisions of the Emergency Relief Act, Bestor and Meyer were dropped from the directorate, Atlee Pomerene of Ohio was appointed director and chairman of the Board, and Gardner Cowles of Iowa was made a director. The President's choice, late in July, of Pomerene for chairman placed a prominent Democrat in the chief position and gave the Democrats four of the board's seven places, thus putting the Corporation chiefly in Democratic control. General Dawes resigned from the Corporation on June 6 to head a banking institution in Chicago, the Central Republic Bank and Trust Company to which the Corporation shortly afterward, at the end of June, authorized loans totaling \$90,000,000. He was succeeded by Charles A. Miller of New York, who became president of the Corporation in August.

Early in its proceedings the Corporation created regional committees to collaborate with it, particularly in the matter of assisting the smaller banks. It promptly began to draw on the Treasury, both against its debt obligations and by selling blocks of its authorized capital stock. By June 30 it had made or authorized 5084 loans to 4196 institutions, and to a total of \$1,054,814,486, of which \$805,150,007 had actually been paid out and \$76,448,199 had been repaid. Of the total of loans authorized, \$642,789,313 was to some 3600 banks; to railroads and railroad receivers, \$213,882,724; to insurance companies, \$63,465,500; to building and loan associations, \$52,484,923.

While it was not necessary under the law that the Corporation sell its own paper to the Treasury, no effort was made to dispose of it otherwise. The Treasury took all its tendered debentures and paid for them in cash raised by the sale of direct short or medium-term paper of the

United States. The Emergency Relief Act greatly increased the authorized debt of the Corporation in July and likewise the scope of its duties to lend to divers borrowers. In conformity with that act the Corporation began in August to submit to the clerks of Congress monthly reports including lists of borrowers, not retroactive from the date of the act. The Clerk of the House published the first of these lists in August. In September, he held back from publication for a time the second list, on representations from Mr. Pomerene that the previous publication had done harm to banks disclosed as borrowers; but the list was made public October 7. As a whole, the loans to banks helped to bring about, during the first half of the year, a great reduction in the current number of bank suspensions, month by month.

In lending to railroads the Corporation acted only after the Interstate Commerce Commission had approved the companies' applications. The Commission proved a severe censor. It conditioned a loan to the St. Louis and San Francisco system on bondholders consenting to take income bonds in place of certain fixed return bonds. It scaled down the request of the New York, Chicago and St. Louis for \$20,000,000 to meet an issue of notes maturing on October 1 to one-fourth of that amount, to be granted only on condition that the note holders consent to extend the remainder of the debt; there resulted on October 1 a default of principal, the necessary number of consents not forthcoming, and on October 3, receivership proceedings were started. The Commission, moreover, opposed grants of loans to railroads for the repayment of money that they had borrowed from banks, holding that the banks should in such cases extend. The Corporation itself, in dealing with loans to States in the latter part of the year, followed the principle that a State must have exhausted its own resources for aiding its destitute. The greater part of the loan sought by Pennsylvania was accordingly refused in September, despite Governor Pinchot's protest to the President. On the other hand, efforts were made to induce railroads to borrow money for new equipment or for improvements that would generate employment in the country.

One of the effects of the Corporation's activity was the gradual retirement of the National Credit Corporation from the field of lending to banks. This agency, a private corporation formed among the banks at the suggestion of President Hoover in October, 1931, had lent some \$143,000,000 to 560 banks up to the end of January; by the middle of April it had reduced its total to about \$80,000,000, and ceased to be an active lender.

**THE TREASURY.** About the time of the organization of the Reconstruction Finance Corporation Andrew W. Mellon, who had been Secretary of the Treasury in four successive Administrations, resigned the post, and was appointed Ambassador to Great Britain. Under-Secretary Ogden L. Mills was appointed to succeed him as Secretary. Mr. Mills carried on the policy of Mr. Mellon, in meeting current deficits by issues of Federal obligations of short or medium term, and in renewing the demand for taxes sufficient to balance the budget, with the exception of the yearly statutory charge for the retirement of bonds. The great and frequent issues of Federal debt, needful to meet the demands of the Reconstruction Finance Corpora-

tion, were helped at first to find a market by the systematic purchase of Federal securities at \$100,000,000 weekly by the Federal Reserve Banks. About the middle of the year banks generally became buyers and it grew easy to dispose of new Federal issues at low rates of interest, for terms up to a year or more. The result was that the holdings of Federal securities, among the reporting member banks of the Federal Reserve system, increased by \$771,000,000 between July 6 and the end of September, banks tending to put a great part of their assets into this form of investment.

**Deficit.** For the fiscal year ended on June 30 the Treasury showed a deficit of \$2,885,000,000, as stated by Secretary Mills on July 1. See PUBLIC FINANCE.

Secretary Mills, in his annual report, published December 7, accordingly reduced the Treasury's estimate of revenue for the fiscal year 1933 to \$2,624,000,000, from \$3,098,000,000 as fixed in May. The Treasury's deficit at the close of the fiscal year, without allowance for possible further fiscal legislation, was forecast as approximately \$1,146,000,000 plus \$425,569,000 of statutory expenditure for the retirement of public debt, and on the supposition that some \$268,594,000 due on foreign-government debts were paid in full.

For the fiscal year 1934, total revenues were estimated as \$2,949,000,000 on the basis of existing legislation and taking for granted full payment of some \$328,743,000 to come due in that year on foreign-government debts. Consequently, on the presumption that the Federal tax on sales of gasoline be prolonged through the year, by enactment, and that economics recommended in the President's budget message be effected, a deficit of some \$170,000,000, exclusive of statutory debt retirement to an approximate \$534,000,000, was forecast. The report, however, hedged on estimates, declaring them "still qualified by major uncertainties . . . primarily because there is little to indicate the rate at which recovery will take place."

**POST OFFICE.** For the fiscal year ended June 30, 1932, the postal deficit greatly exceeded that of any other recent year. Its size was due to lower postal revenues, offset only in small part by reduced expenditure. Expenditure for the fiscal year was \$793,722,534 (1932), as against \$802,529,573 (1931); revenue fell to \$588,171,923 (1932), from \$656,463,383 (1931); the consequent gross deficiency rose to \$205,550,611 (1932), from \$146,066,190 (1931). It was partly made up of non-remunerative items, chiefly subsidies to shipping and aviation; net of these charges, the yearly deficiency was \$152,246,188 (1932), as against \$98,018,882 (1931). A reduction of the postal service's working week for employees, to 44 hours, from 48, which took effect at the start of the fiscal year, operated against greater reduction of expenditure. The legislative economies and postage increases of 1932 came too late to affect the results for the fiscal year, but a smaller deficiency for the fiscal year 1933 was expected.

**VETERANS' ADMINISTRATION.** During the fiscal year ended June 30, 1932, according to the yearly report, there occurred a material increase in the number of all persons receiving from this branch of the Administration either pensions or other direct money benefits. The total of such recipients, 1,598,080 at the end of the fiscal year, was

248,268 higher than a year before and 519,036 higher than at the close of the fiscal year 1930. Among them were 1,145,116 receiving such benefits by reason of the World War; this element constituted 72 per cent of the total for all wars, as of June 30, 1932, as against 56 per cent for June 30, 1930. The report drew attention to the possibility of further heavy costs to the Government from those claiming benefits under present acts and recommended extensive review of the programme of veterans' relief.

Apart from those receiving monetary benefits, the number of veterans receiving care at Federal expense in hospitals was much affected by additional admissions of those suffering from disabilities not connected with service under the flag. While the proportion of such admissions for the whole period since their authorization in 1924 approximated 60 per cent of all admissions, the proportion for the fiscal year ended June 30, 1932, was 79 per cent.

While the pension system had not been applied specifically to cover service in the World War, payments on account of pensions continued on a great scale. The total paid since 1790 attained \$8,636,487,623, of which more than \$7,500,000,000 had been paid on account of the Civil War. There were on the pension lists at the end of the fiscal year six widows and one daughter of men who had served in the War of 1812; 31,072 Civil War veterans, as against 39,426 on June 30, 1931; 478 Mexican War widows; 196,541 veterans and 36,802 veterans' widows or children of the Spanish-American War. Disability compensation was being paid to 328,658 World War veterans; disbursements thereby were \$189,540,380 for the year; 97,448 veterans' dependents received \$36,715,575 compensation.

**INTERSTATE COMMERCE COMMISSION.** The Commission was required to pass on the applications of distressed railroad companies for loans from the *Reconstruction Finance Corporation* (q.v. under UNITED STATES), and adopted a policy calculated to keep such loans, where required to meet the companies' junior maturities, to the minimum, even to the point of requiring concessions from the creditors in such cases as that of the St. Louis and San Francisco, and the New York, Chicago, and St. Louis. The Commission took no active part in the negotiations of the companies, collectively, with their unionized workers for wage reductions, which resulted in a general reduction of such wages by 10 per cent for one year from February 1, later extended for 9 months more, by further agreement in December.

**Eastern Consolidations Approved.** The Commission rendered a decision on July 21 (Commissioners Eastman and McManamy dissenting) approving with few exceptions the details of plan favored by the chief companies interested, for the consolidation of the railroads of the North Central and Northeastern sections, as far west as Chicago, and southward to the Ohio River, into four systems, to be dominated respectively by the New York Central, the Pennsylvania, the Baltimore and Ohio, and the Chesapeake and Ohio. The plan looked to the Pennsylvania's divesting itself of its holdings in New England. It was permissive, and left some important issues as to details to be settled by negotiation among the four dominant companies; furthermore, it left for future determination many matters affecting necessary financing and



the satisfaction of holders of securities in the lines to be absorbed. About 300 lines were affected.

#### CONGRESS

**SEVENTY-SECOND CONGRESS, FIRST SESSION.** The session, which had been interrupted for the year-end holiday, was resumed on January 4. It continued through July 16. During the intervening time it passed measures of great financial import. These were chiefly of an emergency character and followed the general policy of rendering the credit of the Federal Treasury and of the Federal Reserve banking system available to governmental and private enterprises in the United States that had been impeded by economic depression. To this end the Reconstruction Finance Corporation was created and, before the close of the session, its functions were enlarged, that it might act as the Federal intermediary in furnishing loans to distressed banks, railroads, State and local public works, State undertakings for the relief of the destitute, and to some types of companies unable to obtain proper credit from usual sources. The Federal Reserve Banks were permitted to increase the lawful proportion of their circulation to their gold holdings to such a degree as to render it possible to augment the circulation of the Federal Reserve notes by a maximum of some \$3,000,000,000 on the basis of the gold coverage held at the time. A revenue act greatly increasing and broadening the sources of taxation was passed. An economy measure was enacted, giving partial effect to the Administration's demands for retrenchment in the budget.

*Reconstruction Finance Corporation.* In financial scope the foremost of these measures was the Emergency Financing Facilities Act, creating the Reconstruction Finance Corporation. President Hoover sent a message to Congress on January 4 urging speed in the creation of this credit agency and of other expedients for economic relief that had been earlier recommended in his annual message of Dec. 7, 1931. The Senate's committee on banking and currency reported its bill to create the Corporation on the 6th; the House committee on banking and currency reported a similar bill on the 9th. Both measures were modeled on the outline of the President's recommendations. They were somewhat modified by amendments in the course of passage. Each house carried its measure promptly to passage, with relatively little debate, and passed it by a heavy majority of both parties: the Senate on January 11 by 63 votes to 8; the House of Representatives on January 15, by 335 to 55. Discrepancies in the two bills were few; they were removed by a conference committee. This committee removed a provision of the House that the notes to be issued by the Corporation be re-discountable by the Federal Reserve Banks; it accepted a Senate provision that \$50,000,000 of the amount to be raised by the Corporation should be made available to the Secretary of Agriculture, with which to make loans to farmers for the production of crops in 1932.

The bill, as finally signed by the President on January 21, created as a Federal body corporate the Reconstruction Finance Corporation; authorized it to issue \$500,000,000 of capital stock, all to be taken by the Federal Treasury; vested the management of the Corporation in seven directors, respectively the Secretary of the Treasury, the Governor of the Federal Reserve Board,

the Farm Loan Commissioner, and four Presidential appointees, not over four of the entire number to be of one political party; the appointee directors were to serve for terms of two years. The corporation was to exist for 10 years unless previously terminated by statute; it was empowered to lend on security to banks, savings banks, trust companies, building and loan associations, insurance companies, mortgage loan companies, credit unions, Federal land banks, joint-stock land banks, agricultural and livestock credit corporations, and, upon assets, to closed banks (the last to net over \$200,000,000 in all); also, with the approval of the Interstate Commerce Commission, to railroad companies and railroad receivers. In order to obtain funds for such purposes the Corporation was empowered to issue its obligations to the proportion of thrice the amount of its capital (i.e. to \$1,500,000,000). These were to bear the guarantee of the United States, and as an alternative to their public sale, the Secretary of the Treasury was empowered, in his discretion, to purchase them. Loans made by the Corporation were to run for not more than three years, but were to be renewable if the Corporation so chose. Provision was made for the Treasury's completing the liquidation of the Corporation after 10 years had passed.

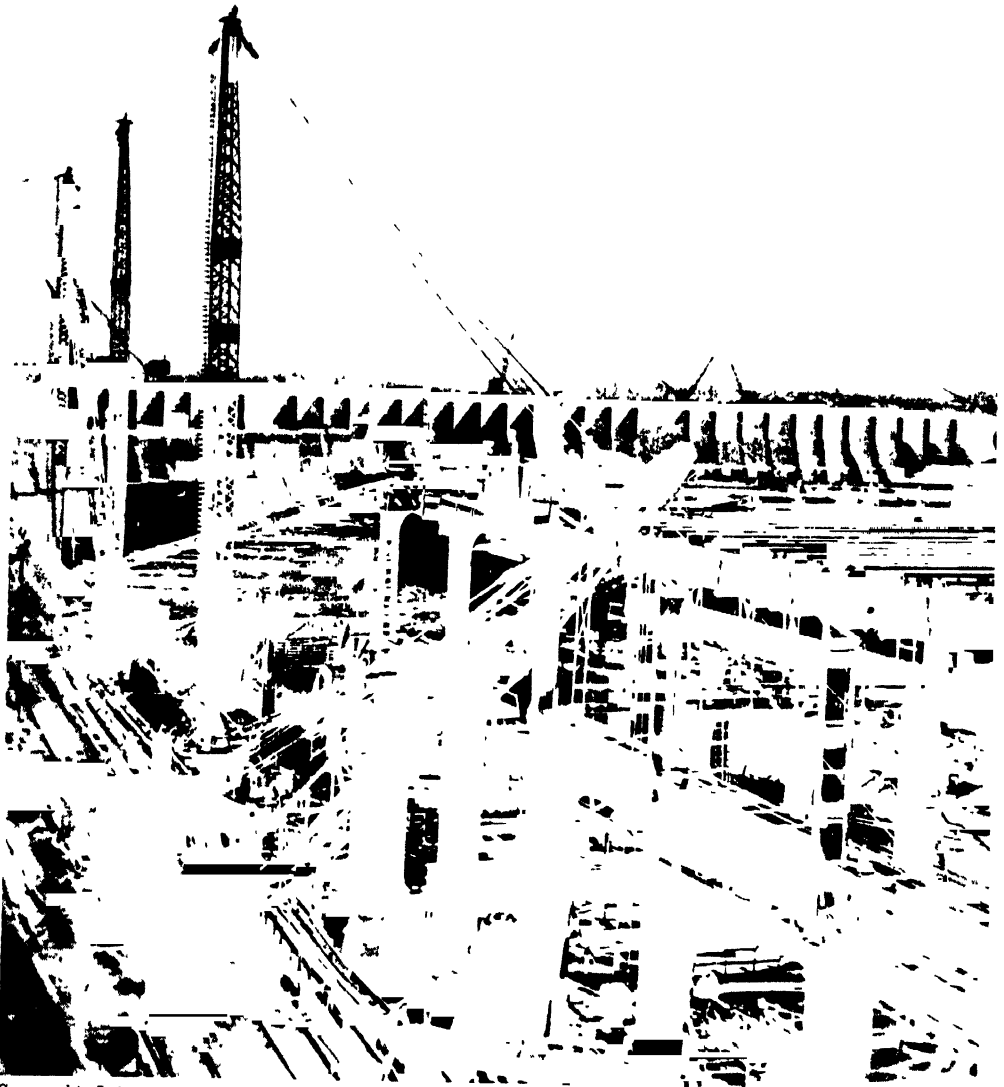
*Emergency Relief Act.* Later in the session the demand became widespread that the Federal Government should do for State and local governments, for the relief of individual distress, for the stimulation of employment by credit for public and other construction, what it had done through the Reconstruction Finance Corporation for banks and railroads. This led to the enactment of the Emergency Relief measure, which greatly enlarged the functions of the Corporation and provided in all \$2,122,224,000, partly for direct expenditure on Federal public works but chiefly for loans through the Corporation. Before agreement on this measure was reached there occurred, between the Administration group and the Opposition, led by Speaker Garner of the House, the most serious conflict of views that the session produced.

President Hoover, in a conference with the Democratic and Republican leaders of the Senate, was reported to have proposed on May 12 legislation embodying his ideas for this great expansion of Federal aid. His reported plan was to authorize the Corporation to issue an additional \$1,500,000,000 of its obligations, and to lend of the proceeds \$300,000,000 to States for measures of relief, \$40,000,000 to help move agricultural exports and \$1,160,000,000 to diversify private and public enterprises. Eugene Meyer, who had become chairman of the Corporation, was credited with inspiring the President to favor the granting of loans by the Corporation to the large group of business corporations that could not obtain credit through ordinary banking channels. The idea was unpopular in Congress, which reflected a popular feeling that in the distribution of Federal credit, business and finance had gained precedence over the distressed individual. Senator Wagner, Democrat, of New York, sponsored a bill that would provide for lending to States \$300,000,000 to be applied to purposes of relief, for \$500,000,000 to be spent on public works, and for \$1,500,000,000 to be lent for self-liquidating projects and agricultural exports. This bill was introduced in the



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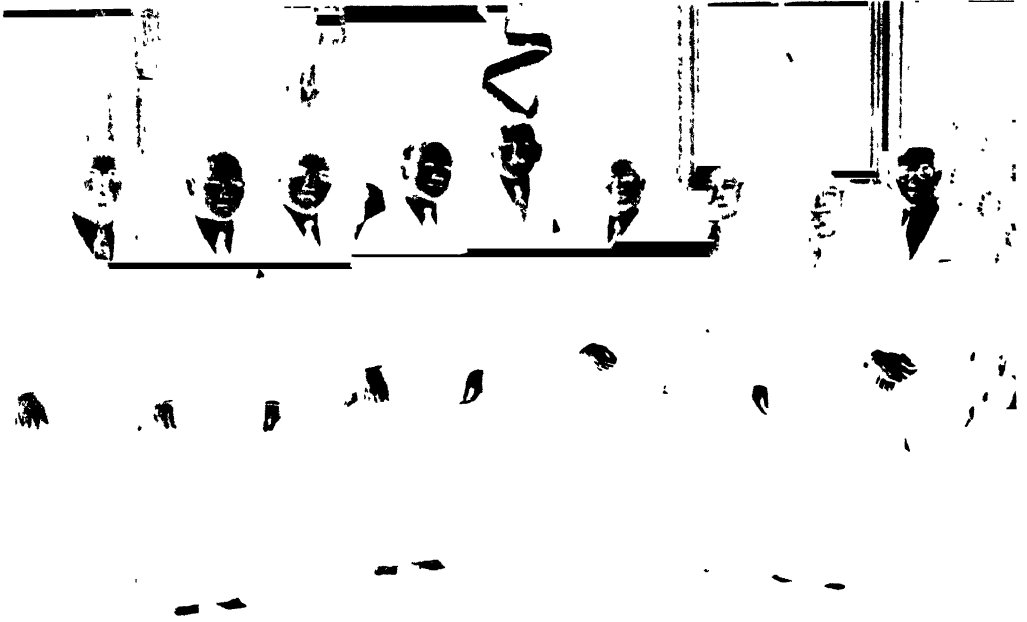
DNIEPROSTROY DAM, U S S R, COMPLETED IN 1932



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WORLD'S LARGEST HYDRO-ELECTRIC PLANT UNDER CONSTRUCTION AT  
DNIEPROSTROY DAM

UNION OF SOVIET SOCIALIST REPUBLICS



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**SECRETARY OF WAR HURLEY WITH MEMBERS OF THE PHILIPPINE INDEPENDENCE MISSION**

Left to Right: Prof. Maximo Kalaw, Commissioner Pedro Guevara, Rep. Emiliano P. Tirona, Senator Sergio Osmeña, Sec. of War Hurley, Rep. Manuel Roxas, Rep. Pedro Sabido, Commissioner Camilo Osias, and Attorney M. P. Lichauco



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Representative Butler B. Hare and Speaker John N. Garner with Commissioners Pedro Guevara and Camilo Osias of the Philippine Independence Mission

**UNITED STATES**

Senate on May 25, with strong Democratic support. It was opposed by Secretary of the Treasury Mills, appearing before the Senate committee on banking and currency on June 2, on the ground that experience in undertaking great schemes of public works under special budgets in adverse times had proved this course unwise in other countries.

The House in the meantime considered yet another plan, embodied in a bill sponsored by Speaker Garner. This measure provided \$100,000,000 for direct Federal relief of the destitute, to be placed at the dispensation of the President; for a large programme of Federal public building; and for extensive lending to limited-dividend corporations, with which to erect housing. The House passed its measure on June 7. The Senate in turn passed the Wagner bill on June 23, without roll call and after decisively defeating a neutralizing amendment of Moses (Administration Republican) of New Hampshire. The two measures were reconciled in conference; the resulting bill provided \$2,100,000,000, as follows: For loans from the Reconstruction Finance Corporation to private and public enterprises, \$1,500,000,000; for Federal public works, to be financed by bond issues, \$300,000,000; for direct loans to the States on the basis of population, \$200,000,000; for distribution by the President on the basis of need, \$100,000,000. The President, calling the legislative leaders to the White House on July 5, reiterated the Administration's objections to the bill and sought to stop its passage. He failed to win the Democrats to his view and on the following day he issued a public statement, declaring in particular that a feature of the bill providing for loans to individuals, partnerships, corporations, States, and municipalities would make the Reconstruction Finance Corporation "the most gigantic banking and pawnbroking business in all history," that the bill "threatened the credit of the United States," and that the proposed "direct charitable gifts" of \$100,000,000 should not be made a responsibility of the President. Keen opposition sentiment was aroused. The conference bill was quickly passed on July 7 by the House, the vote being 202 (including 35 Republicans) for and 157 against; and on July 9 in the Senate, by 43 votes to 31, Republican Senators to the number of 14 supporting the measure.

The President promptly vetoed the bill on July 11. His veto message stated his foremost objection to be the extension of authority to the Reconstruction Finance Corporation to make loans to "individuals, trusts, partnerships, estates, corporations," etc., for what he termed "any conceivable purpose, on any conceivable security." As in his annual message of Dec. 9, 1931, he had himself proposed that the Corporation "make temporary advances upon proper securities to establish industries, railways, and financial institutions," to help "protect the credit structure and stimulate employment," his subsequent opposition was much attacked; but, Congress could not muster the strength against him to pass its bill over his veto. The two houses promptly voted altered measures from which the chief points of the President's objection had been removed. These bills were altered into conformity by conference. The resulting measure was passed by the House on July 15, by 296 votes to 48, and immediately after by the Senate. The

President signed it on July 21, notwithstanding his still holding minor objections to it.

The Emergency Relief Act, as thus enacted, provided that the Reconstruction Finance Corporation might make loans, to the total of \$300,000,000, at 3 per cent, to the several States and Territories, repayable with specified exceptions after 3 years, from the borrowers' annual Federal road apportionments; such loans to be made in the proportion of not more than 15 per cent of the total to any one borrower, and used for the purpose of furnishing relief or work to the needy. The act further empowered the Corporation to lend to States, or to their political subdivisions, or to public agencies or corporations, in order to help finance self-liquidating projects; to lend to private corporations for the construction of bridges, docks, and the like, of self-liquidating character; to corporations of legally limited return, for providing cheap housing; to borrowers seeking to sell agricultural surpluses in foreign markets; to "bona-fide institutions" organized under State or Federal laws, for the carrying and orderly marketing of crops and live stock. The total of the obligations that the Corporation might itself issue was raised, for these purposes, to 6½ times its capital stock, i.e., to \$3,300,000,000, or by \$1,800,000,000 above the original limit. It was required that the Corporation submit monthly to the chief officers of the two houses of Congress a report of operations, including a statement listing borrowers by name, with respective sums borrowed; this provision implied the right of either House to publish such lists, as actually the Clerk of the House proceeded to do in August. The act made no provision for general lending by the Corporation to business, but it permitted the Federal Reserve Board, "in unusual and exigent circumstances," to let any Federal Reserve Bank directly discount the paper of an individual partnership or corporation, if secured to its satisfaction. The directorate of the Corporation was altered by removing the Governor of the Federal Reserve Board and the Farm Loan Commissioner as *ex-officio* members and filling the places with additional appointee members.

Apart from these provisions for Federal lending, the act provided a total of \$322,224,000 from the Treasury to be expended in the construction of a list of authorized public works, wherein the chief item was \$120,000,000 for the Federal-aid highway programmes.

**Home Loan Bank Act.** The effort to combine the tender of financial aid with the stimulation of enterprise was extended into the field of home-mortgage loans by the passage of an act to create Federal Home Loan Banks. This act in its essentials carried out one of the proposals of Federal relief that the President had launched in the preceding autumn. Introduced in its original form in both houses as the Watson-Luce bill, the measure had the support of realty interests and of a considerable group that complained of the inability to borrow on mortgage. Couzens of Michigan, in the Senate, championed the sentiment that the measure must give assistance to actual mortgagors unable to renew and should not merely promote the issue of mortgages to the erectors of new homes. He moved for amending the measure in such fashion as to place the central control of the financing of home loans in the hands of the Reconstruction Finance Corporation. The Senate defeated his

amendment by 47 to 22 on July 12, and adopted the measure in the form providing for the creation of a separate system of home loan banks. The House had previously voted the measure (April 19) without material change. The Senate, however, did materially amend the measure by linking to it a measure introduced by Glass of Virginia, which was in the nature of a "rider," having to do with the National banks and not directly with the Home Loan Bank system; this amendment gave permission to National banks for the period of three years to issue their circulating notes upon the security of any outstanding bonds of the United States bearing interest at not over 3½ per cent, in the general manner that applied to notes issued under the old bonds bearing the circulation privilege. It was roughly estimated that this amendment created a potential bank-note inflation of about \$1,000,000,000. The measure was advocated frankly as designed to increase the volume of currency. Despite some hesitation over the currency rider, the President signed the measure on July 22.

As enacted, it provided home loan banks, not less than 8 nor more than 12, to be supervised by a Home Loan Board. Building and loan associations, savings banks and the like were to be permitted to become members of the system thus created, by affiliation with one of the Home Loan banks, each upon subscription of at least 1 per cent of the amount of its own holdings of loans on homes. Each home loan bank was to have authority to advance money to members and to non-members of the system, upon the security of home mortgages. The Secretary of the Treasury was directed to subscribe, on behalf of the United States, to any part of the stock of a home loan bank not subscribed by member banks, up to an aggregate maximum of \$125,000,000, and this amount was to be made available to the Treasury from proceeds of its subscriptions to the Reconstruction Finance Corporation's capital and notes. In addition to their capital the home loan banks were granted the power to borrow on bonds and debentures to be secured by eligible obligations of the institutions that had borrowed from them.

Thus they were to be enabled to lend to home-mortgage holding institutions against the latter's holdings and so to supply additional money for further home mortgages, to a total not specified. They were limited to lending on mortgages of an original term of not over 15 years, secured on realty of the value of not over \$20,000, and were further limited as to the percentage of the outstanding mortgage principal (not over 60 in any case) and to the percentage of the value of the real-estate security (not over 40 in most-favored cases) which their loans must not surpass.

**Revenue Act.** The exceedingly unfavorable position of the Treasury, of which the revenues were running to approximately half of expenditure, obliged Under-Secretary of the Treasury Mills to submit on February 9 to the House of Representatives' committee on ways and means the need of providing \$1,241,000,000 of new revenue. A revenue bill had been under consideration since the early part of the session. The Mills declaration rendered it requisite for Congress to find taxes to produce some \$455,000,000 more than had originally been estimated needful. This necessity brought about a ransacking

of the field of taxation, with particular attention to a sales tax.

Crisp (Democrat) of Georgia, acting chairman of the committee, introduced in the House on March 7 a measure representing the consensus of the Administration and of the Democratic leaders. It provided heavy increases in the income tax on persons in the lower income groups, in part indirectly by the reduction of exempt income; on the higher incomes, through greater surtaxes; and on corporations. It raised the tax on estates, taxed personal gifts, above a cumulative limit of \$100,000, with the exception of benevolent donations as listed, and provided a number of new miscellaneous taxes. Its salient feature, however, was a manufacturers' sales tax, imposing a payment to the Government in the proportion of 2¼ per cent on the price of sales of goods produced by manufacturers or other producers, with certain exceptions. These exceptions were chiefly of articles for export or further manufacture and of farm products. An equalizing tax at the same rate was to be laid on goods imported into the country. Manufacturers were to be placed under license, whereby compulsion to pay the tax was to be made operative.

Though the sales tax had been widely advocated by the Hearst press and by some other groups and could not be said to have come as a surprise, it roused a storm of opposition. Speaker Garner had expressed the intention that the House should pass the measure within a week. Opposition to it outside the House, however, was so promptly reflected within that this proved impossible. By March 19 the "sales tax revolt" had become violent in both party groups, the majority adverse to the scheme were mowing down the sales tax provisions one after another in the piecemeal consideration of the measure, and Crisp was compelled to plead on the floor for a respite in order that the members might "cool off and think." Five days later, none the less, the House rejected, by 223 votes to 153, the whole sales tax, upon which the framers of the revenue measure had depended to provide \$460,000,000 a year of the required total. Only 45 Democrats and 108 Republicans voted to support the sales tax, the rest totally disregarding their party leaders.

President Hoover sought to meet the collapse of the sales tax proposal by issuing a public statement on March 25, insisting that the budget must be balanced, and that this "must in the main be accomplished by an increase in taxation." What had at first been a revolt against the sales tax now took the form of what was currently called a movement to "soak the rich." Proposals designed to raise needed revenue regardless of their effect on large fortunes and the security of private capital found favor. An amendment to the bill, offered by La Guardia of New York, proposed that the tax on transfers of stock be raised to one-fourth of 1 per cent of the sale price in general and to one-half of 1 per cent in the case of short sales. Swing of California offered an amendment to raise the maximum surtaxes on personal incomes to 65 per cent, as against the ways and means committee's maximum of 40 per cent. The committee itself, following Speaker Garner's dictum that any tax would be better than no tax, brought forward an increase in the ordinary rate of first-class postage to three cents an ounce, from two cents. It also resuscitated the sales tax fragmentarily to

the extent of proposing imposts on sales of gasoline, matches, automobiles, furs, jewelry, beverages, etc., and on the rent of safe-deposit boxes. The Swing amendment to raise surtaxes was defeated, as was the proposal to legalize and tax beer containing alcohol up to the proportion of 2½ per cent. The revenue bill, shorn of the sales tax but containing the substitute amendments, was finally passed by the House on April 1 and sent to the Senate. The Treasury estimated it as likely to fall short by some \$88,000,000 of furnishing enough new revenue to meet the Government's needs for the ensuing fiscal year.

The finance committee of the Senate proceeded to prepare a measure differing in many and important respects. It was guided in part by a communication of Mr. Mills, who had succeeded Mr. Mellon as Secretary of the Treasury. In this letter Mr. Mills declared that he had sought to follow a suggestion of Senator Harrison to take the House bill, preserve "as many of its provisions as possible," and "eliminate the most objectionable ones." While the measure was in committee Long of Louisiana, echoing the anti-plutocratic bent of the House, offered a resolution on April 29 to instruct the committee to model the bill to prevent any person from receiving more than \$1,000,000 a year in income or more than \$5,000,000 in inheritance. Opposed by the Democratic leader, Robinson of Arkansas, Long dramatically resigned his committee appointments. The finance committee took a moderate bent, removing from the bill the LaGuardia tax on stock sales and substituting one at the flat rate of four cents a share. It included in the bill duties on imports of lumber, coal, mineral oil and copper, sought for protective reasons by domestic producers. It set higher rates of taxation on personal incomes both great and small, and put the rate for corporations at 14 per cent. It abandoned some of the manufacturers' excises of the House bill but added others of its own. As to checks, estate taxes, and first-class postage, it followed the House bill. Its measure was reported on May 9 and was declared to be designed to raise \$1,030,000,000. A Democratic minority of five of the committee reported adversely to the tariff features of the bill. The Senate's consideration of the bill was prolonged by a filibuster conducted by Long of Louisiana, by efforts of Tydings of Maryland to effect an amendment to permit 2.75 per cent beer, and by disputes over tariff features.

In voting on the provisions of the bill individually and on proposed amendments the Senate made few sweeping changes. It adopted provisions for tariff duties on imports of lumber, coal, oil, and copper, by votes of Republicans reinforced by more than a dozen Democrats. It rejected an amendment embodying the old plan of export debentures, brought forward as a counter move by the group that regarded higher tariffs as prejudicial to farming interests. It reinstated a number of the special excises that the Senate's committee had removed from the bill of the House. It defeated the proposal to legalize and tax 2½ per cent beer. Walsh of Massachusetts introduced an amendment for a sales tax such as had failed in the House, but LaFollette of Wisconsin and others of the anticapitalistic group threatened this proposal with a filibuster that would indefinitely delay the whole measure. President Hoover was impelled, by the resulting

situation, to visit the Senate Chamber in person on June 1, to declare that "an emergency had developed in the last few days" in the "continued downward movement of our economic life," which had been accelerated because of delay with the Federal financial programme; he urged immediate action in the Senate. Promptly following his behest the Senate, dropping the issue of the sales tax, voted its tax measure on the same day by 72 votes to 11.

A conference committee hastily reconciled the measures of House and Senate, without reinstating the more radical features of the House's bill. The House passed the resulting measure on June 4 without record vote and with little debate. The Senate gave the measure final passage on June 6, by a vote of 46 to 35, the majority vote including 16 Democrats. The President signed the measure on the same day. For provisions of the Revenue Act see TAXATION.

The measure was estimated by the Treasury to produce \$1,118,500,000 a year. Of this, \$178,000,000 was increase in individual and \$41,000,000 in corporate income taxes; a provision in the individual income tax law limited security losses to such amount as would offset security gains, and this provision was expected to improve revenue by \$80,000,000. Changes in the income tax on corporations were to add revenue of \$41,000,000. The excises on certain manufactures were to yield \$450,500,000, of which the tax on gasoline was to provide \$150,000,000, that on brewers' wort \$82,000,000, that on electric energy \$39,000,000, those on lubricating oils and tires \$33,000,000 each, and that on automobiles \$32,000,000. The tax on checks was to bring \$78,000,000, that on admissions \$42,000,000 of new money, that on telephone, telegraph, and cable messages, \$22,500,000, that on stock sales \$20,000,000, additional. A rise of one cent in the postage rate by the ounce for first-class matter was included in the act, though not strictly speaking a tax; it was to produce \$160,000,000. The estimates of yields, while official, were by no means accepted universally as sure guides when they were issued. The tariff duty on copper caused the prompt withdrawal from the copper producers' foreign selling agency of the chief American companies operating foreign copper mines.

*Democratic Tariff Bill.* The House on January 9 and the Senate on April 1 each passed a tariff bill. Both bills were distinctly Democratic measures strongly opposed by the bulk of the Republicans. The adjusted measure as shaped by conference was finally passed at the end of April. It was not essentially a bill to lay duties. Its foremost feature was that undoing the existing arrangement to provide a flexible tariff system; the bill removed from the President much of the power to initiate tariff changes through the Tariff Commission and rendered Congress the arbiter of the commission's changes in duties. The President vetoed the measure on May 11. The House voted thereafter for its passage over the veto, but by too narrow a majority for the requisite two-thirds. The main feature of the bill and also another of its provisions, that for an international conference, were embodied in the Democratic platform later on.

*Economy Act.* An omnibus measure to effect Federal economies in the expenditure of the departments was enacted and was signed by the President on June 30. It provided for economies

to the estimated total of some \$150,000,000 a year. Its principal clause imposed on the Federal employees "furloughs" without pay, to the extent of one-twelfth of their working year, which were compulsory. Employees receiving less than \$1000 a year were exempted from the furlough, as were certain employees in essential posts. A saving of about \$100,000,000 a year from this source was expected. The act also limited annual leaves with pay, over-time pay, traveling allowances and other occasions of expenditure; checked the filling of vacancies in Federal employment; provided for reorganization of the Shipping Board on a less expensive scheme; and required compulsory retirement for age in many cases. The President, moreover, was authorized to consolidate governmental bureaus, with a view to saving, by executive order; but such order was rendered subject to legislation endorsement before it might become effective.

Like other measures dealing with the financial exigencies of the time, this one aroused serious conflict in its course to passage. The original intent in both houses of Congress was to deal with the President's recommendation of economies through legislation by making cuts in the supply bills severally. The Administration later urged that the work be done by means of a measure dealing with the employees of the Government in general. The House created a select committee on economies, which brought out a bill on April 24, mainly conforming with the President's known desires. This bill, which was to save some \$263,000,000 a year, was torn to pieces in committee of the whole, and its remnant was passed on May 3, carrying only some \$38,000,000 of economies. It then went to the Senate, where with bipartisan backing it was built up again sufficiently to slash expenditure by some \$238,000,000, largely by the expedient of a direct Federal Salary cut of 10 per cent. After receiving the bill from committee the Senate substituted the "furlough" plan for the direct pay cut, and passed its bill. The measure eventually enacted was a compromise between Senate and House. President Hoover, during the progress of the economy measure, repeatedly addressed messages to Congress on the subject and conferred with those guiding the legislation.

**Banking Legislation.** Apart from the Reconstruction Finance Corporation measure, the Emergency Relief Act, and the Home Loan Bank Act, separately treated above, Congress dealt with a number of measures that sought to improve conditions in or through the banking system. The most far-reaching of these, the Glass banking bill, undertook an extensive revision of the Federal Reserve banking system with a view to obviating defects or weaknesses that had developed in the course of two years of business depression; after occupying the attention of the Senate for some time and being tentatively amended in many respects, the Glass bill gave way early in June to appropriation bills of a pressing nature, as the new fiscal year approached; it remained unfinished business of the Senate when the session closed.

A measure to permit of the expansion of credit in the Federal Reserve system, the Glass-Steagall Act (not to be confused with the Glass banking bill) became a law. Its passage was actuated by an alarming emigration of monetary gold from the country that had set in late in 1931. A clause of the act permitted Federal Reserve Banks,

with the approval of the Federal Reserve Board, until March 3, 1933, to issue Federal Reserve notes against direct obligations of the United States lodged as collateral for such issues. The effect of this provision was to render it possible for the Federal Reserve system to pledge Government bonds and issue paper currency against them, instead of issuing it against gold; thus keeping gold unpledged and maintaining a large margin of free gold, so as to enable it to keep well above the required percentage of gold reserve to currency and to deposits respectively. The act also permitted any Federal Reserve bank, with the consent of the Federal Reserve Board, to make advances to any group of five or more banks within its district, if these were for the most part independently controlled, upon the security of their promissory notes, rendering each liable only in its own proportion; the recipient groups were to have freedom, within limits, to distribute the proceeds of such advances among themselves. Further, it was made possible, in "exigent circumstances," for a small member bank lacking resources to present for rediscount, to obtain from "any Federal Reserve Bank" an advance on the borrowing bank's promissory note, secured "to the satisfaction" of the lender; it being provided that the proceeding was subject to approval of the Federal Reserve Board and that it might be employed only until March 3, 1933.

There was enacted and signed on January 23 by the President a measure amending the Farm Loan Act so as to increase the capital stock of the Federal Land Banks by a maximum further aggregate of \$125,000,000 to be subscribed by the Treasury; this step to increase the resources of the land banks for lending to farmers conformed with President Hoover's previously declared programme of economic restoration.

Another banking measure, the Goldsborough bill, was passed by the House on May 2, by the heavy majority of 289 votes to 60, its supporters numbering 165 Democrats, 123 Republicans and one Farmer-Laborite. This measure was frankly inflationary and designed to use the Federal Reserve system as the Federal implement for price-lifting. It directed the Federal Reserve Board, the Federal Reserve Banks, and the Secretary of the Treasury to "make effective" the "policy of the United States" that the purchasing power of the dollar, as indicated by the average level of commodity prices over the period from 1921 to 1929, be "restored and maintained" (*sic*) through control of the volume of credit and currency. The bill was widely condemned, but not universally. It had the support of Irving Fisher, who spoke on its behalf at committee hearings, and of Senator Borah. In the Senate the bill remained in committee; the committee on banking and currency brought out in its stead the Glass bill to increase the currency by issue of bank notes, which later became law in its main features, as part of the Home Loan Bank Act (see above).

A monetary measure of Pittman of Nevada, introduced in the Senate, was favorably reported by the committee on banking and currency late in the session; it provided for purchase, by the Treasury, of 5,000,000 ounces of silver a month and for the issue of silver certificates in payment. It was designed to remedy the slump in the price of silver; it remained on the calendar at the end of the session.

**Agricultural Legislation.** Apart from Federal



credit for agriculture provided in the establishment of the Reconstruction Finance Corporation, and the amendment of the Farm Loan Act (for both of which see above) other measures affecting agriculture were taken. By a joint resolution signed by the President on March 8, 40,000,000 bushels of the wheat, held by the Farm Board or its subsidiaries, were made available for donation, through the Red Cross, to the needy throughout the nation. The "wheat dole" as its opponents called it tended to reduce the held surplus of domestic wheat but at the same time to fill an actual wheat demand that might otherwise have been met by the sale of farmers' or other privately held wheat. A similar dispensation of cotton was provided. A bill to abolish the Farm Board failed of passage in the House. In the Senate a measure was introduced by Wheeler (Democrat) of Montana to create a separate Farmers' Reconstruction Finance Corporation, but the bill did not progress. A minor farm-loan measure was passed, authorizing the establishment of a \$10,000,000 revolving fund for loans to agricultural credit corporations.

*"Lame Duck" Amendment.* Senator Norris of Nebraska finally won the passage through both houses of a resolution, voted in successive sessions of the Senate seven times but always previously failing of passage through the House, to amend the Constitution so as to change the dates for the inauguration of the President and for the next meeting of Congress after an election. The resolution proposed an amendment providing that the terms of President and Vice President end at noon on January 20 instead of March 4 of the same year; that the terms of Senators and Representatives similarly end on January 3; that the required yearly meeting of Congress begin on January 3, unless it should appoint a different day; that the terms of the President and Vice President commence on January 20; these provisions to take effect on November 30 of the year after that of the amendment's ratification. It was further provided that if the President elect die the Vice President elect become President; that if a President be not chosen before time of inauguration the Vice President elect act as President "until a President has qualified"; that where neither President elect nor Vice President elect has qualified, Congress may "by law" declare who shall act as President or the manner in which a qualified person shall be selected. Ratification by legislatures in three-fourths of the States within seven years was made a condition of the adoption of the amendment. The resolution, as its colloquial name implied, had for its chief purpose to do away with the anomaly of the "short session" following an election, a session in which legislation was frequently undertaken by a Congress many of whose members had shortly before been voted out of their seats.

*Anti-Injunction Act.* The Senate passed a measure of Norris of Nebraska limiting the powers of the Federal courts in labor disputes. The House then passed a closely similar bill of LaGuardia of New York. Norris thereupon withdrew his measure, to make way for the bill from the House. The Senate then passed the House bill with amendments in accordance with its own bill. The difference was adjusted in conference and the measure duly passed finally and signed. It forbade issuance of Federal injunctions in labor troubles save on evidence produced before the Court to the effect that irrep-

arable damage to persons or property might ensue in the absence of the injunction; jury trials were to be granted to persons accused of violating such injunctions. The bearing of the act was largely against the practice of suing out injunctions against persons seeking to induce those to join strikes who had bound themselves to employers by contracts, a practice in which the allegation of malicious mischief to the detriment of contract was apt to be cited. Its constitutionality in parts was questioned by Attorney General Mitchell in an opinion rendered about the time of its signing.

Another labor measure, designed to extend and reinforce the application of the Bacon-Davis Act of 1931 requiring the payment of wages at the prevailing rate for work on Federal public buildings, was passed, but the President vetoed it on the recommendation of Secretary of Labor Doak.

*Legislation Affecting Veterans.* Agitation for the payment immediately of the full ultimate value of the bonus certificates of the veterans of the World War was renewed and came to a head in the spring. Representative Patman of Texas introduced a bill providing that the Veterans' Administration make this full payment, deducting what the veteran had previously borrowed and the interest thereon accrued; that, further, the Treasury issue currency notes in sufficient amount to make such payment, issuing also, in like amount,  $3\frac{1}{2}$  per cent bonds to be sold when the Federal Reserve Board judged proper, thus bringing in currency to the Treasury, with which to replace the currency notes issued for the bonus payments. The bill was strongly opposed as placing an obligation of some \$2,000,000,000 on an overburdened Treasury and as generating fiat currency. None the less, many Representatives supported it, feeling their chances of reelection in the autumn insecure if they should antagonize the veterans in their districts. The "Bonus Army," a gathering of veterans in distress that had found their way to Washington from many parts of the country, appeared in the Capitol and augmented the pressure on Representatives. The bill was passed on June 15, by a vote of 209 to 170. The group favoring it numbered 152 Democrats, 56 Republicans and the one Farmer-Labor member. Opposed were 50 Democrats and 126 Republicans, omitting count of pairs. The bill went to the Senate, where it was decisively defeated on the following day by 62 votes to 18. The opposition to it had the support of the President, who issued on March 29 a public statement declaring that the proposed payment would undermine Federal credit and undo efforts to balance the budget.

A measure was enacted to reduce the rate of interest charged by the government upon veterans' loans on their bonus certificates to  $3\frac{1}{2}$  per cent, from  $4\frac{1}{2}$ , and to permit veterans to borrow on certificates without waiting for two years from the time of issue as had previously been required. Although spokesmen for the Administration had condemned the measure as contrary to the President's financial policy he signed it on July 21. A bill to admit to veterans' hospitals and soldiers' homes civilians who had been connected with the quartermaster service in the war with Spain, the Philippine insurrection or the expedition to China was twice, in slightly different forms, sent to the President and was twice vetoed. Efforts were made in the Senate, in connection with the programme of

legislative economies, to reduce the expenditures upon veterans by some \$49,000,000, but the reductions were rejected by the Senate on June 7.

In the first week of July, when the Administration was making efforts to disperse the "Bonus Army" then assembled in Washington (see pages 805-6 under *Administration*), President Hoover asked Congress to appropriate money to pay for the removal of veterans to their homes. A measure was passed providing that cost of transportation, plus subsistence at 75 cents a day, be advanced to veterans to pay for their return trips, and that the money be deducted from ultimate payments on their bonus certificates.

*Other Activities.* Former Senator Heflin's contest against Senator-elect John H. Bankhead, for one of the Alabama seats, was decided in favor of Bankhead by a vote of 64 to 18 on April 28. The House reversed the apparent election of a Republican from the eighth Illinois district and accorded the seat to Stanley H. Kunz, a Democrat.

The Senate committee on banking and currency carried on a protracted investigation of speculative dealings in securities and of alleged abuses in bankers' sales of foreign bonds to American investors. See *FINANCIAL REVIEW*.

*Appropriations.* As summarized by chairman Jones of the Senate's committee on appropriations at the end of the session, the appropriations made in the session, exclusive of permanent appropriations and without deduction for expected savings of \$150,000,000 through the economy act, totaled \$4,459,651,103, as against budgetary estimates that had totaled \$4,643,945,197. Of the total appropriated, \$148,932,703 applied to the then current fiscal year 1932, and took the form of deficiency appropriations. The special appropriation acts accounted for \$1,164,945,500; they included \$500,000,000 for the Reconstruction Finance Corporation's capital stock, \$322,224,000 for emergency construction and relief, \$125,000,000 for stock of Federal Land Banks, and \$203,925,000 for veterans' adjusted compensation, etc. The regular annual appropriations included: agricultural, \$175,671,665; independent offices, \$982,446,041; naval, \$317,593,591; War Department, \$396,078,513 (of which \$106,578,489 was non-military); Treasury, \$250,308,158; postal, \$805,939,675 (subject to the usual subsequent reduction by reason of the postal receipts).

Senator McKellar, Democrat, of Tennessee, computed the appropriations as attaining \$9,306,819,627. He reached this figure by adding to the figures given above other sums, for the disbursement of which Congress had given its authorization. The chief of these was \$3,300,000,000 which the Reconstruction Finance Corporation might call upon the Treasury to supply, against the Corporation's obligations. Other items were the \$246,000,000 required to meet the gap caused by the moratorium on payments from foreign governments, \$125,250,000 that might be paid for obligations of the Home Loan Bank system, and \$40,000,000 granted in the gift of wheat and cotton to the Red Cross. Such items, though perhaps not technically appropriations, affected the government's finances, directly or potentially.

*Adjournment.* The session adjourned on the night of July 16. It had been compelled to continue throughout the period of the National party conventions. The dragging of the session was due in part to the breakdown of Democratic

coöperation with President Hoover, particularly over the Emergency Relief measure; it was due, further, to protracted dispute between the Houses over this measure, and to members' preoccupation with the parties' National Conventions.

**SEVENTY-SECOND CONGRESS, SECOND SESSION.** The Congress convened on December 5 in regular second session. It did not take the usual year-end recess of 10 days.

*Constitution of the Houses.* As affected by the election, the composition of the Senate for the convening of Congress in December was calculated as 48 Republicans, 47 Democrats and one Farmer-Laborite. However, Davis of Pennsylvania abstained from attendance, owing to his being under indictment for connection with a lottery, and Schuyler of Colorado, though understood to have been elected to serve out the remainder of the Congress in place of Waterman (deceased), was not accredited for some days, owing to delay in certain official election returns in his State, so that these two Republican members were lacking at the start of the session. Governor Russell of Georgia, who had been elected to the Senate, did not qualify, but the Democratic interim appointee, Cohen, continued to sit until the end of the year. There were thus, after the seating of Schuyler, 47 Republican Senators of unchallenged qualification, 47 Democrats and 1 Farmer-Labor Senator. The Senate remained under Republican organization.

The House convened with five vacancies, of which two occurred through the resignations of Tilson (Rep.) of Connecticut and Crisp (Dem.) of Georgia. Of the 430 members, 220 were Democrats, 209 Republicans and one Farmer-Laborite.

*Effort to Repeal Prohibition.* The Democratic majority made an attempt on the opening day of the session to rush through the House a joint resolution proposing the repeal of the Eighteenth Amendment of the Constitution without condition save that of ratification by conventions in three-fourths of the States within seven years. The resolution, being offered by Speaker Garner, Rainey of Illinois, Democratic leader, moved for an immediate vote, under the suspension of the rules. The resolution, offered at 12.37 p.m., was granted only 20 minutes' debate on each side, and a roll call was ordered at 1.45. Of 416 votes cast, 272 were in favor of the resolution and 144 against it. Two other members in favor and one opposed were recorded as "paired." The resolution was accordingly lost, the ayes lacking 16 votes of the necessary total to overcome, by the Constitutional 2 to 1, the vote of the 144 nays. As only 11 of the qualified members failed to vote or pair, prospects for later passage of the resolution became restricted to the chance of converting or eliminating some negative votes. As to parties the vote was: in favor, 168 Democrats and 103 Republicans; against, 44 Democrats and 100 Republicans. The Democrats thus favored the resolution by nearly 4 to 1, while the Republicans gave it a scanty majority of 3. The resolution was offered as conforming with the promise of the Democratic platform and was opposed by dry Republicans as clashing with their own platform pledge to keep out the saloon. See *PROHIBITION*.

*The Annual Message.* President Hoover's annual message was read on December 6. It expressed the view that the economic troubles of the country in 1932 were "due to the European collapse" and declared that "measures enacted

and policies adopted undoubtedly saved the country from economic disaster." It recommended great reductions of Federal expenditure for the fiscal year 1934, below that for 1933; these were to take the form of executive consolidations of Federal bureaus, a reduction, temporary, for one year, of 11 per cent in all Federal pay above \$1000 a year, the limiting of public works to those covered by appropriations already made, and eliminations, later to be outlined, of "certain payments in the veterans' services." The "complete reorganization at once of our banking system" was urged as needful. As the means to balance the budget there was recommended a sales tax on manufacturers, "to cover practically all manufactures at a uniform rate, except necessary food and possibly some grades of clothing." Economic coöperation with other governments, "vigorous and whole-souled," was represented as needful. It was stated, however, that debtor governments had been informed that the suspension of the payments of December 15 on account of war debts was not approved; but that the President had stated that he would recommend to Congress methods to overcome "temporary exchange difficulties" attending the payments, where necessary. No allusion was made to the declaration of Oct. 25, 1931, in which President Hoover had "recognized that prior to the expiration of the Hoover year of postponement some agreement . . . may be necessary." Further effort toward international agreement as to disarmament was urged.

*The Budget Message.* In his budget message, read on December 7, President Hoover proposed reducing the impending deficit for the fiscal year 1934 by measures of the most widespread retrenchment in Federal expenditure. These were designed to effect a gross reduction of some \$830,000,000 in expenditure, in part offset by "unavoidable" increases, chiefly in public-debt service and postal deficit and aggregating \$250,000,000, the net projected reduction thus being about \$580,000,000. The consequent total of Federal expenditures, including provision for estimated postal deficiency, was to be \$3,636,578,600. Receipts from existing revenue sources were estimated to total \$2,949,162,713. The consequent excess of expenditures was put at \$844,809,412; and exclusive of debt retirements, at \$307,192,187.

To cope with the estimated deficit, the President recommended that the Federal tax on gasoline be kept in effect for another fiscal year, until June 30, 1934, thus to yield revenue of \$137,000,000, and that a general, uniform excise tax of 2¼ per cent on manufactured articles, food excepted, be enacted, to yield \$355,000,000.

The recommended economies cut into Federal salaries, relief of veterans, and the rate of expenditure for public works. Beside continuing the existing curtailment of 8¼ per cent in Federal pay, offset by furlough, Congress was asked to effect a further cut of 11 per cent in all Federal salaries, excepting in each case an initial \$1000. With regard to public works, it was recommended in particular that Congress make no further appropriation for Federal aid to State highway-building, in excess of the moderate remainder (\$51,660,000) of amounts authorized under the Federal-aid programme soon to expire.

*Beer Bill.* The House, having failed at the outset to vote repeal of the Eighteenth Amendment, renewed the effort to take action in accord with

what was regarded as a nation-wide popular vote against prohibition. The Collier bill, to modify the Volstead Act by legalizing the manufacture and sale of beer containing up to 3.2 per cent (by weight) of alcohol, was passed on December 21 by 230 to 165. The Senate, however, on the 23d, rejected a motion to take up consideration of this bill.

*Philippine Independence.* The Hare bill, to provide for the gradual acquisition of political independence by the Philippine Islands, had been sent by the House to the Senate in the previous session. The Senate's committee on Territories and insular affairs substituted its own measure, the Hawes-Cutting bill. Against the sense of the committee, the Senate amended this measure, after it was taken up in December, by removing provision for a Philippine plebiscite on independence and substituting the provision of a popular vote in the adoption of a Philippine constitution, which was to be drawn up in the Islands. The Senate passed the measure on December 17, without record vote, and sent it to conference for reconciliation with the House's measure.

The resulting bill was passed by the Senate on the 22d and by the House on the 29th, going thence to the President. See PHILIPPINES under *History*.

#### JUDICIARY

**SUPREME COURT.** Justice Oliver Wendell Holmes resigned from the Supreme Court on January 12, at the age of 90 years, on account of impaired health. Benjamin N. Cardozo, Chief Judge of the New York State Court of Appeals, was nominated Associate Justice by the President on February 15, to fill the vacancy and his appointment was confirmed by the Senate on February 24. See LAW IN 1932.

**FEDERAL PROSECUTIONS.** The Department of Justice instituted a prosecution, for violation of the Sherman and Clayton anti-trust acts, against the International Business Machines Corporation and Remington-Rand, Inc., two large concerns engaged through subsidiaries in the renting of tabulating machines. The Federal prosecution of Alphonse Capone, Chicago's so-called "Public Enemy Number One," for irregularities in his income-tax returns, prevailed against his appeal, which the Supreme Court refused to entertain, and the prison sentence upon Capone became effective. Another anti-trust suit was that against the Sugar Institute, a producers' body accused of practices in restraint of trade. Trial began before Judge Mack in the Southern District of New York on February 9 and continued till September 21, when the testimony ended and recess was taken to permit counsel to prepare briefs. Proceeding against the radio combination ended November 21 in a consent decree of Federal District Judge Nields of Delaware that General Electric and Westinghouse Electric dispose of their stock in the Radio Corporation.

**SUPREME COURT BUILDING.** On October 13 President Hoover laid the cornerstone for a \$10,000,000 Supreme Court Building on Capitol Hill, to be built of white marble to house the court, which had sat for many years in the Capitol.

#### NATIONAL ELECTION

**PRIMARY CAMPAIGN.** In the Republican party no considerable opposition developed, during the

season of the Presidential-preference primaries among the States, to the renomination of President Hoover. Senator France of Maryland was brought forward in a number of States as an uncompromising advocate of the repeal of the Eighteenth Amendment. He claimed in May that he had the votes of 231 of the delegates to the forthcoming Republican National Convention. But the States generally, and more particularly those nominating delegates by State party conventions, instructed for Hoover; and the Maryland Republican convention itself, on May 26, voted down the France repeal plank and instructed delegates for Hoover, thus virtually eliminating France. A number of the States, notably Vermont and Oregon, gave Republican support to planks for repeal. The LaFollette organization in Wisconsin were unable to prevent the selection of Hoover delegates in the Republican primary of April 5.

The Democratic pre-convention contest was more spirited. Alfred E. Smith formally announced on February 7 his willingness again to become the Democratic Presidential nominee, and followed this announcement with a number of speeches of political tenor in the course of the spring. In these speeches he urged, among other measures for the curing of economic ills, a plan for reducing the war debts owed the Treasury by foreign governments in consideration of these governments admitting into their territories greater imports from the United States. He put himself directly in opposition to Franklin D. Roosevelt by a speech of April 13 in which he declared that he would fight any "demagogic appeal" to the voter, the reference being by implication to Governor Roosevelt, who had shortly before made a reference to the neglect of the "forgotten man."

Franklin Delano Roosevelt, Governor of New York State, became the most conspicuous of the Democratic Presidential possibilities long before the Democratic Convention. Prior to the beginning of the year an organized move had been in operation to win him the support of the party in a great number of States. He delivered several addresses of national application in the course of the spring; notably, on April 7, over a coast-to-coast radio broadcast provided by the Democratic National Committee, he criticized the Administration for giving Federal assistance to the greater economic units while neglecting small and inconspicuous units, indispensable because of their aggregate mass, the "infantry of our economic army," and he declared for putting faith "once more in the forgotten man." Speaking in St. Paul on April 18, he expanded this view, thus joining issue with Alfred E. Smith, who had referred by implication to the "forgotten man" speech as demagogic. On May 22, at Atlanta, he further challenged the conservative Democratic element in an address in which he declared that "in the future we are going to think less about the producer and more about the consumer. Do what we may to inject life into our ailing economic order, we cannot make it endure for long unless we can bring about a more equitable distribution of the national income."

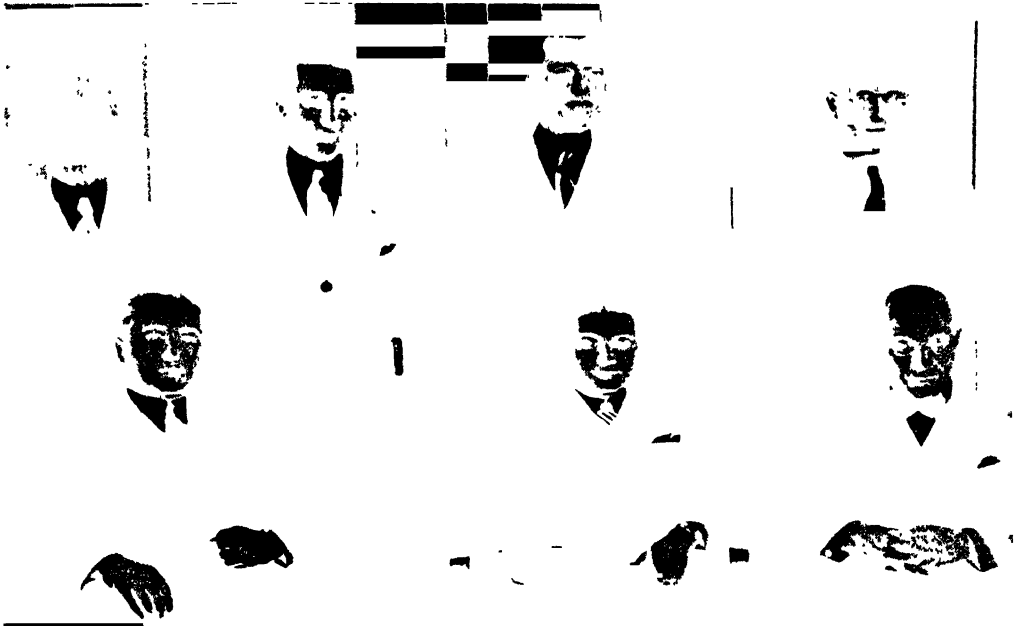
A third prominent candidate for the nomination was John Nance Garner of Texas, Speaker of the House, who had the support of his own State, of the Hearst newspapers and of William G. McAdoo and his group of Democrats in California.

The State primaries and conventions brought Smith the support, pledged or firm, of the National Convention delegates of Massachusetts, New Jersey, Connecticut, and Rhode Island; he won also the adherence, uncommitted, of the greater part of the New York delegation. A number of favorite sons gained the delegations of important States. It resulted that the Roosevelt delegates, before the convention, made a majority, but less than the two-thirds required by the ancient Democratic rule to effect a nomination.

**NATIONAL CONVENTIONS. Republican.** The Republican National Convention convened in Chicago on June 14 and closed on the night of June 16. It afforded one spirited conflict, that between the supporters of the President's views with regard to the Eighteenth Amendment and the advocates of outright repeal. The latter brought about a vote in the early morning of the 16th on a proposal to substitute Senator Bingham's repeal resolution for the plank favored by the Administration. The repealists were defeated, scoring 472 votes to 681 opposed.

**Republican Platform.** The platform characterized President Hoover as "a leader, wise, courageous, patient, understanding, resourceful" and detailed what were represented as the successes of his programme in dealing with depression. The party pledged itself to continue to uphold the gold standard; declared the need for revision of the banking laws; favored an international monetary conference to consider silver, international exchange, and commodity prices; declared that the Government should do "everything possible" to halt the tendency away from home ownership; defended the tariff act of 1930 as giving the farmers' products equal protection with those of industry "so far as legislation can do so"; praised "many achievements of merit" of the Farm Board; undertook "to support any plan that will help to balance production against demand and thereby raise agricultural prices," provided it were "economically sound and workable"; pledged a reconsideration of tax systems, Federal, State, and local, so as to reduce unjust burdens; declared the tariff "particularly essential to-day" because of depreciated foreign currencies; proposed study of existing veterans' legislation with a view to effecting economies "without departing from our purpose to provide on a sound basis full and adequate relief for our service-disabled men, their widows and orphans"; upheld the most-favored-nation clause for commercial treaties; favored American participation in international conferences in cases of violation of the Paris Peace Pact; declared for entering the jurisdiction of the World Court; endorsed the principle of the shorter working week and day; urged the granting of authority to the Federal Power Commission to regulate rates for electric current crossing State lines; pledged efforts to secure the early completion of the St. Lawrence deep waterway; declared prohibition not a partisan question, and stated that no public official or member of the party need be held to any particular view on it; favored a new amendment, which while preserving "gains already made" should "allow States to deal with the problem as their citizens may determine," yet should protect those States where prohibition was retained and should prevent the return of the saloon.

The prohibition plank as outlined above was reported to have been prepared in advance of



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#### HOFSTADTER LEGISLATIVE COMMITTEE OF NEW YORK

Left to Right (Seated) Sen John J. McNaboe, Sen Samuel H. Hofstadter, Chairman, and Assemblyman Lewis A. Cuivillier. Standing: Sen Leon F. Wheatley, Assemblyman William J. Lamont, Secretary, Assemblyman Hamilton F. Potter, Vice Chairman, and Assemblyman Abbot Low Moffat.

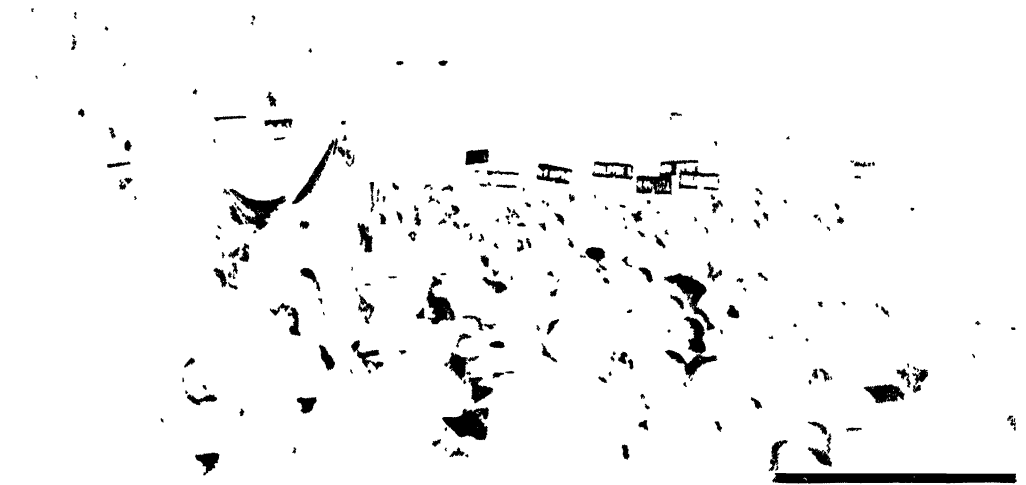


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#### NATIONAL TRANSPORT COMMITTEE

Seated: Calvin Coolidge and Alfred E. Smith. Standing (Left to Right): Alexander Legge, Dr. Harold G. Moulton, and Bernard Baruch.

UNITED STATES



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Gov Franklin D Roosevelt of New York accepting the Democratic Nomination for President



*Copyright, International*

Gov. Roosevelt addressing the Democratic National Committee after Accepting the Nomination for President  
THE DEMOCRATIC NATIONAL CONVENTION AT THE CHICAGO STADIUM

the convention and under the eye of President Hoover. A plank declared to be apocryphal in the sense that it had never come before the convention later appeared in the platform as issued by the National Committee; it indorsed the development of inland waterways and was of particular interest to the Mississippi Valley.

*Candidates.* Herbert Hoover was nominated for President on June 16, at the first ballot, by 1126½ votes out of the Convention's 1154. The scattering minority vote went to France, Coolidge, Dawes, Blaine, and Wadsworth. Charles Curtis of Kansas was renominated for Vice President.

*Democratic Convention.* The Democratic delegates convened in Chicago on June 27 and adjourned on July 2. The manager of the Roosevelt campaign, James A. Farley, had prepared a motion that the convention abolish the rule requiring a vote of two-thirds of the delegates to nominate—a change that, if adopted, would have brought an immediate nomination for Governor Roosevelt. Some of the State delegations in favor of Roosevelt revolted against this plan, Iowa, North Carolina, Alabama, and Mississippi, voting it down in caucuses. The plan to alter the rule was then dropped on the request of Governor Roosevelt through Farley. The convention seated Roosevelt delegations in deciding contests in Minnesota, where primaries in June had nominated a State ticket favorable to the National candidacy of Alfred E. Smith, and had thus gone counter to the earlier State convention's selection of a Roosevelt delegation; and in Louisiana, where Senator Huey P. Long headed a delegation in favor of Roosevelt.

*Democratic Platform.* The platform, as adopted, contained some 1400 words, and was highly concise in comparison with the generality of party platforms. The plank on prohibition was its most conspicuous feature. This plank "favored the repeal of the Eighteenth Amendment," demanded that Congress "immediately propose" to that end a new amendment to be acted on by conventions in the States, urged that the States enact measures against the return of the saloon and for State control of the liquor traffic, demanded that the Federal Government "enable" prohibition States to protect themselves against importation of liquor, and favored, pending repeal, immediate legalization of beer and other beverages of constitutionally permissible alcoholic content, to provide "proper and needed revenue."

The platform was declared "a covenant with the people." It advocated Federal economy to save "not less than 25 per cent of the cost of Federal government"; taxes raised on the principle of ability to pay; a "sound currency" (without specification of the gold standard); an international monetary conference to consider silver's rehabilitation; a "competitive" tariff for revenue; a fact-finding tariff commission free of executive interference; tariff reciprocity; an international conference to restore trade; Federal credit to States to relieve the unemployed; help for farm credit, particularly for the redemption of foreclosed farms; enactment of "every constitutional measure" to help farmers get prices above cost of production; revised anti-trust laws, for the better protection of labor, and small producers and distributors; divers Federal measures to regulate sellers of securities to the public and utilities operating across State

lines; severance of commercial banks' subsidiaries dealing in securities; generous treatment of veterans having sustained disabilities "from actual service in time of war"; adherence to the World Court; provision for conferences to make the Pact of Paris effective; independence for the Philippines; "ultimate" Statehood for Porto Rico. The platform opposed cancellation of foreign governments' debts to the Treasury; utterances of "high public officials" to influence stock-exchange prices; "improvident subsidies to favored interests"; the State Department's "passing on" offerings of foreign securities; and the "prohibitive rates," destructive to trade, of the Hawley-Smoot Tariff Act.

*Democratic Candidates.* Franklin D. Roosevelt of New York was chosen as Democratic candidate for President; for Vice President, John Nance Garner of Texas. Roosevelt was nominated on the fourth ballot, by 945 votes as against 180½ for Alfred E. Smith and a scattering for minor candidates, in a total of 1154. The first three ballots had threatened a deadlock. They were taken in a night session that lasted till 9 a.m. on July 1. Smith held upward of 190 votes throughout, Garner more than 90, Ritchie of Maryland over 21, and a numerous scattering of other candidates at least 145 on each ballot. The chance that Smith might block the Roosevelt nomination and effect the choice of a compromise candidate was eliminated when the California delegation, responsive to W. G. McAdoo and William R. Hearst, switched its vote at the fourth ballot, on the evening of July 1, from Garner to Roosevelt. Garner at the same time released the delegates of his own State, Texas, who also passed to the Roosevelt column. The Smith delegates held out, but almost all the scattering vote shifted to Roosevelt. Garner's withdrawal was rewarded with the Vice-Presidential nomination. Governor Roosevelt, upon news of his nomination, flew from Albany to the convention and made his address of acceptance on its final day, thus breaking the precedent of waiting for a formal notification.

*Minor Parties.* The Socialist party held a convention at Milwaukee, ending on May 24, and nominated Norman Thomas for President and James Maurer for Vice President. The Prohibition Party, at Indianapolis on July 7, nominated for President William D. Upshaw of Georgia; for Vice President, Frank S. Regan of Illinois.

**THE HOOVER CAMPAIGN.** President Hoover was formally notified of his nomination on August 11, in a public meeting at Constitution Hall, in Washington. His speech of acceptance reviewed the Administration's policy toward the depression, a policy characterized as "the most gigantic programme of economic defense and counter-attack ever evolved in the history of our Republic"; the Government was represented as using its reserve powers "for the protection of citizens and local governments by support to our institutions against forces beyond their control." The President declared himself "squarely for the protective tariff" without, however, specifying the Act of 1930; and against the cancellation of war debts, but receptive to the idea of remitting part of any particular annual payment in return for the debtors' taking more of American exports. He upheld the Republican plank on prohibition as "insisting that this submission shall propose a constructive and not



a destructive change." He warned against "hazardous experimentation" in meeting the difficulties of the hour.

*October Speaking Tours.* It was the original intent that the President should stay at Washington through the campaign. In its earlier part Secretary of the Treasury Mills and Secretary of War Hurley were the chief of the Administration's itinerant spokesmen. The phenomenon of a Democratic victory in the Maine election early in September, coupled with signs of a Democratic swing attendant upon the Western trip of Governor Roosevelt shortly after, led Mr. Hoover to make a speaking trip early in October, as far west as Iowa. The main address in the course of this tour, made at Des Moines on October 4, was largely a defense of Republican economic policies, particularly the tariff and the financial dispensations of the President's relief programme, as benefiting all, the farmers included, by saving the financial and price structure. The address contained one passage that, because of its peculiar nature, attracted more attention than all the rest. In depicting the alarms of the situation from which the country had been saved, Mr. Hoover declared that at one moment "the Secretary of the Treasury informed me that unless we could put into effect a remedy, we could not hold to the gold standard but two weeks longer." The statement was promptly controverted by Senator Glass of Virginia, who declared in a public telegraphic statement of October 7 that at no time of the spring or summer had members of the Administration expressed the slightest concern of the sort in communications with the legislative leaders. Glass later, in a speech broadcast from Washington on November 1, asserted the President's utterance about the gold standard to be denied by "authentic facts and figures." Secretary Mills, in a reply to Glass on the same night, failed to corroborate definitely the President's utterance.

On October 23 Mr. Hoover, in another speaking tour, declared at Detroit that economic recovery had been delayed for four months by "fear of the Democrats," and cited the attempted excesses of the Democratic majority in Congress. At New York on October 31 he predicted that if the Democrats were to put their tariff policies into effect "grass would grow in the streets of 100 cities and weeds overrun the fields of millions of farms." In its general tone through October the campaigning of the President leant to an effort to impress the country with alarm at the prospect of a Democratic administration. Markets for commodities and securities rather generally moved downward in October, in conformity with what his opponents called the President's "fear campaign." Owen D. Young, on the Democratic side, in an address delivered on November 3 at New York, attacked what he termed the Republican "campaign of threats." At Springfield, Ill., on November 4, Mr. Hoover likened the existing National crisis to that in the administration of Lincoln and intimated that now again the prospect of salvation lay in a Republican victory.

**GOVERNOR ROOSEVELT'S CAMPAIGN.** Duties connected with the proceedings concerning Mayor Walker of New York City not only kept Governor Roosevelt busy in his official capacity at Albany for the greater part of August and early September but brought upon him the factional opposition of the Tammany organization, threat-

ening him with the loss of the State at election. He nevertheless made addresses over the radio, in which (July 30) he condemned the Administration's handling of the deficit as "inflation which has weakened public confidence in our credit both at home and abroad"; and at Columbus, Ohio, (August 20) he opposed the President's acceptance speech with an attack on Republican rule, which he charged with "Grundism" in tariff-making and with having caused the crash of 1929 by encouraging overspeculation, overproduction, and false economic policies.

*September Speaking Tour.* The termination of the Walker hearings enabled Governor Roosevelt to start on September 12 a speaking tour of nearly three weeks via Kansas and the Mountain States, along the Pacific Coast, and back by Iowa, Wisconsin, Chicago, and Detroit. More than a dozen addresses were delivered. The speeches detailed the candidate's views serially. At Topeka (September 14) he proposed in general terms plans for restoring farm prosperity; at Denver (15th) he declared for liberalism in the Democratic party; at Salt Lake City (17th) he urged reforms in the Nation's railroad policy; at Butte (19th) he condemned failure to call a silver conference; at Seattle (20th) he advocated reciprocity or barter in tariff policy; at Portland (21st) he laid out a plan for Federal control over utilities, and declared for replacing cost of reproduction with prudent investment as the basis in rate-making; at San Francisco (23d) he spoke for repeal of prohibition; at McCook, Nebraska (28th) he expressed accord with the principles of the Progressive Senator Norris, who had declared for him and who greeted him there; at Sioux City (29th) he urged tariff reciprocity as a means to save the farmer.

*Later Speeches.* After President Hoover had reversed his original campaign policy by undertaking speaking tours, beginning with the Des Moines address of October 4 and continuing with denunciations of the Democratic campaign, Governor Roosevelt shifted from the exposition of his general views and plans to controversy over the Administration's record and Mr. Hoover's successive attacks. In a speaking tour of eight days, starting October 18, he covered western New York, the Ohio-Pennsylvania-West-Virginia steel and coal region, Indiana, central Illinois, Missouri, and several Southern States. At Pittsburgh he declared himself as to immediate cash payment of the bonus, on which he had been challenged by the Administration speakers; he reiterated on this point a published declaration that he had made in the journals of April 23, to the effect that he did not see how a government running behind \$2,000,000,000 annually "could consider anticipation of bonus payments until it had balanced the budget." He attacked the Administration as having been inept in laying out its financial course, extravagant, and secretive as to heavy deficits when they were in prospect. At Indianapolis he declared that Republican intimations of ruin in case of Democratic victory were "dangling the ghost of panic before our eyes." At Baltimore on October 25 he arraigned Republican control as having destroyed prosperity at home and abroad by encouraging improvident lending to foreigners, thus financing exportation only temporarily, and by the imposition of the tariff of 1930, by

which "our doors were closed to our principal European purchasers."

*Position of Alfred E. Smith.* Defeated for the Democratic nomination, Smith shunned Roosevelt at Chicago and abstained thereafter from any word in favor of Roosevelt for nearly three months. The two met, however, at the New York State Democratic convention at Albany on October 4 and publicly displayed friendliness. Thereafter Smith toured through New England and New Jersey as one of the Democratic speakers, being received with particular warmth by his Boston admirers. Finally, Roosevelt and Smith appeared together as speakers in Brooklyn on November 4 and in New York on November 5.

*Occurrences During the Campaign.* At Portland, Ore., on September 15 the annual convention of the American Legion voted a resolution demanding immediate full payment of the soldiers' bonus; it was declared in some quarters that this move had been brought about by the adverse reaction, among the membership, to the treatment of the "bonus army" in Washington on July 28. The convention also voted censure of Secretary of War Hurley, not however, for calling out the troops on that occasion, but for having circularized the convention with copies of his findings against the character of the expelled group.

Several developments during the campaign worked to spread early the impression that the Republican National ticket would lose. One of these was the September election in Maine, where a normally heavy Republican majority was overthrown. Another was the nation-wide "straw ballot" taken by the *Literary Digest*, which owing to the accuracy of its indications in 1928, was widely credited and discussed; it indicated majorities for the Democratic candidate in many normally Republican States and areas. The unofficial but nevertheless credited betting odds quoted on the result of the election in Wall Street on November 4 were 4 to 1 offered on Roosevelt and 1 to 5 offered on Hoover. See **PRESIDENTIAL POLL.**

**THE VOTE.** Franklin D. Roosevelt was elected President, defeating Herbert Hoover by a plurality of 7,054,520 in the popular vote of the States as a whole, and winning the electoral vote of all but six States. The electoral votes thus assured to Roosevelt totaled 472 as against 59 for Hoover. The total of electoral votes indicated for Roosevelt was the greatest numerically for any Presidential candidate in the Nation's history and the greatest proportionately since 1864. The six States rendering popular majorities for Hoover were Maine, New Hampshire, Vermont, Connecticut, Pennsylvania, and Delaware. Among States where the popular vote went heavily in favor of the Democratic National ticket were Hoover's home State of California, the normally Republican industrial States of Illinois, Ohio, and Michigan and such traditionally Republican agricultural States as Indiana, Iowa, and Minnesota.

The complete vote for the major parties, as certified by State officials and compiled by the Associated Press, is given in the next column.

Norman Thomas, Socialist candidate for President, according to the same tabulation, received 881,951 votes; William Z. Foster, Communist, 102,785; William D. Upshaw, Prohibitionist, 77,528; W. H. Harvey, Liberty party, 53,446;

State	Votes received		Pluralities	
	Roosevelt	Hoover	Roosevelt	Hoover
Ala. ....	207,910	34,875	173,235	.....
Ariz. ....	79,264	36,104	43,160	.....
Ark. ....	189,602	28,467	161,135	.....
Calif. ....	1,324,157	847,904	476,255	.....
Colo. ....	250,877	189,617	61,260	.....
Conn. ....	281,193	287,720	.....	6,527
Del. ....	54,319	57,073	.....	2,754
Fla. ....	206,807	69,170	137,137	.....
Ga. ....	234,118	19,863	214,255	.....
Idaho ....	109,208	71,122	38,086	.....
Ill. ....	1,882,304	1,432,756	449,548	.....
Ind. ....	862,054	677,184	184,870	.....
Iowa ....	598,019	414,433	183,586	.....
Kan. ....	424,204	349,498	74,706	.....
Ky. ....	580,574	894,716	185,858	.....
La. ....	249,418	18,853	230,565	.....
Me. ....	128,907	166,631	.....	37,724
Md. ....	314,314	184,184	130,130	.....
Mass. ....	800,148	736,959	63,189	.....
Mich. ....	871,700	739,894	131,806	.....
Minn. ....	600,806	363,959	236,847	.....
Miss. ....	140,168	5,170	134,998	.....
Mo. ....	1,025,406	564,713	460,493	.....
Mont. ....	127,286	78,078	49,208	.....
Neb. ....	359,082	201,177	157,905	.....
Nev. ....	28,756	12,674	16,082	.....
N. H. ....	100,608	103,629	.....	3,021
N. J. ....	806,394	775,406	30,988	.....
N. M. ....	95,089	54,217	40,872	.....
N. Y. ....	2,534,959	1,937,963	596,996	.....
N. C. ....	497,586	208,344	289,222	.....
N. D. ....	178,350	71,772	106,578	.....
Ohio ....	1,301,695	1,227,679	74,016	.....
Okla. ....	516,468	188,165	328,303	.....
Ore. ....	213,871	136,019	77,852	.....
Pa. ....	1,295,948	1,453,540	.....	157,592
R. I. ....	146,604	115,266	31,338	.....
S. C. ....	102,347	1,978	100,369	.....
S. D. ....	183,515	99,212	84,303	.....
Tenn. ....	259,817	126,806	133,011	.....
Texas ....	753,304	96,682	656,622	.....
Utah ....	116,750	84,775	31,975	.....
Vt. ....	56,266	78,984	.....	22,718
Va. ....	203,980	89,637	114,343	.....
Wash. ....	353,250	208,645	144,605	.....
W. Va. ....	405,124	330,731	74,393	.....
Wis. ....	707,410	347,741	359,669	.....
Wyo. ....	54,370	89,583	14,787	.....
Total . . .	22,813,786	15,759,266		
Roosevelt's plurality . . . . .			7,054,520	

Verne L. Reynolds, Socialist-Labor party, 34,034.

*Vote for Congress.* Democrats secured majorities in both houses of the Seventy-third Congress. The composition of the Senate after Mar. 4, 1933, as altered by the election, was: 59 Democrats, 36 Republicans, 1 Farmer-Labor member. The initial composition of the Senate for the Seventy-second Congress had been 47 Democrats, 48 Republicans and 1 Farmer-Laborite. The Democratic candidates therefore gained from the Republicans 12 Senate seats as compared with the result in 1930. Of 32 seats filled on November 8 for the ensuing full Senatorial term, 17 were filled by reelection; thus were reelected 11 Democrats and 6 Republicans. To the remaining 15 full-term seats were elected 15 new Democratic Senators. Of these, 3 were elected to succeed Democratic incumbents, while 12 replaced Republicans. Among the Republicans displaced in seeking reelection were some of the most conspicuous figures in the Senate, notably Smoot of Utah, Oddie of Nevada, Moses of New Hampshire, Bingham of Connecticut, and Blaine of Wisconsin. Two seats for remainders of unexpired terms in the Senate of the Seventy-third Congress were also filled, one in Georgia and the other in New Jersey, but without change of partisan tenure.

The balance of party power in the remaining session of the Senate of the Seventy-second Congress was determined by the election in Colorado

of a Republican, Carl C. Schuyler, by a close vote, to fill the unexpired term of the late Senator Waterman, ending with March 4, 1933. This left the party composition of the Senate unaltered for the existing Congress: Republicans 48; Democrats 47; Farmer-Labor 1.

The election made a sweeping change in the composition of the House of Representatives. There were elected to the Seventy-third Congress 313 Democrats, as compared with 219 elected in 1930 to the Seventy-second; and 111 Republicans, as compared with 214. The representation of Farmer-Labor members rose to 4. The partisan overturn in the House, though numerically more striking than that in the Senate, eliminated fewer conspicuous veteran Republican leaders.

**UNITED STATES MILITARY ACADEMY.** A government institution at West Point, N. Y., for the theoretical and practical training of cadets for the military service of the United States, opened in 1802. On Sept. 1, 1932, the total number of cadets was 1299. There were 219 members on the faculty. The academy is a component part of the Regular Army of the United States and is maintained solely by appropriations from the War Department, which in 1932 amounted to \$2,666,683 for salaries and maintenance of public works. The library contained over 110,000 volumes. Superintendent, Maj. Gen. Wm. D. Connor, U. S. A.

**UNITED STATES NAVAL ACADEMY.** A school for the education and training of midshipmen in Annapolis, Md., founded in 1845. The total number of midshipmen at the beginning of the academic year 1932-33 was 1786. The faculty numbered 240. The library contained 76,000 volumes. Midshipmen, after graduation, are commissioned as ensigns in the U. S. Navy. Superintendent, Rear Admiral Thomas C. Hart, U.S.N.

**UNITED STATES OF EUROPE.** Aristide Briand's project of May 1, 1930, for a European political union was shelved in 1931. Soundings taken of European opinion revealed that the project was impracticable, in view of the strength of political and economic nationalism. Accordingly, the Commission of Inquiry for European Union was transformed into an agency for the promotion of economic, rather than political, collaboration among the European nations (see 1930 and 1931 YEAR BOOKS).

During 1932 two ambitious, but largely futile, efforts were made to break the vicious circle of import quotas, embargoes, exchange restrictions, and transfer moratoria which was strangling the economic life of Eastern and Central Europe. The first of these—the Tardieu plan for a Danubian federation—had no direct connection with the Commission of Inquiry for European Union. The second—the Stresa Conference—submitted recommendations to the Commission for further action. Independent efforts to promote regional economic coöperation in Eastern Europe were made by the Financial Committee of the League of Nations and by members of the Balkan Conference at the annual meeting in Bucharest in October. It was the consensus that the ultimate aim of an economic federation of European states could best be served by preliminary efforts to establish regional collaboration.

**THE DANUBIAN FEDERATION.** The Tardieu plan, formally announced before the Finance Commission of the French Chamber of Deputies on March 1, was elaborated upon at a conference between Premier Tardieu and Prime Minister MacDonald

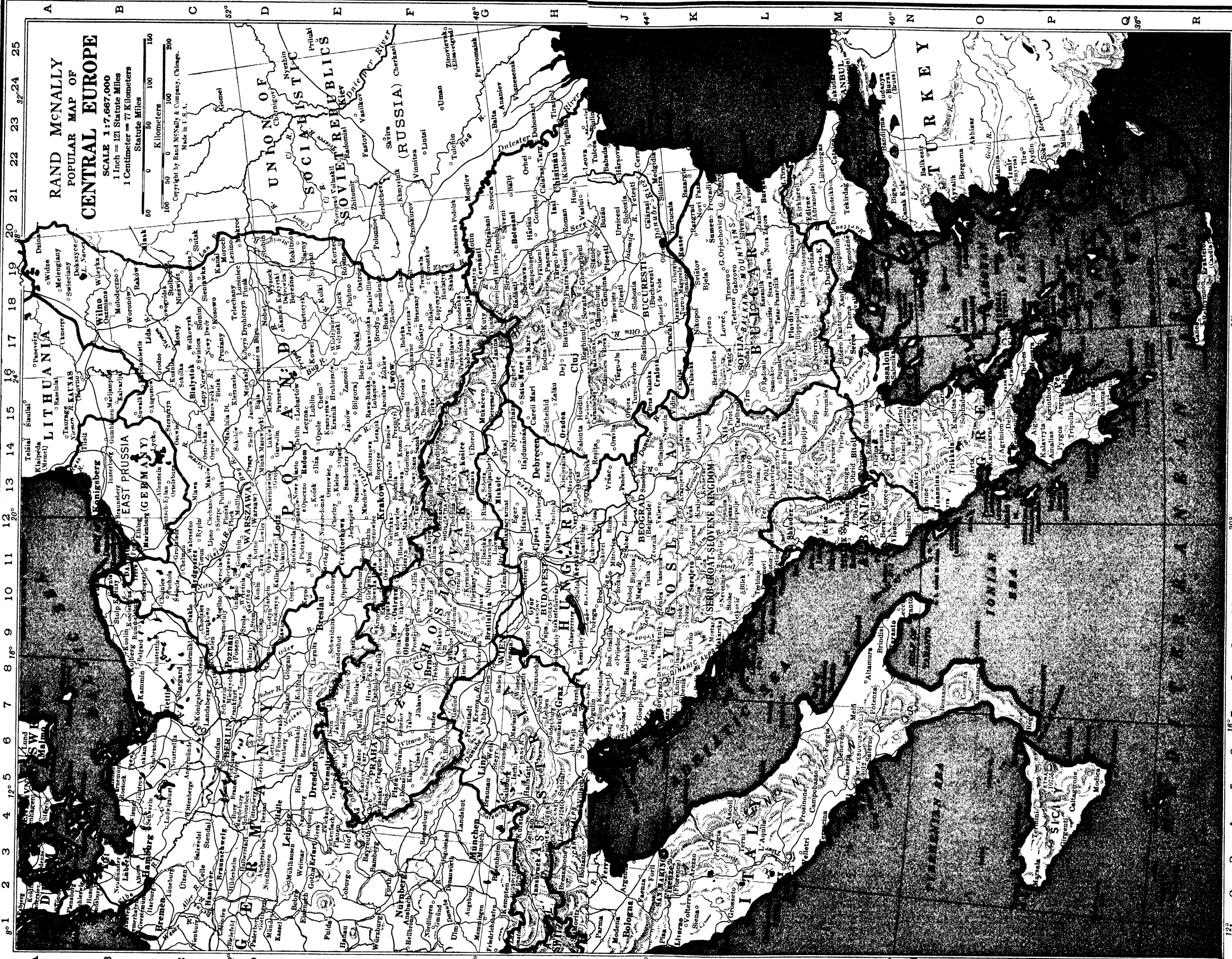
in London on April 4. Supported by France and Great Britain, it met the open opposition of Germany and Italy at a four-power conference held in London April 6-8 and consequently was dropped. The plan provided for the revival of the former Austro-Hungarian customs union by the inclusion of Czechoslovakia, Austria, Hungary, Rumania, and Yugoslavia in a tariff union. Each of these countries was to reduce its tariffs, as applied to the others, by at least 10 per cent. They were to abolish all quotas, exchange restrictions and other devices obstructing their mutual trade. The other European countries were invited to participate in the plan by (1) renouncing their rights to most-favored-nation tariff treatment by the Danubian countries, (2) giving unilateral preference to agricultural exports from Danubia, and (3) by advancing a \$40,000,000 loan—guaranteed by the French, British, German, and Italian governments—to meet the immediate emergency confronting the Danubian countries.

**STRESA CONFERENCE.** The discussion of means to prevent the economic collapse of Central Europe was again revived at the Lausanne Conference (see REPARATIONS AND WAR DEBTS). The powers there represented convoked a special conference to study the situation. This conference met at Stresa, Italy, from September 5 to 20, with 80 delegates from 15 nations in attendance. The countries represented were Austria, Belgium, Great Britain, Bulgaria, Czechoslovakia, France, Germany, Greece, Hungary, Italy, the Netherlands, Poland, Rumania, Switzerland, and Yugoslavia.

The conference failed to adopt a proposal for the creation of a special loan fund to enable Central European countries to balance their budgets, stabilize their currencies, and pay their foreign debts. Great Britain and several other countries declined to contribute toward such a loan. A scheme was elaborated to stimulate grain exports through the distribution of preferences from a fund of 75,000,000 Swiss gold francs (about \$14,475,000), to be contributed annually by states adhering to the agreement. The plan provided for the establishment of an administrative committee to determine the sums to be allotted to each grain exporting country. The committee was to administer the fund so as to allow an effective preference of two gold francs per quintal (38.60 cents per 220.46 pounds) of wheat and 1½ francs (28.95 cents) per quintal of barley and corn. States contributing to the fund were to receive tariff preferences and other concessions from the grain exporting states.

This project for the "revalorization" of grain prices and recommendations for eliminating financial impediments to trade were submitted to the Commission of Inquiry for European Union, which met in Geneva toward the end of September. During these discussions the plan for revalorization of cereal prices was opposed by Maxim Litvinov, Soviet Foreign Minister, and by the representatives of most of the Northern European countries. At the request of the Greek delegate, tobacco was included in the revalorization plan. Subject to three reservations, the Commission of Inquiry then adopted a draft resolution whereby the Commission would notify the League Council and the Preparatory Committee for the World Economic Conference of the conclusions reached at Stresa. The Council was asked





**RAND McNALLY**  
**POPULAR MAP OF**  
**CENTRAL EUROPE**

SCALE 1:7,687,000  
1 inch = 121 Statute Miles  
1 Centimeter = 77 Kilometers

0 50 100 150  
0 50 100 150  
Statute Miles  
Kilometers  
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to elaborate, with experts, a basis of monetary normalization and to examine the revalorization plan. No further action was reported on the Stresa proposals during the remainder of the year. They were scheduled, however, to come before the World Economic Conference in 1933.

**THE BALKAN CONFERENCE.** The third unofficial conference of representatives of the Balkan states was held in Bucharest, Rumania, October 22-25. Delegates from Turkey, Rumania, Bulgaria, Yugoslavia, Greece, and Albania were present. The chief questions discussed were a Balkan non-aggression agreement, a convention for the settlement of disputes by mediation and conciliation, and a proposal for the establishment of a commission to study the minorities question. A tentative agreement on all three questions was reached by all the delegations, except the Bulgarians. The latter left the conference on October 25 when the other delegations rejected the Bulgarian request for a settlement of the minorities question before commencing debate on the other issues. The conference also discussed plans for standardizing Balkan currencies and postal regulations. A customs union including Rumania, Yugoslavia, Czechoslovakia, Bulgaria, Turkey, and Greece was also considered.

See FRANCE, GERMANY, ITALY, GREAT BRITAIN, AUSTRIA, HUNGARY, and other European countries under *History*; also PEACE, INTERNATIONALISM, LEAGUE OF NATIONS.

**UNITED TEXTILE WORKERS.** See LABOR, AMERICAN FEDERATION OF; STRIKES AND LOCKOUTS.

**UNIVERSAL CHRISTIAN COUNCIL.** See INTERNATIONALISM.

**UNIVERSALISTS.** A religious denomination, existing chiefly in the United States, Canada, Japan, and Korea, which holds as part of its doctrine the universal fatherhood of God and the final harmony of all souls with God. In 1932 there were 28 State conventions and two State conferences. The number of churches was 580; ministers in fellowship, including lay licenses, 529; church members, 47,647; and Sunday schools, 395. The denominational periodical, the *Christian Leader*, is published weekly. Victor A. Friend of Melrose, Mass., was president of the general convention in 1932. Headquarters, 176 Newbury Street, Boston.

**UNIVERSITIES AND COLLEGES.** ATTENDANCE. During the early part of this year there was much discussion regarding the effects that the economic depression would have upon the enrollments in universities, colleges, and professional schools. Within the institutions themselves there was much pessimism. The reports of enrollments in summer schools were far from encouraging. In 1931, the total enrollment in summer schools in the United States was 422,754. This was an increase of 5253 over 1930. In 1932, the enrollment was 358,131. This is a decrease of 64,623, or slightly over 15 per cent. This is the first decrease in summer school enrollment.

On December 10, *School and Society* published the statistics on registration in American universities and colleges in 1932. This report was furnished by Dr. Raymond Walters, president of the University of Cincinnati.

The registration for 1932 shows a decrease of 4½ per cent in the number of full-time students, and 7 per cent in grand total enrollment, as compared with 1931. Full-time enrollments are shown in the table in the adjoining column.

Classification	No.	1932	1931
Universities, public . . . . .	51	86,590	195,288
Universities, private . . . . .	46	159,057	166,825
Colleges . . . . .	274	140,689	145,623
Technical institutions . . . . .	59	71,954	77,414
Total . . . . .	480	558,290	584,650

The five universities having the largest enrollments of full time students are California, 19,282; Columbia, 14,229; New York University, 12,069; Minnesota, 11,708; and Illinois, 10,579.

The five universities having the largest enrollments of resident students are New York University, 27,905; Columbia, 27,682; College of the City of New York, 24,698; California, 22,867; and Minnesota, 16,770.

The largest woman's college is Hunter, with 4416 students. The largest engineering and chemistry enrollment is at the Massachusetts Institute of Technology with 2343 students. Harvard has the largest law school enrollment, 1509. The largest dental school is at Temple, with 509 students. Teachers College of Columbia University, with an enrollment of 5210, is the largest teachers' college. Boston University has the largest number of divinity students, 249. Syracuse University has the largest Forestry School, with 406 students. The University of Pennsylvania has the largest number of students enrolled in Commerce and Finance, 1979.

**GIFTS AND BEQUESTS.** During 1932 there were some outstanding gifts to colleges and universities. Among those of \$100,000 or over announced during the year are the following: The American School, Chicago, announced a gift of \$300,000 from R. T. Miller, Jr., for a student loan fund. The University of Arkansas will receive the residue of the estate of the late Biscoe Hindman, estimated at \$800,000. The Carnegie Corporation made a grant of \$100,000 to Atlanta University for a professorship in its graduate department of business administration to aid in training Negroes for business careers. Bates College received a bequest of \$150,000 by the will of the late Daniel Pingree. The Polytechnic Institute of Brooklyn received \$250,000 as its share in the residuary estate of the late Dr. William H. Nichols. By the will of the late Mrs. Ella M. Burke, the Cleveland School of Art received a bequest of \$650,000. A trust fund of \$100,000 was received by Harvard University by the will of the late Mrs. Caroline E. Peabody. The Massachusetts Institute of Technology reported gifts and legacies totaling \$1,781,473. New York University received \$3,670,401 as its share in the estate of the late Dr. William H. Nichols.

The University of Pennsylvania received \$100,000 by the will of Mrs. Frederick Courtland Penfield. The Philadelphia School of Design for Women will receive the income from a trust fund of \$3,000,000 left by Mr. Joseph Moore. Princeton University received a bequest of \$150,000 by the will of the late Arthur Hawley Scribner payable at the death of Mrs. Scribner. The University of Rochester received an amount estimated at \$20,000,000 by the will of Mr. George Eastman. Smith College will receive \$100,000 from the estate of the late Mrs. Annie Swan Coburn. St. Paul's School at Concord, New Hampshire, received a bequest of \$250,000 by the will of the late Alexander Smith Cochran.

Vanderbilt University received a grant of \$250,000 from the Rockefeller Foundation and

\$50,000 from the General Education Board for the benefit of the School of Medicine. Williams College will receive \$454,603 from the estate of William Ellis Carnochan. Yale University received a bequest of \$100,000 by the will of the late Margaret S. Bedell. The president's report for the year ending June 30, 1932, showed gifts and contributions totaling \$1,532,619.

**EDUCATIONAL FOUNDATIONS.** The growth in the number and importance of foundations has been truly remarkable. *School and Society* published a study by Palmer O. Johnson of the University of Minnesota, showing the extent of benefactions by five of the older and more prominent foundations from 1923 to 1929, inclusive. The foundations were the General Education Board; the Carnegie Corporation of New York; the Rockefeller Foundation; the Commonwealth Fund; and the Laura Spelman Rockefeller Memorial, which was consolidated with the Rockefeller Foundation in 1929.

In 1923 these five organizations reported grants totaling \$11,178,433. For the next two years the grants were approximately three million dollars less. In 1926 the total was \$14,170,488.23. This increased to \$26,703,804.18 in 1927, dropped to \$16,281,275.97 in 1928 and reached \$27,522,788.50 in 1929. The total for these years was \$112,031,306.22, of which \$102,808,256.22, or 91.7 per cent, was given to private institutions, and the remainder, \$9,223,050 was given to public institutions.

The following institutions are arranged in order of the amount authorized to each:

University of Chicago . . . . .	\$21,255,500.00
Vanderbilt University . . . . .	11,610,992.64
Yale University . . . . .	10,718,950.00
Cornell University, including New York Hospital . . . . .	9,179,000.00
Columbia University \$2,238,683.34 }	8,187,838.84
Teachers College . . 4,899,150.00 }	
Johns Hopkins University . . . . .	5,916,740.00
Harvard University . . . . .	5,218,828.83
Washington University, Mo. . . . .	4,306,500.00
Princeton University . . . . .	3,487,150.00
California Institute of Technology . . .	3,390,416.67

**The Carnegie Corporation.** The Carnegie Corporation reported funds on September 30, 1932, amounting to \$145,393,110.08, and current and contingent liabilities amounting to \$17,500,253.84. The net income for the year was \$6,419,836.81. Of this amount, \$1,305,279.17 was set aside for various funds, and donations authorized for \$4,163,065.75. This left a balance of \$95,491.89.

The appropriations authorized were as follows: library interests, \$873,100; adult education, \$368,500; the arts, \$664,750; research studies and publications, \$770,675; and general, \$2,579,082.42. This included endowments in educational institutions, \$1,128,000, and varied interests in colleges and universities, \$367,000.

**Commonwealth Fund Fellows.** Twenty-five British students were awarded Commonwealth Fund fellowships for study in American colleges and universities and travel during the next two years. These men and women were chosen by a British committee of award after personal interviews.

**General Education Board.** The following summary of the report of the General Education Board appeared in *School and Society*, Nov. 5, 1932:

Appropriations of \$9,162,722, including \$5,139,485 for Negroes, and \$3,647,621 for whites, were made by the General Education Board in the fiscal year ended on June 30, 1931, according to the report of that institution for 1930-1931.

The extent to which the General Education Board has increased its bond holdings is shown by the report which lists the total investments at \$77,472,832, including \$34,154,605 in bonds, an increase of \$7,556,149, and \$43,318,227 in stocks.

Since the General Education Board was founded in 1902 by Mr. John D. Rockefeller, it has made total appropriations of \$221,778,087, of which \$123,213,819 was appropriated from principal and \$98,564,268 from income.

The total appropriations since the foundation of the General Education Board represent \$185,122,940 for white and \$30,898,419 for Negroes. Of the total amount appropriated for white institutions, \$164,075,183 has been paid, and of the total appropriations for Negro institutions \$21,617,448 has been paid. A total amount of \$190,922,411 has been paid out of the appropriations granted in the lifetime of the institution.

The General Education Board has increased its bond investments from approximately 28 per cent of its total investments in 1929, to 38 per cent in 1930, and 44 per cent in 1931. The largest single bond holding is \$3,500,000 of the United States Fourth Liberty 4½s maturing from 1933 to 1938.

The General Education Board reported income of \$4,251,783 received in the year ended on June 30, 1931, which together with undistributed income on hand as of that date of \$13,032,232, and refunds on account of payments made in previous years of \$5890, brought the total amount available for disbursement up to \$17,289,906.

**John Simon Guggenheim Memorial Fellowships.** The trustees of the John Simon Guggenheim Foundation announced 57 fellowships for 1932-33. Of these 42 were granted to scholars and artists from the United States and 15 to scholars from Latin America. All of those appointed in Latin America will study in the United States. Ten fellows from the United States will study and work in the Latin American countries. The others will go to Europe.

**The Milbank Memorial Fund.** The report of the president of the Milbank Memorial Fund for the year 1931 shows grants totaling \$843,337. Since its establishment twenty-seven years ago the fund has appropriated \$8,987,575 for public health, social service, and education. A total of 147 projects have been aided.

The report states that the fund has shifted "from experiments in applying commonly accepted procedures, as in the New York health demonstrations, to experiments with new or improved public health administrative methods."

**The Rockefeller Foundation.** During 1931 this foundation appropriated a total of \$18,737,967.90. The Rockefeller Foundation's interests lie in five fields: the humanities, public health, medical science, social science, and natural sciences.

**CHANGES IN ORGANIZATION.** Reports published by various institutions indicate a tendency to merge various institutions within the State so as to consolidate administration matters and often to specialize the work within the particular institution. The character of such mergers is shown in the consolidation that has taken place in North Carolina.

The general plan of organization as reported in *School and Society*, Oct. 15, 1932, "provides that a university system composed of three branches, the branch at Greensboro to contain a junior college, a senior college, and units of the summer school and extension division, while the branch at Raleigh would be composed only of a junior college. At Chapel Hill, under this plan, would be located a junior college, senior college, and schools of Engineering, Commerce, Public Wel-

fare, Graduate Studies, Agriculture, and Forestry, Industries, Law, Medicine, Pharmacy, Graduate Library Science, Fine Arts, Home Economics, and units of the Summer School and Extension Division."

The executive committee of the trustees recommended that in addition to a president for the Greater University there be a vice president for each of the three units.

The State of Oregon consolidated the University of Oregon, the Oregon State College, and the normal schools. They elected a president of the State institutions for higher learning.

Efforts to reorganize higher education are not limited to administration matters. The college at Bennington, Vt., opened in the fall of 1932. This institution will attempt to conduct undergraduate work in a very different manner from that in use in other institutions. Points, courses, and ordinary credits will have little place in this college.

A New College was opened at Teachers College, Columbia University. The purpose of this college is to train teachers and school workers. The academic work is managed much more informally than is usual. It is claimed that graduation from this institution will not be based upon points and credits, but upon the ability which the student displays.

Various matters have seemed to call particular attention to the Institute for Advanced Study, the institution of which Dr. Abraham Flexner is the director. Dr. Flexner has been so critical of existing institutions that curiosity has been aroused regarding his own. Further interest has been aroused by the announcement that Prof. Albert Einstein, of Berlin, has accepted an appointment as Professor of Mathematical and Theoretical Physics. He will begin his work in the autumn of 1933 and be in residence at the Institute annually from October 1 to April 15. The Institute will open in the fall of 1933 in Princeton, N. J.

**COLLEGE PRESIDENTS.** Among the college presidents announced during the year are the following: Dr. Paul E. Titworth was elected president of Alfred University. Mr. Stanley King was elected president of Amherst College. Dr. Walter Scott Athearn was inaugurated president of Butler University. Dr. Howard Rufus Omwake was installed as president of Catawba College. Dr. Aymer Jay Hamilton was inaugurated president of State Teachers College at Chico, Calif. Dr. Raymond Walters was elected president of the University of Cincinnati. Dr. Edward Moseley Gwathmey was elected president of Converse College, Spartanburg, South Carolina.

Dr. Parke R. Kolbe was elected president of Drexel Institute. Dr. John Scholte Nollen was installed as president of Grinnell College. Dr. Harry W. McPherson was elected president of Illinois Wesleyan University. The Reverend Dr. Clyde Alvin Lynch was elected president of Lebanon Valley College. The Reverend Albert J. Dorger was appointed principal of Loyola University. Dr. Frank L. Babbott, Jr., was installed as president of Long Island College of Medicine.

Brother A. Patrick was appointed president of Manhattan College, New York City. Mr. W. F. Conn was elected president of Marion College. Dr. Hugh P. Baker was elected president of the Massachusetts State College at Amherst. Mr. Jay William Crofoot was installed as president of Milton College. Dr. Robert N. Montgomery was

elected president of Muskingum College, New Concord, Ohio. Dr. E. Guy Cutshall was elected president of Nebraska Wesleyan University.

Dr. J. W. Kerr was elected chancellor of the State Institutions for Higher Education in Oregon. Professor W. A. Lewis was elected president of Rio Grande College, Ohio. Dr. Robert C. Clothier was elected president of Rutgers University. Mr. M. F. Whittaker was elected president of South Carolina Agricultural and Mechanical College. The Reverend Stanley E. Grannum was elected president of Samuel Houston College, Texas. Mr. Douglas Huntley Gordon was installed as president of St. John's College, Annapolis, Maryland. Dr. Bradford Knapp was made president of Texas Technological College at Lubbock. Dr. John Feter Hurt was elected president of Union University, Tennessee. The Reverend A. H. Peotker, S.J., was appointed president of the University of Detroit. Mr. Walter C. Tredtin was elected president of the University of Dayton. Dr. Leonard Theodore Baker was elected president of the University of South Carolina.

The Reverend Edward V. Stanford was elected president of Villanova College. Dr. Ralph C. Hutchinson was elected president of Washington and Jefferson College. Dr. Dice Robins Anderson was installed as president of Wesleyan College, Macon, Ga. Mr. Charles H. Wesley was elected president of Wilberforce University. Dr. Aquila Webb was installed as president of Washington College at Johnson City, Tennessee. The Robert Ferguson Galbreath was installed as the eighth president of Westminster College. Dr. Walter L. Collins was installed president of Wilmington College, Ohio.

**FOREIGN-STUDENT RULING.** On Sept. 1, 1932, the Secretary of Labor issued a regulation that prohibited foreign students from obtaining employment in the United States. These regulations caused great excitement in educational circles and were generally condemned. Many students who were here from foreign lands had suffered serious losses through unfavorable exchange and they were compelled to support themselves in part at least by such work as they could obtain.

**SCHOLARSHIPS AND FELLOWSHIPS.** The Office of Education has issued a bulletin which lists the scholarships and fellowships now offered at 402 colleges and universities. It is estimated that there are more than 50,000 fellowships and scholarships available annually in the United States. The total money value of such grants is estimated at \$10,000,000.

**UPPER VOLTA.** See FRENCH WEST AFRICA.

**URAL AREA.** See SIBERIA.

**URIBURU, GEN. JOSÉ FRANCISCO.** An Argentine soldier and provisional president, died in Paris, France, Apr. 29, 1932. He was born in Salta, Argentina, July 20, 1868, attended the Military College in Buenos Aires, and received his army commission in 1888. He subsequently went to Germany to study the Prussian military organization and on his return directed, as inspector-general, the reorganization of the army along German lines. He served also as a member of the Argentine-Chilean boundary commission of 1902 and as military attaché in Madrid, Berlin, and London. He became provisional president of the Argentine republic in September, 1930, following a popular uprising against the government of President Irigoyen. His provisional gov-

ernment resigned on Feb. 20, 1932. See ARGENTINA under *History*.

**URUGUAY**, ū'rōō-gwā or ōō'rōō-gwī'. A republic on the southeast coast of South America, bounded by Brazil on the north and Argentina on the west. Capital, Montevideo.

**AREA AND POPULATION.** Uruguay's area of 72,172 square miles makes it the smallest state in South America. The population on Jan. 1, 1932, was estimated at 1,937,707, as compared with 1,903,083 a year earlier. For the period 1927 to 1931, births averaged 44,706 and deaths 19,769 annually, the average excess of births being 24,937. The average birth rate per 1000 inhabitants was 24.3 and the death rate 10.8. Immigrants arriving during 1931 numbered 12,715 (18,116 in 1930), of whom 3392 were from Spain, 1671 from Poland, and 1324 from Italy. The estimated population of Montevideo on June 30, 1932, was 655,599. Paysandú (37,000 in 1930), Salto (35,000), Mercedes (30,000), and Minas (28,000) were the other chief cities.

**PRODUCTION.** Of the area of Uruguay, about 60 per cent is devoted to stock raising, about 20 per cent to mixed stock and crop farms and ranches, and 7 per cent primarily to crop raising. The value of the chief crops in 1929-30 was: wheat, \$13,099,000; corn, \$2,298,000; linseed, \$5,170,000. Production of the principal crops in the 1931-32 season was: wheat, 11,259,000 bushels; barley, 148,000 bushels; oats, 3,111,000 bushels; corn, 5,759,000 bushels; and linseed, 4,841,000 bushels. Potatoes, beans, and alfalfa are other crops. Livestock in 1931 included 7,372,000 cattle, 15,406,000 sheep, and about 309,000 swine. Animals slaughtered by the frigorificos in 1931 were: cattle, 1,102,400 (1,310,400 in 1930); sheep, 1,955,500 (2,725,000 in 1930); swine, 72,900 (61,500 in 1930). Shipments of frozen and chilled beef, mutton, and canned meat declined 26 per cent in volume and 52 per cent in value in 1931, due to the poor export demand and low prices. The 1931-32 wool clip was estimated at about 100,000,000 pounds, against 149,000,000 pounds in 1930-31.

**COMMERCE.** The dollar value of 1931 imports declined by 41 per cent and that of exports by 50 per cent, as compared with 1930. The value of imports in 1931 (unrevised) was 81,982,000 pesos (\$45,385,000), as against 89,546,000 pesos (\$76,884,000) in 1930, while the value of exports was 78,242,000 pesos (\$43,315,000), compared with 100,864,000 pesos (\$86,612,000) in 1930. In 1932, imports declined 40 per cent in dollar value and exports 30 per cent, as compared with 1931.

**FINANCE.** The fiscal year ended June 30, 1931, closed with a budget deficit of 7,431,000 pesos, with expenditures totaling 63,167,000 pesos and revenues 55,736,000 pesos. This compared with 1929-30 revenues of 58,916,880 pesos and expenditures of 59,702,624 pesos. The budget voted for 1931-32 estimated revenues at 58,803,962 pesos and expenditures at 59,799,915 pesos, plus 800,000 pesos for losses in exchange operations. The final 1931-32 deficit was reported at about 4,570,000 pesos. The budget for 1932-33, while adopted by the lower chamber, was still awaiting action of the Senate at the end of 1932.

The financial situation of the Treasury became increasingly critical during 1931 and 1932. On Jan. 20, 1932, a law was passed authorizing a moratorium on amortization payments on the foreign debt and toward the end of the year the moratorium was applied to sinking fund pay-

ments on the national internal debt also. Interest payments were continued to the end of 1932. The national debt on June 30, 1932, stood at 247,789,000 pesos, of which 141,670,000 pesos represented external obligations, 101,139,000 pesos internal obligations, and 4,980,000 pesos the so-called international debt. The Uruguayan peso (\$1.0147 at par) declined to an average of \$0.8586 in 1930, \$0.5536 in 1931, and about \$0.475 in 1932.

**COMMUNICATIONS.** Railways in 1931 operated 1663 miles of line, of which 1440 miles were owned or controlled by the Central Uruguay Railway. A new line from Trienta y Tres, Uruguay, to Rio Branco, Brazil, was under construction in 1932. There were 22,487 miles of highway in 1930, of which 709 miles were macadam.

**GOVERNMENT.** The Constitution of 1919 vests executive power in the President, elected for four years by direct popular vote, and a national administrative council of nine members, elected for six years. Legislative power rests in a parliament of two houses, the Chamber of Representatives of 123 members, elected by universal male and female suffrage, and the Senate of 19 members, chosen by an electoral college which is elected by popular vote. President in 1932, Dr. Gabriel Terra (Batllista Colorado party), who assumed office Mar. 1, 1931.

**HISTORY.** From an economic and commercial standpoint, the year 1932 was one of the worst experienced by Uruguay since the beginning of the century. Exports declined 30 per cent in value and imports 40 per cent, as compared with 1931. Crops were badly damaged by swarms of locusts, disease was prevalent among cattle and sheep, and domestic industries were badly handicapped by the diminished purchasing power of the people and the high cost of imported material. The meat industry was threatened by the Ottawa treaties under which Great Britain arranged to give preferences to meat imports from the Dominions. There was a large budget deficit and a heavy floating debt, which the Minister of Finance sought to cover by an issue of 15,000,000 pesos of internal bonds. Sinking fund payments on the foreign debt were suspended in February and at the end of the year the National Council of Administration was being urged to declare a moratorium on all internal and external debts and impose an internal tax of 1 per cent on all government securities. The Uruguayan peso was held pegged at about \$0.475 (United States currency) during most of the year.

Despite the scourge of the depression, there were no important disorders. During February 7-9, the government took steps to frustrate a Communist conspiracy, which was followed by a general strike of skilled labor (February 11-13). The strike was likewise a failure. On February 8 President Terra asked the National Administrative Council for extraordinary powers to cope with the Communist conspiracy. Following the collapse of the uprising, some 200 soldiers were discharged.

President Terra during the year led a strong agitation for reorganization of Uruguay's unusual governmental system. Objecting to the division of executive responsibility between the President and the National Administrative Council, he demanded that either the presidency or the council should be abolished. The issue was injected into the election of three members of the National Administrative Council and six

Senators on November 26. Antagonists of the commission form of government urged citizens to show their disapproval of the system by abstaining from voting. The election was unusually quiet. It was estimated that only 103,000 votes were cast, as compared with 308,000 cast in the Congressional elections of 1931. A rigid immigration law, effective for the year ending Aug. 30, 1933, was enacted during 1932.

In the field of foreign relations, the year was marked by the severance and resumption of diplomatic relations between Argentina and Uruguay (see ARGENTINA under *History*). A draft treaty on navigation and commerce was signed between Uruguay and Brazil on January 3; it facilitated shipments of livestock and other products between Uruguay and the Brazilian state of Rio Grande do Sul. Negotiations for the joint regulation of the meat export trade were carried on among Uruguay, Argentina, and Brazil during the year. By resolution of the Governing Board of the Pan American Union, adopted May 4, 1932, the Seventh International Conference of American States (Pan American Conference), scheduled to meet in Montevideo in December, 1932, was postponed to December, 1933. "In view of the frankly Pan American orientation of Uruguayan foreign policy," President Terra decreed the organization of a special Pan American section in the Ministry of Foreign Affairs.

**UTAH. POPULATION.** According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 507,847, as against 449,396 in 1920. Salt Lake City, the capital, had (1930) 140,267 inhabitants.

**AGRICULTURE.** The accompanying table shows the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod. Bu.	Value
Hay . . . . .	1932	720,000	1,342,000*	\$7,427,000
	1931	676,000	900,000*	9,492,000
Wheat . . . . .	1932	260,000	5,332,000	2,133,000
	1931	257,000	4,291,000	2,231,000
Sugar beets . .	1932	57,000	822,000*	(*)
	1931	49,000	505,000*	2,940,000
Potatoes . . .	1932	15,000	2,250,000	810,000
	1931	15,000	1,950,000	956,000

\* Tons.    † Not available.

**MINERAL PRODUCTION.** As estimated by the Federal Bureau of Mines the total value of the mines' production, for 1932, of ores of the metals gold, silver, copper, lead, and zinc was \$14,167,603, as against \$28,970,974 for 1931. The mines' production of copper was particularly curtailed, to about 65,906,000 pounds for 1932 from some 151,000,000 pounds (1931), and from 180,526,423 (1930); and owing to persistent decline of average price, the value of the output of copper fell to some \$4,020,266 (1932) from \$13,762,522 (1931). Production of silver was reduced to some 6,979,500 ounces (1932), from 8,290,966 ounces (1931); by value more sharply to some \$1,968,219 (1932), from \$2,404,380 (1931). That of lead, to some 122,487,000 pounds (1932), from 158,423,453 pounds (1931); by value to some \$3,429,636 (1932) from \$5,861,668 (1931). That of zinc, to some \$1,802,650 by value (1932) from \$2,834,081 (1931). Even the production of gold, as stated by the Bureau of the Mint, fell to 183,462 ounces (1931), from 208,936 (1930); by value, to \$3,792,500 (1931), from \$4,319,100 (1930); and, as estimated for 1932, to \$2,946,832.

There were mined 3,330,000 short tons of coal

(estimated, 1931), as against 4,257,541, by value \$10,515,000, for 1930. The total value of the State's mineral product, for 1930, was \$64,224,307; for 1929, \$115,131,131.

**FINANCE.** State expenditures in the year ended June 30, 1931, were \$14,111,112 (of which \$5,204,780 was for highways). Revenues were \$13,437,634. Funded debt outstanding on June 30, 1931, totaled \$10,635,000, of which \$7,260,000 was for highways. Net of sinking-fund assets, the debt was \$4,982,363.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 2196.12

**EDUCATION.** Confronted with generally reduced revenues for the public schools, superintendents at their annual convention decided on maintaining existing salaries for teachers as long as the means would permit and on subsequently discussing with local authorities the means of keeping the schools open.

For the academic year 1931-1932 the number of persons of school age in the State was reckoned as 148,349. There were enrolled in the public schools 140,749 pupils. Of these, 88,466 were in common schools or elementary grades and 29,449 were in high schools. Expenditures for public-school education during the academic year 1931-1932 (the latest for which the figure had been reported) totaled \$10,673,026. Salaries of teachers, by the year, averaged \$1465 for positions in high schools, and \$1074 for elementary positions; those of principals averaged \$1946.

**ELECTIONS.** The popular vote of November 8 was cast for the Democratic National ticket in the proportion, approximately, of 11 to 8. For President, the officially reported totals were: Roosevelt (Dem.), 116,750; Hoover (Rep.), 84,775. A striking overturn occurred in the defeat of U. S. Sen. Reed Smoot (Rep.), an incumbent finishing his thirtieth consecutive year of service, long the guiding spirit of Republican tariff legislation; Dr. Elbert D. Thomas (Dem.), was elected to succeed him. Henry H. Blood (Dem.), was elected Governor, defeating William W. Seegmiller (Rep.). Democrats were elected to both the seats of the State in the House of Representatives.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, George H. Dern; Secretary of State, Milton H. Welling; State Auditor, Ivor Ajax; Treasurer, A. E. Christensen; Attorney-General, George P. Parker; Superintendent of Public Instruction, C. N. Jensen.

**Supreme Court:** Chief Justice, James W. Cherry; Associate Justices, Daniel N. Straup, Elias Hansen, William H. Folland, Ephraim Hansen.

**UTAH, UNIVERSITY OF.** A State institution of higher education in Salt Lake City, founded in 1850. The total enrollment for the autumn of 1932 was 3176. The faculty numbered 184. The income for 1931-32 was \$866,830. The Union building, opened Nov. 25, 1931, was erected by students, alumni, and friends of the university; it cost \$400,000. President, George Thomas, Ph.D.

**UZBEKISTAN.** See SOVIET CENTRAL ASIA.

**VANDERBILT UNIVERSITY.** A non-sectarian institution of higher learning for men and women in Nashville, Tenn. The enrollment for the autumn term of 1932 was 1330. The faculty numbered 372. The annual income was \$1,478,765. Chancellor, James Hampton Kirkland, LL.D., D.C.L., Ph.D.

**VAN DYKE, JOHN CHARLES.** An American art critic, died in New York City Dec. 5, 1932. He was born in New Brunswick, N. J., Apr. 21, 1856, and attended Columbia College. He was admitted to the bar in 1877 but the following year abandoned this profession on his appointment as librarian of the Sage Library in New Brunswick. His interest in art led him to spend his summers studying the works in the great European galleries, and during 1883-84 he edited the *Studio* and during 1887-88 the *Art Review*. In 1889 he became professor of the history of art at Rutgers University. Van Dyke's many publications on art subjects were distinguished by a lucid style and sound criticism, particularly from a technical viewpoint. Among these are: *Principle of Art* (1887); *How to Judge a Picture* (1888); *Serious Art in America* (1890); *Art for Art's Sake* (1893); *History of Painting* (1894); *The Meaning of Pictures* (1903); *Studies in Pictures* (1907); *What is Art?* (1910); *Rembrandt and His School* (1923); and *The Rembrandt Drawings and Etchings* (1927). The latter two books created a sensation, for in them he endeavored to prove that only about 50 of the 800 pictures ascribed to Rembrandt are genuine; the remainder, according to his theory, were by pupils or imitators of Rembrandt. His most important work was *New Guides to Old Masters* (12 vols., 1914-24), a series of critical guide books to the great European galleries.

**VAN ROOY, van rôë, ANTON.** A Dutch dramatic bass singer, died in Munich, Germany, Nov. 28, 1932. He was born in Rotterdam, Jan. 12, 1870. Most of his vocal training was received under Stockhausen in Frankfort-on-Main. For a time he devoted himself entirely to the concert platform and won fame as a lieder singer and in oratorio. The strong dramatic quality of his voice led Frau Wagner to offer him the rôle of Wotan at the Bayreuth festival of 1897. The following year he made his first appearances in Berlin, London, and New York. He continued to appear at the Metropolitan Opera in New York until 1908, after which he was a member of the Frankfort-on-Main opera company.

**VAN ROSSUM, WILLEM MARIUS, Cardinal.** A Dutch prelate of the Roman Catholic Church, died in Maastricht, Aug. 30, 1932. He was born in Zwolle, Sept. 3, 1854, studied at Culemburg, and entered the Redemptorist Order in 1873, being ordained a priest six years later. In 1896 Pope Leo XIII called him to Rome as a consultant of the Congregation of the Holy Office. He later became consultant-general of the Redemptorist Order. In 1911 he was made a Cardinal Bishop by Pius X, and in 1918 was appointed prefect of the Congregation de Propaganda Fide, receiving at the same time from Benedict XV the title of archbishop.

**VASSAR COLLEGE.** A nonsectarian institution for the higher education of women in Poughkeepsie, N. Y., founded in 1861. The enrollment for the autumn of 1932 was 1205. The faculty in 1931-32 had 162 members. The endowment amounted to \$7,000,000; the income from funds was approximately \$425,000. President, Henry Noble MacCracken, Ph.D., L.H.D., LL.D.

**VATICAN CITY.** A sovereign state, officially known as the State of Vatican City, established within the city of Rome as the seat of the Papacy on June 10, 1929, in accordance with the Italo-Vatican (Lateran) treaty of Feb. 11, 1929. Ruler in 1932, Pope Pius XI (Achilles Ratti).

Vatican City comprises 108.7 acres, including St. Peter's Square, and has its own coinage, import duties, railway station, postal facilities, telegraph, radio-telegraph, and radio. On Apr. 15, 1932, there were 1006 inhabitants, including 846 Italians and 120 Swiss. Under the Constitution of June 7, 1929, the Pope exercises full legal, judicial, and executive powers, delegating the latter to a governor. A special tribunal exercises the judicial power on behalf of the Pope, but appeals may be carried to the *Sacra Romana Rota* and to the Supreme Tribunal of the *Segnatura*. With the exception of St. Peter's Square, the territory is policed by a Papal Gendarmerie of 120 persons. The chief officials of the Vatican City in 1932 were Marchese C. Serafini, the Governor, and Cardinal Pacelli, Cardinal Secretary of State, who conducted the foreign relations.

**HISTORY.** After three years of experience in governing Vatican City, Pope Pius on Dec. 13, 1932, appointed a commission, headed by his nephew, Count Franco Ratti, to reorganize the governmental system. On October 6, the Pope appointed a commission to draft a civil code for use in the Vatican courts in place of canon law. Two conventions signed by representatives of the Vatican City and of the Italian Government on Sept. 6, 1932, exempted nearly 2000 Italians attached to the Vatican staff from military service and regularized the past civil acts of Roman Catholic orders which disregarded Italian civil and commercial law. On Feb. 13, 1932, an unexploded bomb was found near the central altar of St. Peter's Cathedral. See ROMAN CATHOLIC CHURCH; ITALY, SPAIN, MEXICO, POLAND, and MALTA under *History*.

**VEGETABLES.** See HORTICULTURE.

**VENEZUELA, ven'ê-zwê'lâ; Amer. Sp. pron., vâ'nâ-swâ'lâ.** A republic on the north coast of South America, bordering the Caribbean Sea. Capital, Carâcas.

**AREA AND POPULATION.** The area of Venezuela is calculated at 352,143 square miles and the estimated population in 1931 was 3,226,000, compared with 3,026,878 in 1926. For the period 1927 to 1931, births averaged 91,007 and deaths 49,929 annually. Immigrants for the same period averaged 20,323 annually and emigrants 18,714. The estimated population of Carâcas in 1931 was 140,275 (135,253 in 1926), and that of the other leading towns at the census of 1926 was: Maracaibo, 74,767; Valencia, 36,804; Barquisimeto, 23,109.

**PRODUCTION.** Venezuela is predominantly agricultural, the chief crops being coffee and cacao. Mining, livestock raising, pearl fishing, and manufacturing are secondary industries. Coffee production in 1931 was estimated at 144,617,000 pounds and exports at 118,164,000 pounds, of which, according to United States statistics, 56,385,000 pounds valued at \$7,350,000 were imported into the United States. The 1930 exports were 103,940,000 pounds (142,197,000 pounds in 1929). The 1931 cacao crop of about 46,750,000 pounds was normal and practically all of it was exported; exports to the United States were 17,469,000 pounds, valued at \$1,582,000 (15,638,000 pounds, valued at \$1,813,000, in 1930). Sugar production was estimated at 18,000 long tons in 1931-32 (20,000 in 1930-31); tobacco, about 3,500,000 to 4,000,000 pounds annually. Cotton, corn, beans, and wheat are produced.

There were 108 oil companies registered in Venezuela in 1931. The 1931 petroleum produc-

tion was 118,770,000 barrels (136,669,000 barrels in 1930); gold, 55,946 troy ounces in 1930; copper, 544 metric tons in 1931 (3294 tons in 1930); asphalt, 54,332 metric tons in 1929. Petroleum production is the only large-scale manufacturing industry.

**COMMERCE.** For the fiscal year ended June 30, 1931, imports were valued at \$56,068,820 (\$77,455,414 in 1929-30) and exports at \$139,419,236 (\$143,306,727 in 1929-30). United States statistics for the calendar year 1932 showed imports from Venezuela of \$20,293,648 (\$26,844,756 in 1931) and exports to Venezuela of \$10,235,371 (\$15,045,147 in 1931). In the calendar year 1930, the latest year for which Venezuelan statistics were available, the United States furnished 51.1 per cent of the total imports and took directly 23.8 per cent of the exports, besides much Venezuelan petroleum taken indirectly. Of total 1930 exports valued at \$144,111,000, petroleum accounted for \$116,222,000, coffee for \$12,860,000, gold for \$5,134,000, and cacao for \$3,256,000.

**FINANCE.** For the fiscal year ended June 30, 1933, the budget estimates were 150,000,000 bolivars (about \$28,950,000 at par) and 142,963,513 bolivars (about \$27,591,000), for revenues and expenditures, respectively. This compared with the 1931-32 estimates of 150,000,000 bolivars and 144,800,000 bolivars (\$26,946,400), respectively. Actual revenues in the calendar year 1931 were 188,932,746 bolivars and expenditures were 172,398,887 bolivars, leaving a surplus of 16,533,859 bolivars, as contrasted with the deficit of 81,261,955 bolivars reported for 1930, when revenues were 243,660,000 bolivars and expenditures 324,922,000 bolivars. The internal public debt on Dec. 31, 1931, amounted to 24,572,460 bolivars, as against 20,487,742 bolivars on Dec. 31, 1930. The external debt was retired in 1930. The bolivar (par value, \$0.193) exchanged at \$0.189 in 1930 and at \$0.1704 in 1931.

**COMMUNICATIONS.** Venezuelan railways in 1931 extended 746 miles, of which 519 miles were privately owned, 68 miles government owned, and 159 miles industrial railways. In 1931 the railways carried 2,887,600 passengers, 411,287 tons of freight, and reported gross receipts of \$2,505,000. There were 5282 miles of motor highways on Dec. 31, 1931, including 233 miles of concrete. Wireless stations were installed at Maracay, Maturin, and Puerto Cabello in 1931. A total of 2175 vessels, of 4,107,000 net registered tons, entered the ports during 1930. Telephone communication between the United States and Venezuela was inaugurated Dec. 19, 1932.

**GOVERNMENT.** Under Constitutional amendments passed by Congress in 1929, the executive power is vested in the President, elected by Congress for seven years, in conjunction with the Commander-in-Chief of the Army and the Cabinet Ministers. The actual ruler in 1932 was Gen. Juan Vicente Gómez, who established himself as dictator in 1908. There is a Congress of two chambers, with very limited powers.

**HISTORY.** When Gen. Juan Vicente Gomez in December, 1932, rounded out the 24th year of his dictatorship, Venezuela had the distinction of working on a budget that was normally balanced without the aid of income taxes or loans. There was no foreign debt and the government's internal obligations were approximately one-third of the Treasury surplus. No public debt had been contracted since 1908. Venezuela was the only South American country which had passed through the

world depression without experiencing serious internal disorders or foreign wars. On October 8, Venezuela's highest court upheld the validity of oil concessions held by the Caribbean Petroleum Company and the Venezuelan Oil Company, subsidiaries of the Royal Dutch Shell. Some of the acreage had been claimed by rival oil interests.

**VERMONT.** **POPULATION.** According to the Fifteenth Census, the population of the State on Apr. 1, 1930, was 359,611, as against 352,428 in 1920. Burlington, the most populous city, had (1930) 24,789 inhabitants; Montpelier, the capital, 7837.

**AGRICULTURE.** The accompanying table shows the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod. Bu.	Value
Hay .....	1932	922,000	1,110,000 *	\$10,857,000
	1931	913,000	1,218,000 *	11,556,000
Potatoes ...	1932	16,000	2,320,000	1,067,000
	1931	17,000	2,550,000	1,224,000
Corn ... ..	1932	64,000	2,624,000	1,102,000
	1931	64,000	2,944,000	1,560,000
Oats .....	1932	62,000	2,046,000	655,000
	1931	61,000	1,952,000	761,000

\* Tons.

**MINERAL PRODUCTION.** Widespread curtailment of building activity, which set in in 1930, affected the important Vermont industries producing stone and slate. The quantity of stone quarried fell to 286,490 short tons for 1930 (the latest year covered by the figures of the Bureau of Mines), from 367,240 for 1929; by value, to \$7,983,160 (1930), from \$9,435,680 (1929). The total value of the State's mineral product, duplications eliminated, was \$11,637,393 for 1930; for 1929, 14,602,589.

**FINANCE.** State expenditures in the year ended June 30, 1931 were \$10,935,066 (of which \$6,136,382 was for highways). Revenues were \$10,277,606. Funded debt outstanding on June 30, 1931, totaled \$9,182,032, both gross and net of sinking-fund assets. On an assessed valuation of \$334,371,646 the State levied in the year ad valorem taxes of \$1,214,032.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 1050.74. About 5 miles had been abandoned in 1930.

**EDUCATION.** A requirement for four preparatory years of college or normal school was reported to have been set up for the certification of public-school superintendents; it specifically included 18 hours of professional education. The State normal school at Castleton offered a third-year course of study. Enrollment in normal school was limited to such graduates of the high schools as had stood in the upper half of their graduating classes with regard to proficiency, and as met requirements with regard to health and personality; a quota was fixed for the number admissible. For the academic year 1931-1932 the number of persons of school age in the State was reckoned as 78,296. There were enrolled in the public schools 66,259 pupils. Of these, 53,613 were in common schools or elementary grades, and 12,646 in high schools. A slight drop in the former number, as compared with the total for the year before, was more than offset by a rise in the latter number. The year's expenditures for public-school education totaled \$5,037,733. Salaries of teachers, by the week, averaged \$21.06 for the rural schools, \$28.34 for graded schools, and \$37.87 for the high schools.



**POLITICAL AND OTHER EVENTS.** The State party conventions, both Republican and Democratic, declared themselves on May 18 in favor of the resubmission or repeal of the Eighteenth Amendment. Economic conditions in Vermont during the year were less adverse than in most parts of the Union and the financial position of the State government was well maintained.

**ELECTIONS.** The popular vote of November 8 was cast for the Republican National ticket in the proportion, far below normal, of about 7 to 5. For President the officially reported totals were: Hoover (Rep.), 78,984; Roosevelt (Dem.), 56,266. U. S. Sen. Porter H. Dale (Rep.), was reelected, defeating Fred C. Martin (Dem.). Ernest W. Gibson (Rep.), was reelected to the State's seat in the House of Representatives. Gov. Stanley C. Wilson (Rep.), was reelected, defeating James P. Leamy (Dem.), and the rest of the Republican State ticket was victorious.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, Stanley C. Wilson; Lieutenant-Governor, Benjamin Williams; Secretary of State, Rawson C. Myrick; Treasurer, Thomas H. Cave; Auditor, Benjamin Gates; Attorney-General, Lawrence C. Jones, Commissioner of Education, Francis Bailey.

**Supreme Court:** Chief Justice, George M. Powers. Associate Justices, Leighton P. Slack, Sherman R. Moulton, Frank D. Thompson, Warner A. Graham.

**VERMONT, UNIVERSITY OF.** An endowed institution of higher education in Burlington, Vt., receiving some State aid. The 1932 autumn enrollment was 1183. The faculty numbered 200. The income for the year was \$817,162. President, Guy W. Bailey, LL.D.

**VETERANS' ADMINISTRATION.** See UNITED STATES under *Administration*.

**VETERINARY MEDICINE.** In the field of comparative medicine the year 1932 was marked by the appearance of foot-and-mouth disease within the United States for the tenth time and its complete eradication within the record period of ten days. The United States remained the only major livestock country completely free from this serious disease. The country continued free from the invasion from abroad of any of the other dreaded diseases of livestock.

**FOOT-AND-MOUTH DISEASE.** Another outbreak of foot-and-mouth disease, the tenth to have occurred in the United States, appeared in Orange County, Calif. April 23 on a ranch where 4000 hogs were being fed garbage. A rigid quarantine was at once imposed followed on April 28 by a definite diagnosis. On April 30 the disease appeared on a hog ranch in Los Angeles County a few miles from the originally infected herd. On May 7 a third centre of infection was discovered in San Bernardino County, also on a hog ranch. The rigid quarantine placed at once upon discovery of the disease followed by slaughter and burial of the infected herds and disinfection of the premises resulted in the complete elimination of the disease in the short space of ten days. This sets a new record in the eradication of the disease in the United States, in which the Federal and State officials coöperated. The source of the infection was not determined since no garbage is permitted to land from foreign vessels. The eradication required the slaughter of 18,747 swine, 46 cattle, and 24 goats belonging to 37 different owners. The appraised value of the livestock and property destroyed was \$205,-

279.46 borne in equal amounts by the Federal and State governments.

**LIVESTOCK TUBERCULOSIS ERADICATION.** A substantial progress was made in the eradication of bovine tuberculosis. Two States were added to the list of six on the honor roll as practically free from the disease, Idaho in June and North Dakota in August. This means that eight States have reduced bovine tuberculosis within their borders to a point where at least 99.5 per cent of all their cattle are free from it. The other six are North Carolina, Maine, Michigan, Indiana, Wisconsin, and Ohio. At the end of the year Nevada was closing in on the disease with all but two counties free. The year's activities consisted largely in testing cattle under the area plan. During the fiscal year ended June 30, 13,443,557 cattle in 1,139,119 herds were tested and 1.9 per cent reacted. At the close of the year 1746 counties and the District of Columbia had engaged in area eradication work, an increase of 169 counties or approximately 11 per cent. The sixth survey, made to determine the extent of bovine tuberculosis by counties in the United States, completed June 1, indicated that the approximate degree of disease among cattle had been reduced to 1.4 per cent as compared with 4.0 per cent in 1922 when the first survey was made.

**TICK FEVER AND CATTLE TICK ERADICATION.** With the release on December 5 of 20,290 square miles of territory in Arkansas, Florida, and Texas, Arkansas became the twelfth State to be released from tick quarantine. The areas remaining under Federal quarantine for tick fever in cattle in continental United States now is confined to parts of Florida, Louisiana, and Texas. Of the area originally tick infested and quarantined, 88 per cent has been freed from the pest by systematic eradication. During the year part of one parish in Louisiana was requarantined.

**ANAPLASMOSIS IN CATTLE.** The disease of cattle known as anaplasmosis was found to be transmitted by the Rocky Mountain spotted fever tick in addition to the species noted in the 1931 YEAR BOOK. It has now been established that the infection may be transmitted from larva to nymph and from nymph to adult in all three of the three host tick transmitters, but passes through the egg of none of these. On the other hand it must pass through the egg, i.e. be hereditarily transmitted, by the common cattle tick, a one host species which leaves the host only as an adult.

**INFECTIOUS ABORTION.** The year added new knowledge of infectious abortion to that previously gained. A study of the eye and skin as channels through which the infection may be carried strengthened the belief that these routes may be important under natural conditions of exposure. Further studies of the possible transfer of infection from swine to cattle and from cattle to swine indicate that under natural conditions cattle rarely become infected with the swine type of *Brucella abortus* and that swine practically never become infected with the bovine type. The association of the causative organism with hygroma of the knee and with bursitis of cattle and with a general clinical disease of the horse was reported. It was determined that abortion infection and tuberculosis in the same individual may be a rather common occurrence in areas where bovine tuberculosis has not as yet been eradicated. Further evidence was obtained that the bovine and swine types of the organism

are destroyed by the usual pasteurization temperature when the work is carefully conducted. The occurrence of the infection in buffaloes and elk in the Yellowstone National Park was reported. Additional reports were made of successful eradication of the disease from dairy herds in several States through frequent application of the agglutination test and permanent segregation of positive-reacting animals. It was determined in Wisconsin that an unheated 1 to 150 dilution of lye made by adding one 13-ounce can of high-test lye to 15 gallons of water almost instantly destroys the causative organism of infectious abortion as well as all other Gram-negative non-sporulating rod bacteria at a cost of one cent per gallon. It was found that whitewash when freshly made from quick-lime is a very efficient germicide against these same organisms.

**DOURINE ERADICATION.** In the dourine eradication work, activities centered principally on the San Carlos Indian Reservation in Arizona, where an extensive eradication campaign was conducted. More than 11 per cent of the horses and mules tested gave positive reactions.

**CANINE DISTEMPER.** The research of two men working together in England, P. P. Laidlaw and G. W. Dunkin, who discovered the causative filterable virus of distemper several years ago, has gone far to make possible the control of this disease of young dogs which each year causes many a heartache through the loss of canine friends. These workers have shown that the dog may be protected against the disease by vaccination with a living virus, the immunity obtained being solid, long lasting, and firm against various strains of the infection. In the later work a distemper antiserum has been found of very great value if used within seven days of the onset of symptoms.

**PULLORUM DISEASE OF THE FOWL.** The control and eradication work with bacillary white diarrhea of chicks, which also affects grown fowl, and is now generally known as pullorum disease, was continued. Much of the large loss of chicks formerly suffered is now being prevented through the elimination of infected breeders. The official pullorum disease workers of the New England States, which States were pioneers in the eradication work, joined by those from other Northeastern States and the Province of Ontario, 15 in all, reported at their fifth annual conference that during the season of 1931-1932, 1,937,382 fowls in 4208 flocks had been officially tested with an average reaction for all of only 4 per cent. In 7 of the States the reacting fowls numbered less than 3 per cent and in 4 of those longest engaged in the work the reactors numbered less than 1 per cent. In a comparison made of the tube and rapid tests of the blood for the presence of the infection the results obtained were in favor of the tube test although all were found useful. When the tube test was applied by inexperienced or inefficient operators, there was an error of about 10 per cent. Further reports were made of the occurrence of the disease in poults, the mortality in a flock of 300 in Pennsylvania having been 20 per cent. In Missouri the pullorum organism was discovered to cause a disease of the leg joints of baby chicks.

**PARASITES OF LIVESTOCK.** An advance was made in knowledge of the transmission of animal parasites, in the development of practical control measures, and in the treatment of livestock

for their removal. The appearance of a serious Old World subcutaneous parasite of man and beast, the Guinea or Medina worm, *Dracunculus medinensis*, in the United States was reported, it having been taken from a silver-black fox in Iowa. This parasite has been for centuries a serious problem in man and livestock in certain parts of the Old World. A study conducted in Louisiana indicated that colic in horses and mules may be practically eliminated from the average farm in the State by semiannual treatment for parasite control. In experimental work with the horse normal butylidene chloride was found to be highly effective for the removal of blood sucking strongyles, large intestinal round worms and certain stomach worms and pinworms.

**VIADUCTS.** See BRIDGES.

**VICTORIA.** A State of the Australian Commonwealth, occupying the southeastern part of the island continent, bounded on the north by New South Wales, and west by South Australia. Area, 87,884 square miles; estimated population on Mar. 31, 1932 was 1,804,584 compared with 1,531,280 for the census of 1921. The estimated populations of the chief cities, on Jan. 1, 1931, were Melbourne, the capital, 1,014,600; Geelong, 43,400; Ballarat 42,050; Bendigo, 33,690. On Jan. 1, 1932 Melbourne had an estimated population of 1,030,750.

The estimated value of production for 1929-30 totaled £90,593,185, distributed as follows: Agricultural, £8,985,524; pastoral and dairying, £23,135,434; mining, £1,833,246; forest £1,704,614; manufacturing (value added in process of), £49,403,185; miscellaneous £5,531,182. The final estimate of the wheat crop for 1931-32 was 41,955,856 bushels from 3,565,872 acres. Oats, barley, potatoes, hay, wine grapes, currants, and raisins are other leading crops.

The value of direct overseas imports for 1931-32 was £16,043,420 (£20,305,201 for 1930-31); of overseas exports, £27,636,798 (£26,476,819 for 1930-31). State revenue in 1930-31 was £25,575,504 (£27,323,842 in 1929-30); expenditure, £28,029,702 (£28,496,712 in 1929-30). Expenditure charged to the loan fund in 1930-31 was £4,047,728 and the net State debt on June 30, 1931 was £165,962,606.

Lieutenant-Governor in 1932, Sir W. H. Irvine. Premier and Treasurer, Sir Stanley Argyle. See AUSTRALIA under History.

**VILNA (WILNO).** See POLAND and LITHUANIA under Area and Population, History.

**VIRGINIA.** POPULATION. According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 2,421,851, as against 2,309,187 in 1920. Richmond, the capital, had (1930) 182,929 inhabitants; Norfolk, 129,710.

**AGRICULTURE.** The table on page 832 shows the acreage, production, and value of the principal crops for 1932 and 1931.

**MINERAL PRODUCTION.** Of coal, furnishing annually about half by value of the mineral product, the quantity mined fell to an estimated total of 9,650,000 short tons (1931), from 10,907,377 (1930). The coal mined in 1930 attained the value of \$17,520,000. The total value of the State's mineral product, duplications eliminated and coke excepted, was \$34,602,749 for 1930; for 1929, \$39,752,683.

**FINANCE.** State expenditures in the year ended June 30, 1931, were \$48,666,350 (of which \$20,323,778 was for highways). Revenues were \$45,920,643. Funded debt outstanding on June 30,

Crop	Year	Acres	Prod. Bu.	Value
Corn	1932	1,466,000	26,388,000	\$10,819,000
	1931	1,527,000	48,061,000	18,947,000
Hay	1932	851,000	777,000 <sup>a</sup>	7,987,000
	1931	919,000	1,009,000 <sup>a</sup>	12,087,000
Potatoes	1932	94,000	9,682,000	6,100,000
	1931	118,000	14,278,000	7,858,000
Tobacco	1932	95,000	56,715,000 <sup>b</sup>	5,161,000
	1931	153,000	97,920,000 <sup>b</sup>	6,468,000
Apples	1932	.....	7,830,000	4,468,000
	1931	.....	21,117,000	9,925,000
Wheat	1932	579,000	6,253,000	3,502,000
	1931	603,000	13,266,000	7,429,000
Peanuts	1932	141,000	141,000,000 <sup>b</sup>	1,692,000
	1931	153,000	165,240,000 <sup>b</sup>	2,644,000
Cotton	1932	74,000	28,000 <sup>a</sup>	854,000
	1931	70,000	42,000 <sup>a</sup>	1,063,000
Sweet potatoes	1932	38,000	3,610,000	1,300,000
	1931	38,000	4,750,000	2,898,000

<sup>a</sup> Tons. <sup>b</sup> Pounds. <sup>c</sup> Bales

1931, totaled \$27,589,073, of which \$6,428,000 was for highways. Net of sinking-fund assets, the debt was \$25,334,912.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 4491.75. In the year previous, 25.55 miles of line had been abandoned; 1.71 miles brought into operation.

**EDUCATION.** It was reported that a majority of the teachers were participating in 1932 in applying the State's three-year programme for the revision of the curriculum, and that good results were accruing. For the academic year ending in 1932, there was a moderate increase in enrollment of pupils, entirely in the secondary grades, and some diminution in current expenditure and capital outlay for the public schools as a whole. There were enrolled in the public schools 582,982 pupils. Of these, 509,080 were in common schools and elementary grades; in high schools, 73,902. The year's expenditures for public-school education were: for operation, \$20,072,235; for capital outlay and debt service, \$4,130,085. Salaries of teachers, by the year, averaged \$877, as against \$909 for the year before.

**LEGISLATION.** A regular biennial session of the General Assembly was held, adjourning on March 22. It passed a budget carrying \$85,000,000 for the ensuing two years. It passed an act designed to improve the revenue from the gasoline tax, by providing against the illicit sale of untaxed gasoline. The unextinguished remainder of the State's 3 per cent bond issue of 1882, amounting to \$2,447,970, was refunded. As to local taxation, the authority was given to counties and cities to tax realty, tangible personal property, and merchants' capital, respectively, at different rates. The counties were relieved of the expense of the system of county roads, which the State took over, as a "secondary" State road system, taking likewise from the counties the proceeds of the sales tax on gasoline, which had gone to the counties that they might meet the expense of these roads. A new motor code was enacted. The State's prohibition law was liberalized in some respects. In the penal field the system of allowing one-third of prisoners' time of service to be commuted for good behavior was altered so as to render those imprisoned for felony eligible to "half-time off," with the exception of those under life sentence; a saving of nearly \$100,000 a year in State prison expenses was to be effected thereby. The Federal "lame duck" Amendment to the Constitution was

ratified by the State, in advance of formal notice submitting it for ratification, Virginia being the first State to ratify.

**POLITICAL AND OTHER EVENTS.** The State act dividing Virginia into nine districts, in place of ten, for the election of Federal Representatives, was contested on the ground that the new 7th District, composed of almost the entirety of the old 7th and 10th Districts, was disproportionately large. The State Court of Appeals declared the redistricting act void, as failing to meet a requirement of the State constitution which called for equal representation. In consequence of this decision it was necessary to elect all Representatives in November by vote of the whole State. The State joined in an effort of the Appalachian Power Company to obtain a Federal injunction restraining the Federal Power Commission from interfering with its project of hydroelectric development on the New River, contended to be non-navigable and not in the commission's control. The State was forced to economize in governmental expenditure, and Governor Pollard by his own act reduced his salary 10 per cent for one year. Application was made to the Reconstruction Finance Corporation for a loan of some \$3,750,000 for the aid of State projects of construction. A restoration of colonial buildings at Williamsburg was effected, through the financial aid of the Rockefellers, and restored buildings, including the Raleigh Tavern, were opened in September. The Richmond Battlefields Park, a gift from citizens of Richmond to the State, was dedicated at Frazier's Farm on June 22, with an attendance of about 1000 Confederate veterans.

**ELECTIONS.** The popular vote of November 8 was cast for the Democratic National ticket by more than 2 to 1. An entirely Democratic delegation of nine members, all actual incumbents but one, were elected Representatives, to the Seventy-third Congress; all were elected at large. For President, the popular vote was: Roosevelt (Dem.), 203,980; Hoover (Rep.), 89,637.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, John Garland Pollard; Lieutenant-Governor, James H. Price; Secretary of the Commonwealth, Peter Saunders; State Treasurer, John M. Purcell; Auditor of Public Accounts, T. Coleman Andrews; Attorney-General, John R. Saunders; Superintendent of Public Instruction, Dr. Sidney B. Hall; Commissioner of Agriculture, George W. Koener.

**Supreme Court of Appeals:** President, Preston W. Campbell; Associate Justices, Louis E. Epes, H. W. Holt, E. W. Hudgins, H. B. Gregory, George L. Browning, Joseph W. Chinn.

**VIRGINIA UNIVERSITY OF.** A nonsectarian institution of higher education in Charlottesville, Va., founded in 1819. The enrollment for the autumn session of 1932 amounted to 2488. For the summer session of 1932 there was an enrollment of 2020. The faculty numbered 148. The productive endowment of the university amounted to \$10,000,000; the annual State appropriation was \$452,747; and the total annual income for 1931-32 was \$2,146,000. The library contained 200,644 volumes. There was completed and dedicated in October, 1932, the Clark Memorial Law Building, the gift of William Andrews Clark, Jr., '99, of Los Angeles, Calif. Acting president, John Lloyd Newcomb. See also **PUBLIC AFFAIRS, INSTITUTE OF.**

**VIRGIN ISLANDS.** A territory of the United States comprising a group of 50 small islands, situated about 60 miles east of Puerto Rico in the Caribbean Sea. The same name is applied to a small group of islands included in the British colony of the Leeward Islands (q.v.). The Virgin Islands of the United States consist of the islands of St. Thomas (area, 28 square miles; population, 9834 at the 1930 census), St. Croix (area, 84 square miles; population, 11,413); and St. John (area, 20 square miles; population, 705), together with many smaller islands and cays. Total area, 132 square miles; total population, 22,012. Negroes comprised 78 per cent of the population, whites 9 per cent, and persons of mixed blood 12 per cent. Capital, St. Thomas (population, 7036) on the island of St. Thomas.

**PRODUCTION, ETC.** Sugar cane growing and cattle raising are the principal occupations on St. Croix. Sugar produced in 1932 totaled 4288 tons.

Trade is chiefly with the United States. In the 1931-32 fiscal year imports were valued at \$1,415,915 (\$1,796,420 in 1930-31), and exports at \$458,694 (\$656,522 in 1930-31). The U. S. Government contributed \$643,300 toward governmental expenses of the island for the 1931-32 fiscal year. For the municipality of St. Thomas

and St. John, local revenues were \$101,400 and expenditures \$215,205; for the municipality of St. Croix, revenues were \$80,736 and expenditures \$198,166.

**GOVERNMENT.** Administration of the islands was transferred from the Navy to the Interior Department effective Feb. 27, 1931, and a civil régime established. Governor in 1932, Paul M. Pearson; Lieutenant-Governor, in charge of St. Croix, Lawrence N. Cramer.

A hurricane swept the harbor of St. Thomas on Sept. 26, 1932, causing 15 deaths and damage estimated at \$200,000. The drafting of an organic act for the Virgin Islands was in preparation in the insular affairs committees of the Senate and the House at Washington. A draft act, prepared at the instance of Governor Pearson, with the Puerto Rican act as a model, was submitted to the committees by the Governor. On Nov. 28, 1932, the committees were notified in a note signed by members of the islands' Colonial Councils that the draft act was not satisfactory to the Virgin Islanders.

**VITAL STATISTICS.** In the death registration area of the United States, the death rate in 1931 showed a marked decline in comparison with the previous year, according to the U. S. Bureau

## DEATHS AND DEATH RATES IN THE UNITED STATES REGISTRATION AREA, 1931-1930

Cause of death	Number		Rate per 100,000 estimated population	
	1931	1930	1931	1930
Total deaths (all causes) . . . . .	1,322,587	1,343,356	1,107.5	1,133.1
Typhoid and paratyphoid fever . . . . .	5,382	5,098	4.5	4.8
Smallpox . . . . .	95	165	0.1	0.1
Measles . . . . .	3,576	3,820	3.0	3.2
Scarlet fever . . . . .	2,650	2,279	2.2	1.9
Whooping-cough . . . . .	4,619	5,707	3.9	4.8
Diphtheria . . . . .	5,788	5,822	4.8	4.9
Influenza . . . . .	31,701	25,068	26.5	19.5
Dysentery . . . . .	2,441	3,356	2.0	2.8
Erysipelas . . . . .	2,275	2,508	1.9	2.1
Acute polyomyelitis and acute poliomyelitis . . . . .	2,096	1,370	1.8	1.2
Lethargic or epidemic encephalitis . . . . .	972	1,062	0.8	0.9
Epidemic cerebrospinal meningitis . . . . .	2,832	4,211	2.4	3.6
Tuberculosis (all forms) . . . . .	81,395	84,741	68.2	71.5
Of the respiratory system . . . . .	72,515	75,120	60.7	63.4
Syphilis . . . . .	16,454	16,676	13.8	14.1
Malaria . . . . .	2,536	3,403	2.1	2.9
Cancer and other malignant tumors . . . . .	118,141	115,265	98.9	97.2
Rheumatism and gout . . . . .	4,133	4,493	3.5	3.8
Diabetes mellitus . . . . .	24,331	22,528	20.4	19.6
Pellagra . . . . .	5,090	6,333	4.3	5.3
Pernicious anemia . . . . .	3,734	3,908	3.1	3.3
Alcoholism (acute or chronic) . . . . .	3,933	4,158	3.3	3.5
Meningitis (nonepidemic) . . . . .	2,782	3,043	2.3	2.6
Cerebral hemorrhage, embolism, thrombosis and softening . . . . .	99,376	100,646	83.2	84.9
Hemiplegia, other paralysis, cause not specified . . . . .	4,035	4,671	3.4	3.9
Diseases of the heart . . . . .	253,985	253,084	212.7	213.5
Diseases of the arteries, atheroma, aneurysm, etc. . . . .	24,498	25,446	20.5	21.5
Bronchitis . . . . .	4,586	4,992	3.8	4.2
Pneumonia (all forms) . . . . .	96,973	98,657	81.2	83.2
Respiratory diseases other than bronchitis and pneumonia (all forms) . . . . .	9,415	9,588	7.9	8.1
Ulcer of the stomach and duodenum . . . . .	7,259	7,380	6.1	6.2
Diarrhea and enteritis . . . . .	20,813	31,192	17.4	26.3
Appendicitis . . . . .	18,113	18,100	15.2	15.3
Hernia, intestinal obstruction . . . . .	12,539	12,176	10.5	10.3
Cirrhosis of the liver . . . . .	8,851	8,583	7.4	7.2
Nephritis . . . . .	104,119	107,619	87.2	90.8
Puerperal septicemia . . . . .	5,445	5,439	4.6	4.6
Puerperal causes other than puerperal septicemia . . . . .	8,794	9,726	7.4	8.2
Congenital malformations and diseases of early infancy . . . . .	67,436	72,246	56.5	60.9
Suicide . . . . .	20,088	18,551	16.8	15.6
Homicide . . . . .	11,160	10,617	9.3	9.0
Accidental and unspecified external causes . . . . .	100,183	95,527	83.8	80.6
Burns (conflagration excepted) . . . . .	5,893	6,523	4.9	5.5
Accidental drowning . . . . .	7,545	7,450	6.3	6.3
Accidental shooting . . . . .	3,041	3,120	2.5	2.6
Accidental falls . . . . .	20,356	20,030	17.0	16.9
Excessive heat (burns excepted) . . . . .	2,768	1,487	2.3	1.3
Other external causes . . . . .	60,530	56,917	50.7	48.0
All other defined causes . . . . .	95,546	100,655	80.0	84.9
Unknown or ill-defined causes . . . . .	22,517	24,864	18.9	21.0

of the Census. Deaths from all causes showed a total of 1,322,587, or a death rate of 1107.5 per 100,000 population, as compared with 1,343,356 deaths in 1930, or a death rate of 1133.1. The five leading causes of death, as in 1930, were diseases of the heart, cancer, nephritis, cerebral hemorrhage, and the pneumonias, and as in previous years these five causes accounted for more than half of all deaths.

According to comparative annual statistics of the Metropolitan Life Insurance Company, based on some sixteen and a half million industrial policy holders, mortality from diseases of the heart and from cancer is steadily rising, although, with respect to diseases of the heart, the Company's statistical department reports that "the rate is declining at the younger ages. This means that such items as school medical inspection, industrial hygiene, and other preventive measures are bearing fruit; for, while heart conditions usually cause death late in life, they often begin in childhood or adolescence."

The principal causes of death and the total deaths with death rates for the years 1930 and 1931 in the registration area of the United States, as compiled by the Bureau of the Census, are shown in the table on page 833.

**VITAMINS.** Important advances in knowledge of the chemical nature of at least three vitamins were made during the year. Vitamin A was isolated in such a state of purity as to leave only slight doubts as to its chemical composition. The isolation of vitamin B ( $B_1$ ) in pure crystalline form was reported and generally accepted. The identity of vitamin C with a definite chemical compound hexuronic acid was announced practically simultaneously in this country and England, with later confirmatory evidence from various laboratories. The international standards for vitamins A, B ( $B_1$ ), and D, as announced in the previous report, became available in this country toward the end of the year and were distributed to qualified laboratories by the U. S. Department of Agriculture.

**VITAMIN A.** To Karrer and his associates at the University of Zurich, Switzerland, belongs the credit for first establishing the chemical structure of vitamin A. Interest in the relationship between carotene and vitamin A, as noted in the 1931 report, led to renewed activity in studies of the chemical nature of carotene and of the most active concentrates of vitamin A that could be prepared. Two isomeric carotenes,  $\alpha$ - and  $\beta$ -carotene, were isolated practically simultaneously by Karrer and his associates (*Helv. Chim. Acta*, vol. 14, p. 614) and by Kuhn and Lederer (*Ber. Chem. Ges.*, vol. 64, p. 1349). These differed only slightly in structure and both had biological properties corresponding to vitamin A.

The discovery by Karrer that halibut and mackerel liver oils were very much richer in vitamin A than cod-liver oil made it possible to obtain (*Helv. Chim. Acta*, vol. 14, pp. 1036, 1040, 1431) exceedingly rich concentrates of the vitamin in quantities large enough to subject to elaborate purification and analysis.

Meantime extensive investigations on the chemical nature of vitamin A in progress for several years in the laboratories of Heilbron and his associates at the University of Liverpool and Drummond and his associates at University College, London, had been following somewhat the same course. In a joint paper from the two laboratories (*Biochem. J.*, vol. 26, p. 1178) the formula

for vitamin A proposed by Karrer was confirmed by experimental evidence showing that the richest products obtained were qualitatively and quantitatively indistinguishable from those of Karrer and his associates.

Another problem which received attention during the year was the extent to which vitamin A acts as an anti-infective agent. Further studies of tissues of experimental animals (rats and mice) in various stages of vitamin A deficiency (*Arch. Path.*, vol. 13, p. 756; *Lancet*, 1932, ii, p. 614; *Arch. Néerland. Physiol.*, vol. 17, p. 578) strengthened the opinion that the primary effect of vitamin A deficiency is the damage to the epithelial cells in the mucous membranes in various parts of the body and that infections are secondary to the breaking down of these cells, having their origin in the diseased tissues which can no longer resist invasion of organisms.

The question was approached from an entirely new angle through determinations of the vitamin A content of human livers obtained on autopsy and classified according to the post-mortem findings concerning the cause of death. Studies along this line were reported almost simultaneously by Wolff in Holland and Moore in England (*Lancet*, 1932, ii, pp. 617, 669).

Encouraging results were obtained by Ellison (*Brit. Med. J.*, no. 3745, p. 708) in the treatment of measles in children under 5 years of age with massive doses of a cod-liver oil concentrate. Although there was no evidence of protection against infection of the middle ear or skin complications so often accompanying measles, there was a significant decrease in deaths from pneumonia.

Demonstrations on a fairly large scale of the beneficial effects of cod-liver oil in a group of industrial workers was reported by Holmes and his associates (*J. Indus. Hyg.*, vol. 14, p. 207; *Ind. Eng. Chem.*, vol. 24, p. 1058). In the first of these demonstrations daily supplements of one pint of milk and one tablespoonful of cod-liver oil were taken for one year by 45, and two years by 18 underweight young women workers with resulting increase in body weight and efficiency and decrease in absence from employment on account of illness. The second demonstration covered a much shorter period, with a larger number of workers, both men and women, and with cod-liver oil as the only supplement. During the four months of the experiment there was a marked reduction in colds and in absence from work in the group receiving the cod-liver oil.

To the laboratory and clinical evidence of the value of vitamin A in maintaining a healthy condition of the epithelial tissues and thus preventing secondary infections might be added the testimonials of a rapidly increasing number of people who have noted a lessened tendency to colds and respiratory infections and an increased feeling of well-being during the winter months coincident with the systematic taking of some form of vitamin A concentrate.

**VITAMIN B ( $B_1$ ).** Early in the year Windaus and associates of the University of Göttingen (*Z. Physiol. Chem.*, vol. 204, p. 123) made the important announcement that by applying the well-known method of Jansen and Donath to yeast they had succeeded in obtaining vitamin B in the form of crystalline salts—picrolonate and chloride—containing sulphur as a constituent of the vitamin itself. The average curative dose for pigeons of the vitamin in the form of the chloride

was 0.0024 mg. daily, an activity much higher than hitherto reported. This paper was soon followed by another from the same laboratory (*Chem. Z.*, vol. 56, p. 166) in which particular emphasis was given to the sulphur content of the purified crystals. In further confirmation it was noted that the Jansen-Donath crystalline vitamin B concentrate from rice polishings had also been found to contain sulphur. Failure to recognize sulphur previously was attributed to the readiness with which it is split off from the molecule by the action of oxidizing agents or alkalis. The well-known instability of vitamin B in alkaline medium was attributed to the labile sulphur grouping. Still further confirmation of the presence of sulphur in vitamin B came from the Japanese investigator Ohdake (*Bul. Agr. Chem. Soc. Japan*, vol. 8, p. 11) who not only prepared a number of crystalline salts of the vitamin, but also claimed to have obtained it as a free base in which form it was soluble in water, alcohol, methyl alcohol, and acetone but insoluble in ether and benzene. Sulphur was present in both the free base and the salts. At about the same time Van Veen in Batavia (*Z. Physiol. Chem.*, vol. 208, p. 125) reported that he had also found sulphur in a crystalline concentrate of vitamin B.

Even more convincing evidence that sulphur is a part of the vitamin B molecule was reported by Kinnerley *et al.* (*J. Physiol.*, vol. 76, p. 17P) who detected its presence at a stage in the concentration of the vitamin from yeast before the introduction of hydrogen sulphide in one of the customary steps of the procedure.

VITAMIN G (B<sub>2</sub>). Although the relationship of this vitamin to the prevention and cure of pellagra has not been accepted without reservation, two investigations published during the year on the relation of food supply and dietary practices to pellagra incidence tended to support the dietary deficiency theory. One of these studies was conducted by Stiebeling and Munsell of the U. S. Bureau of Home Economics (*U. S. Dept. Agr. Bul.*, 333, p. 36) among 73 South Carolina farm families and the other by Sandels and Grady (*Arch. Int. Med.*, vol. 50, p. 362) among a smaller group of families in Florida. Among the foods used with success in lowering the incidence of pellagra in the first study were dry skim milk, evaporated milk, wheat germ, canned tomatoes, pork, and dried yeast. Milk, meat, and vegetables were more abundant in the diet of a group of families in which there was no pellagra than in a group in which one or more members of every family was afflicted. In the Florida study, the most significant difference in the diet was a greater consumption of milk and succulent vegetables, with some indication of a more liberal consumption of eggs, cheese, and fruits, by the nonpellagrous than the pellagrous families.

VITAMIN C. The widely noted press reports early in the year announcing the identification by Rygh and his associates of narcotine as the precursor of vitamin C in plant materials were followed by the scientific reports of the investigations leading to this conclusion (*Z. Physiol. Chem.*, vol. 204, pp. 105, 114), and later by papers from many laboratories reporting complete failure to verify these findings. Among those refuting Rygh's hypothesis of a relationship between narcotine or its derivatives and vitamin C were Dalmar and Moll (*Z. Physiol. Chem.*, vol. 209, p. 211) and Ott and Packendorff (*Z. Physiol.*

*Chem.*, vol. 210, p. 94) in Germany, and Grant, Smith, and Zilva (*Biochem. J.*, vol. 26, p. 1628) and Harris, Mills, and Innes (*Lancet*, 1932, ii, p. 325) in England.

Meantime it was announced practically simultaneously by Svirbely and Szent-Györgyi (*Nature*, vol. 129, pp. 576, 690) in Hungary and King and Waugh (*Science*, vol. 75, p. 357) in this country that vitamin C is probably identical with a highly reactive carbohydrate isolated in 1928 by Szent-Györgyi from ox suprarenal glands and later from plant materials and designated by him as a hexuronic acid. Svirbely and Szent-Györgyi found that guinea pigs were completely protected from scurvy by 1-mg. daily doses of a crystalline preparation of this hexuronic acid and King and Waugh reported that a crystalline concentrate which they had prepared from lemon juice corresponded in chemical properties with the hexuronic acid and protected guinea pigs against scurvy in doses of 0.5 mg. daily.

These preliminary announcements were followed by more complete reports from both laboratories. Waugh and King (*J. Biol. Chem.*, vol. 97, p. 325) summarized their evidence on the identity of their vitamin C concentrate with hexuronic acid.

Svirbely and Szent-Györgyi (*Biochem. J.*, vol. 26, p. 865) emphasized the strongly reducing properties of hexuronic acid and the fact that it can be oxidized reversibly and irreversibly and called attention to a series of papers by Tillmans and associates (*Z. Untersuch. Lebensmit.*, vol. 63, pp. 1, 241, 267, 276) in which so close a parallelism was shown between the reducing capacity and vitamin C content of many plant materials as to lead to the conclusion that the reducing factor and vitamin C were identical. In later papers from Tillmans' laboratory (*Biochem. Z.*, vol. 250, p. 312; *Z. Untersuch. Lebensmit.*, vol. 64, p. 11) belief was expressed in the identity of the reducing factor and hexuronic acid.

Further confirmation of the identity of hexuronic acid with vitamin C was contributed by Harris, Mills, and Innes (*Lancet*, 1932, ii, p. 235) and by Waugh and King (*Science*, vol. 76, p. 630) in biological tests of the antiscorbutic activity of hexuronic acid prepared in different ways from suprarenal glands. Zilva, whose extensive investigations on the chemical nature of vitamin C had led him to conclude that the reducing factor in plant tissues and vitamin C are not identical, challenged, however, not only Tillmans' conclusions (*Biochem. J.*, vol. 26, p. 1624), but also those of Svirbely and Szent-Györgyi (*Nature*, vol. 129, p. 943) and Rygh and his associates (*Biochem. J.*, vol. 26, p. 1628).

VITAMIN D. In an address delivered at the 1932 meeting of the American Public Health Association, Hess (*Am. J. Pub. Health*, vol. 22, p. 1215) called attention to the fact that in rickets, contrary to most diseases, "we are burdened with such a multiplicity of preventive agents that we find ourselves at a loss to decide which one to select. We have at our disposal direct irradiation with ultra-violet rays, cod-liver oil or its concentrates, viosterol, activated milk, and still others.

As noted in the section on FOODS AND NUTRITION, the enrichment of milk in vitamin D received much attention during the year. The method involving the feeding of irradiated yeast to cows was used to an increasing extent on numerous farms, mostly of the certified variety, in various sections of the United States. According to

Hess, the method is hardly applicable for the general supply of large cities which require many thousands of farms to meet their demands. With improvements in methods of irradiation, such as developed by Supplee and associates (*J. Biol. Chem.*, vols. 94, p. 749; 95, p. 687), it is now possible to increase the antirachitic potency of milk about 12 times by direct irradiation without imparting any disagreeable taste or odor to the milk. This method has the advantage of being applicable to large quantities at a central station, perhaps at the same time the milk is subjected to pasteurization. Although early attempts to increase the vitamin D potency of milk by direct irradiation of the cows were not very successful, Mitchell and his associates (*Am. J. Pub. Health*, vol. 22, p. 1221) reported excellent results in preliminary clinical tests with such milk and suggested that the method might be particularly suitable for use in small herds providing milk for infant feeding.

The most recent method of enriching milk and other foods in vitamin D is the outcome of the development by Zucker of a method of preparing a vitamin D concentrate from cod-liver oil free from the disagreeable taste and odor of the original oil. As announced in *Science* (vol. 77, p. 19), the process has been patented by the Board of University Patents of Columbia University and the right to manufacture and sell the concentrate has been obtained by the National Oil Products Co.

With an increasing number of vitamin D-enriched foods on the market, the question has been raised as to possible harm from indiscriminate consumption of such foods. It is well-known from laboratory experiments that excessive doses of vitamin D are harmful, but it was at first considered that the difference between ordinary and harmful dosage was so great as to make the likelihood of danger from excess exceedingly remote. Hess and Lewis (*J. Am. Med. Assoc'n*, vol. 99, p. 647) expressed the opinion that while the control of the potency of vitamin D enriched foods probably will be within therapeutic bounds unless some error occurs in the course of preparation, "it may be questioned whether federal license and supervision should be required before such antirachitic foods are allowed to be marketed." Concerning the therapeutic use of irradiated ergosterol, "Viosterol," Harris (*Lancet*, 1932, i, p. 1031) stated that clinical experience showed that for human beings the toxic dose is not far removed from the optimal (not "minimal") curative dose and emphasized the necessity of adhering strictly to the correct dosage. From the clinical data of various investigators, Lewis estimated the optimal prophylactic dose for rickets to be 0.5 mg. and curative dose 1 mg. of irradiated ergosterol daily. Since the lower dosage is equivalent in vitamin D potency to about 7 teaspoonfuls of cod-liver oil, there is apparently no danger of excessive vitamin D in cod-liver oil treatment.

**WAGES.** See STATISTICS.

**WAGNER MUSICAL FESTIVAL.** See MUSIC.

**WALCOTT, HENRY PICKERING.** An American surgeon and public health official, died in Cambridge, Mass., Nov. 11, 1932. He was born in Salem, Mass., Dec. 23, 1838, and was graduated from Harvard College in 1858. He studied medicine at Harvard and Bowdoin College, receiving

the M.D. degree from the latter in 1861. After serving as a surgeon in the Civil War he studied for two years at the Universities of Vienna and Berlin. He practiced in Cambridge from 1867 to 1881 and then embarked on his career of public service, acting as health officer of the Massachusetts State Board of Health, Lunacy, and Charity until 1885 and as chairman of the Massachusetts State Board of Health until 1914. Under his leadership there were prepared the plans for a metropolitan sewerage system adopted by the Massachusetts Legislature in 1889 and the plans for a metropolitan water supply system for Boston and its suburbs adopted in 1895. After his retirement he served as chairman of the Metropolitan Water and Sewerage Board until its abolition in 1919. He was elected an overseer of Harvard College in 1887 and a member of the board of president and fellows in 1890, holding the latter office until 1927. He was acting president of the university in 1900 and again in 1905.

**WALES.** See GREAT BRITAIN.

**WALKER, JAMES J.** See NEW YORK under Political and Other Events.

**WALLACE, CHARLES WILLIAM.** An American Shakespearean scholar, died in Wichita Falls, Texas, Aug. 7, 1932. He was born in Hopkins, Mo., Feb. 6, 1865, and was graduated from the Western Normal College, Shenandoah, Iowa, in 1885 and from the University of Nebraska in 1898. In 1900 he became a member of the English faculty at the University of Nebraska, being advanced to associate professor on receiving the Ph.D. degree from the University of Freiburg in 1906. After 1910 he was professor of English dramatic literature, specializing in Shakespearean and Tudor-Stuart drama. He carried on extended researches in this field in European archives, recording his investigations of more than 5,000,000 original records in numerous articles and books.

**WALLACE, EDGAR.** A British author, died in Beverly Hills, Calif., Feb. 10, 1932. Born in Greenwich, England, Apr. 1, 1875, he was adopted in infancy by a Billingsgate fish porter and was brought up on the East Side of London. He attended a London board school but was obliged to leave at the age of 10 to earn his own living, being successively a newsboy, factory hand, printer's "devil," and builder's "cad." He enlisted with the Royal West Kent Regiment but later transferred to the Medical Corps, with which he served six years. During the Boer War he was successively a war correspondent for *Reuter's*, the *Daily News*, and the *Daily Mail*. His career as a novelist began with the publication in 1906 of *The Four Just Men*. Thereafter he wrote some 150 novels, 20 plays, and several thousand short stories and articles. His forte was tales of mystery and adventure, which at the peak of his popularity sold at the rate of 5,000,000 copies yearly.

**WALLAS, GRAHAM.** A British economist, died in London Aug. 10, 1932. Born in Sunderland May 31, 1858, he attended Corpus Christi College, Oxford. In 1895 he was appointed lecturer at the London School of Economics, and from 1914 to 1923 held the chair of political science at London University. A member of the Fabian Society from 1886 to 1904, he published one of the *Fabian Essays* (1889). His other writings include: *Life of Francois Place* (1897); *Human Nature in Politics* (1908, Ger. trans., 1911); *The Great Society* (1914); *Our Social Heritage* (1921); and *The Art of Thought* (1926).

**WALLOONS.** See BELGIUM.



**WAR, OUTLAWRY OF.** See **ARBITRATION, INTERNATIONAL; PEACE.**

**WARBURG, PAUL MORITZ.** An American financier, died in New York City, Jan. 24, 1932. He was born in Hamburg, Germany, Aug. 10, 1868, and attended the Realgymnasium there. He studied two years in France and two years in England, traveled extensively, and in 1894 became a member of his father's Hamburg banking house, M. M. Warburg & Co. In 1902 he became a partner in Kuhn, Loeb & Co., New York. He was a leader in the agitation for a central banking system for the United States, and was appointed by President Wilson to the newly created Federal Reserve Board in 1914. He served on the latter until 1918. During the World War he was a member of the United States section of the International High Commission. In 1921 he founded the International Acceptance Bank, Inc. At the time of his death he was chairman of the board of this bank and also of the Bank of Manhattan Trust Co. and the International Manhattan Co.

**WAR CLAIMS.** See **ARBITRATION, INTERNATIONAL.**

**WARD, HERBERT DICKINSON.** An American author, died in Portsmouth, N. H., June 18, 1932. He was born in Waltham, Mass., June 30, 1861, and was graduated from Amherst College in 1884. He wrote extensively for newspapers and periodicals and was for some years editor of the *Youth's Companion*.

**WAR DEBTS.** See **REPARATIONS AND WAR DEBTS, UNITED STATES.**

**WARSHIPS.** See **NAVAL PROGRESS.**

**WASHBURN COLLEGE.** A coeducational institution in Topeka, Kan. The enrollment for the autumn session of 1932 was 841. There were 76 faculty members. The endowment amounted to \$1,302,044, and the income for the year was \$222,253. President, Philip C. King. A.M., B.D.

**WASHINGTON.** POPULATION. According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 1,503,396, as against 1,356,621 in 1920. Seattle had (1930) 365,583 inhabitants; Spokane, 115,514; Tacoma, 106,817. Olympia, the capital, 11,733.

**AGRICULTURE.** The accompanying table shows the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod. Bu.	Value
Hay .....	1932	879,000	1,757,000*	\$12,602,000
	1931	878,000	1,774,000*	15,288,000
Wheat ....	1932	2,298,000	44,903,000	16,614,000
	1931	2,357,000	40,843,000	15,112,000
Oats .....	1932	166,000	8,300,000	2,075,000
	1931	158,000	7,742,000	2,013,000
Potatoes ..	1932	40,000	6,400,000	2,432,000
	1931	44,000	6,820,000	3,274,000
Apples ..	1932	...	28,980,000	15,070,000
	1931	...	31,400,000	21,980,000
Corn ...	1932	38,000	1,292,000	517,000
	1931	37,000	1,369,000	767,000
Hops ...	1932	2,500	4,500,000*	810,000
	1931	2,200	3,872,000*	542,000
Barley ..	1932	64,000	1,920,000	634,000
	1931	59,000	1,770,000	620,000

\* Tons. \* Pounds.

**MINERAL PRODUCTION.** The leading feature in the State's mineral industry continued to be the mining of coal; but the production of coal was somewhat sharply reduced, to 1,810,000 short tons (1931, estimated), from 2,301,928 (1930); the product of 1930 had a total value of \$7,439,000. The total value of the State's mineral product was \$20,075,844 for 1930; for 1929,

\$22,435,359. The value of production of gold, silver, copper, lead, and (principally) zinc was \$297,543 (estimated) for 1932; for 1931, \$565,498.

**FINANCE.** State expenditures in the year ended Mar. 31, 1931, as reported by the U. S. Department of Commerce, were: for maintaining and operating governmental departments, \$24,302,503 (of which \$9,052,913 was for local education); for interest on debt, \$707,000; for permanent improvements, \$14,451,475; total, \$39,460,978 (of which \$16,619,598 was for highways, \$3,839,851 being for maintenance and \$12,779,747 for construction). Revenues were \$39,737,018. Of these, property and special taxes furnished 37.9 per cent; departmental earnings and compensation to the State for officers' services, 5.9; sale of licenses, 44.0 (in which was included a gasoline sale tax that produced \$7,538,114). Funded debt outstanding on Mar. 31, 1931, totaled \$13,000,000. Net of sinking-fund assets, the debt was \$10,799,289. On an assessed valuation of \$1,265,649,130 the State levied in the year ad-valorem taxes of \$13,690,525.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 5523.61. In the year previous, 18.3 miles of line had been abandoned.

**EDUCATION.** Provision was made, by the adoption at the general election in November, of a State income tax, for the shifting of some of the burden of supporting schools, through a reduction of the property tax. The number of persons of school age in the State was reported in 1932 as 434,778. In the academic year 1931-1932 there were enrolled in the public schools 346,993 pupils. Of these, 251,261 were in elementary schools; in high schools, 95,732. Expenditure of the year for public-school education was: current, \$26,377,735; total, inclusive of outlay and debt service, \$30,432,384. Salaries of teachers averaged \$1573 a year.

**POLITICAL AND OTHER EVENTS.** U. S. Sen. Wesley L. Jones having died on November 19, shortly after his defeat for reelection (see *Elections*, below), Governor Hartley appointed Maj. E. S. Grammer of Seattle, a Republican, to serve out Senator Jones's unexpired term, ending on Mar. 4, 1933.

**ELECTIONS.** The popular vote of November 8 was cast for the Democratic National ticket in the approximate proportion of 5 to 3. For Presidential electors, the officially reported totals were: Roosevelt (Dem.), 353,250; Hoover (Rep.), 208,645. U. S. Sen. Wesley L. Jones (Rep.), failed of reelection, Homer T. Bone (Dem.), being elected Senator. Democrats were elected to all six places in the State's delegation of Representatives to the Seventy-third Congress. Clarence D. Martin (Dem.) was elected Governor, defeating John A. Gellatly (Rep.). A proposal put before the voters by the initiative, that the State law for the enforcement of prohibition be repealed, was carried by popular vote. Another initiated proposal, for a State income tax at rates ranging from 1 to 7 per cent, was likewise adopted.

**OFFICERS.** The chief officers of the State, serving in 1932, were; Governor, Roland H. Hartley; Lieutenant-Governor, John A. Gellatly; Secretary of State, J. Grant Hinkle; Auditor, C. W. Clausen; Treasurer, Charles W. Hinton; Attorney-General, John H. Dunbar; Superintendent of Public Instruction, N. D. Showalter.

*Supreme Court:* Chief Justice, Warren W. Tolman; Associate Justices, John R. Mitchell, John F. Main, Emmett N. Parker, O. R. Holcomb, Walter B. Beals, W. J. Millard, William J. Steinert, Bruce Blake.

**WASHINGTON, THE STATE COLLEGE OF.** A coeducational institution for higher learning in Pullman, Wash., founded in 1890 by an act of the State Legislature. The enrollment for the autumn of 1932 was 2802. The summer session had an attendance of 860. There were 332 faculty members. The land grant endowment amounted to \$3,195,141. The income for the year, including appropriations made by the State Legislature (millage tax) and income from land grant and Federal funds, students fees, etc., amounted to \$1,619,955. The library contained 225,000 volumes. President, Ernest O. Holland, Ph.D.

**WASHINGTON, UNIVERSITY OF.** A State institution of higher education in Seattle, Wash., founded in 1861. The enrollment for the autumn term of 1932 was 6339. The faculty numbered 401 members. The income from all sources for the scholastic year 1931-32 was \$2,763,340. A new law building costing \$400,000 was to be opened for use January, 1933. President, M. Lyle Spencer, Ph.D.

**WASHINGTON AND JEFFERSON COLLEGE.** An institution for the higher education of men in Washington, Pa. Enrollment for the fall semester of 1932-33 totaled 450 undergraduates and 27 graduate students. The 1932 summer season enrollment was 129. The faculty numbered 28. The productive funds of the college amounted to \$1,338,061, and the income from all sources was approximately \$190,000. The library contained 45,580 volumes. President, Ralph Cooper Hutchison, Ph.D., D.D.

**WASHINGTON AND LEE UNIVERSITY.** A nonsectarian institution for the higher education of men in Lexington, Va., founded in 1749. The enrollment for the autumn of 1932 was 823. There were 54 members on the faculty. The productive funds of the university amounted to \$1,496,673, and the income for the year was \$329,471. President, Francis Pendleton Gaines, Ph.D., Litt.D., LL.D.

**WASHINGTON BICENTENNIAL.** The celebration honoring George Washington on the Two Hundredth Anniversary of his birth was carried out under government supervision during a nine month period, from February 22, until Thanksgiving Day, Nov. 24, 1932.

The United States George Washington Bicentennial Commission was organized to plan and direct this great celebration. The following made up the membership of this Commission: The President of the United States; the Vice President; the Speaker of the House of Representatives; Senators Simeon D. Fess of Ohio, Arthur Capper of Kansas, Carter Glass of Virginia, and Millard E. Tydings of Maryland; Congressmen Willis C. Hawley of Oregon, John Q. Tilson of Connecticut, Joseph W. Byrne of Tennessee, and R. Walton Moore of Virginia. Prof. Albert Bushnell Hart was Historian of the Commission, and the Hon. Sol Bloom, member of Congress from New York, was the Director.

This Commission, early in its planning, decided against having a celebration in the nature of a world's fair, geographically centralized in one important city. It was felt that George Washington belonged to the Nation as a whole, and that it would be fitting to have a nation-

wide celebration to honor his memory. It was felt further that every man, woman, and child in America should be given an opportunity to participate in this great tribute to America's greatest Son.

Acting with this thought in mind, the United States George Washington Bicentennial Commission organized coöperating Commissions in every State in the Union, and in every Territorial Possession of the United States. Committees were also created in practically every city and town in the country. Besides special committees were organized among the schools, churches, fraternal organizations and civic bodies. When the celebration ended on Nov. 24, 1932, there were actively engaged 43,000 State, city, and town committees, and approximately 700,000 committees representing special groups of people, making a total of about 750,000 separate and distinct bicentennial committees coöperating with the United States Commission in carrying out its plans and projects. The United States George Washington Bicentennial Commission kept in constant touch with these coöperating committees, aiding them in every possible way to make their local celebrations successful. The Commission coöperated in presenting plays and pageants, it sent out historical literature of every description; and it distributed music and pictures to help create enthusiasm in the celebration.

At the peak of the activities of the United States Commission, in February, 1932, approximately 10,000 letters per day were received; and in response to these letters the Commission distributed to all parts of the United States and the world more than 12,000,000 copies of its various pamphlets. The pamphlets contained historical data on every conceivable subject relating to the life and times of George Washington. They were published and distributed by the United States Commission absolutely free of charge.

Because of the assistance rendered by the United States Commission, approximately 1,500,000 separate and distinct Bicentennial programmes and commemorative exercises were held in all parts of the world during the Bicentennial celebration period.

The Commission conducted a nation-wide contest on the life of George Washington among the schools and colleges in declamation, essay, and oratory. More than 2,000,000 boys and girls of grade schools, high schools, and institutions of higher learning participated in these contests. The Commission furnished to each classroom of America a large size lithograph copy of the Gilbert Stuart Athenæum portrait of George Washington.

It is estimated that more than 30,000,000 George Washington memorial trees were planted during the period. Special exercises of this type were held in all corners of the world. The U. S. Bicentennial Commission presented 30 nationwide Bicentennial radio programmes. Besides these, thousands of local programmes were carried over the air.

As a governmental feature of the celebration a Bicentennial quarter was minted and put into circulation. This was the first time that a special coin was issued by our government. The government also minted a special medal, replicas of which were awarded for meritorious services in connection with the Bicentennial celebration.

With the coöperation of the Commission the

Post Office issued a series of 12 Bicentennial commemorative stamps, each stamp bearing a likeness of George Washington at different periods of his life. The government authorized the publication of the definitive writing of George Washington. Dr. John C. Fitzpatrick, one of the foremost living authorities on the life of George Washington, was delegated to edit these volumes, eight of which were completed by the end of the year. Some 25 volumes will be required for this work.

The Bicentennial Commission prepared special pageants and plays; it collected colonial music; it published a special George Washington Atlas, prepared by Col. Lawrence Martin, showing the places where Washington visited during his life time; and it published in braille a number of these pamphlets so that the blind of America could participate in the celebration. Practically all of the famous original paintings of George Washington were collected and exhibited at the Corcoran Gallery of Art in the City of Washington during the celebration. This exhibit was viewed by hundreds of thousands of people.

*Special Celebrations in the United States.* Wakefield, the birthplace of George Washington, was restored and turned over to the United States government as a National Shrine. The United States Government completed a beautiful highway from Washington direct to Mount Vernon. This highway, the George Washington Memorial Highway, is one of the most beautiful highways in the world. The greatest suspension bridge in the world spanning the Hudson River and connecting New Jersey and New York was named the George Washington Bridge, as a feature of the Bicentennial celebration. See CELEBRATIONS.

*Foreign Celebrations.* Although foreign governments were not invited officially to participate in the Bicentennial Celebration, events honoring George Washington on the two hundredth anniversary of his birth were held in 78 countries of the world during the period of the Celebration. The interest manifested abroad was remarkable and showed the great esteem in which George Washington was held outside of the United States. Thousands of special programmes were held abroad, a few of which were highly important.

In Turin, Italy, a new bridge was named after George Washington with appropriate exercises. The 15 American residents in Saigon, French Indo-China, raised \$500 to pay for a statue of George Washington. In Florence, Italy, a beautiful avenue was re-named George Washington avenue and a beautiful monument erected. In Poland hundreds of Bicentennial events took place and the government issued a special postage stamp commemorating the Bicentennial.

In Haiti, February 22d was declared a national holiday. In Stuttgart, Germany, \$10,000 was raised to establish an American Library in that city as a tribute to George Washington. Twenty-six foreign cities have named streets, parks, and highways for George Washington during the Bicentennial period.

**WASHINGTON UNIVERSITY.** A nonsectarian institution of higher learning for men and women in St. Louis, Mo., founded in 1853. The enrollment on Nov. 1, 1932, was 6942. The faculty for 1932-33 numbered 610. The income for the year was \$2,785,772. Chancellor, George R. Throop, Ph.D., LL.D.

**WATER POWER.** Hydro-electric plants during 1932 supplied a greater proportion of the utility power in the United States than in any previous year; it was over 40 per cent of the total, or approximately 34 billion kilowatt-hours. This was despite the fact that water-power construction was greatly curtailed during the year, but several large projects had been put into operation during the preceding year and this capacity was available through the extensive interconnection of utility systems. Hydro capacity that went into service during 1932 totaled about 300,000 horse power, of which two additional 42,500-horse power units in the Safe Harbor plant on the Susquehanna River and two 21,000-horse power units in the new Rock Island Development on the Columbia River are outstanding. The former are automatically adjusted Kaplan-blade turbines and the latter have manually adjusted blades of the propeller type, adjustment being possible while the turbines are in operation.

Work was actively pushed during the year on the Hoover Dam on the Colorado River. Four 50-foot diameter diversion tunnels have been completed and the cofferdams are now being constructed. Contracts have been let for the penstocks and bids are out for the turbines. Four of these will be of 115,000 horse power and two of 55,000 horse power. The former will represent the highest capacity water wheels in the world. The ultimate capacity of the project, as at present planned, will be 1,845,000 horse power.

After 11 years of negotiation the St. Lawrence Treaty was signed on July 18 last. This provides for a deep waterway of 27 feet from the Great Lakes through the St. Lawrence and will also make possible the development of five million horse power of which two million is in the International section. The estimated cost is between \$800,000,000 and \$900,000,000, or about three times the cost of the Panama Canal. The power along the International section is to be developed at two sites. See CANADA under *History*.

Abroad, the first units of the huge hydro development of the Soviet government on the Dnieper River went into operation during the early fall. See UNION OF SOVIET SOCIALIST REPUBLICS

In Canada the first four 50,000-horse power units of the Beauharnois Development were put in service during October. This project is planned for an ultimate capacity of two million horse power, involving a deep waterway canal on the St. Lawrence.

During 1932 hydraulic laboratory facilities were greatly extended. The National Hydraulic Laboratory at Washington, D. C., was placed in service as was also Canada's National Research Laboratory at Ottawa, and hydraulic laboratories at several of the universities. Extensive studies on the subject of cavitation are being carried on at several of the laboratories as well as at plants employing propeller-type turbines.

The Federal Power Commission in its annual report strongly urged that it be given jurisdiction over the issuance of securities involving hydro projects for which it has issued licenses, particularly where the interstate transmission of the power is out of the jurisdiction of the State utility commissions.

Since the Federal Water Power Act became effective in 1920 the installed hydro capacity in the United States has more than doubled; that

is, it has increased from 7,800,000 horse power in 1920 to 15,850,000 horse power in 1932. The growth in Canada during the same period has been from 2,515,000 to 7,035,000 horse power.

**WATER SUPPLY.** Progress on several great water supply projects—the Hetch-Hetchy for San Francisco, the Los Angeles-Colorado River Aqueduct, the Ware and Swift River extensions to the Boston Supply—have been noted under the several headings of AQUEDUCTS, DAMS, or TUNNELS. Indeed the major problems of these new supplies or extensions to existing supplies, are the construction difficulties of dams or aqueduct lines. See WATERWORKS AND WATER TREATMENT.

**WATERWAYS.** See CANALS.

**WATERWORKS AND WATER TREATMENT.** By far the largest project of waterworks construction in progress in the world is one for an additional supply for *Los Angeles* and 12 other communities organized as the Metropolitan Water District of Southern California. The combined population of the district is 1,666,000. A bond issue of \$220,000,000 to finance the project was authorized in September, 1931, by a vote of 5 to 1. This was followed in November by a taxpayers' suit, designed to invalidate the bonds. The bonds were upheld successively by a lower court, the California Supreme Court and the Supreme Court of the District of Columbia, the latter in November, 1932. Meanwhile plans and specifications were prepared and bids advertised for the first major unit of the project, the San Jacinto tunnel, 12.7 miles long, lined with concrete. The contract for this tunnel was let on December 12 for \$7,331,815. About the same time the Reconstruction Finance Corporation (see UNITED STATES) agreed to take \$2,016,000 of bonds of the district. The aqueduct will be 240 miles long, and extend from the Colorado River, 18 miles above Parker, Ariz., to a large terminal storage reservoir east of Los Angeles. Conduits will lead from this reservoir to the 13 cities comprising the district. Reservoirs will be provided along the conduits. A diversion dam 72 ft. high will provide a reservoir on the Colorado which will clarify the muddy water of the stream, stabilize the quantity of water available and make possible 80,000 kw. (maximum) of electric energy for pumping the water. Water will have to be pumped, by successive lifts along the aqueduct, a total of 1583 ft. The main aqueduct will have a capacity of 1500 sec.-ft. (970,000,000 gallons per day). It will be in tunnel for 85 miles; cut-and-cover, 55 miles; lined canal, 75 miles; concrete pipe, 25 miles; through reservoirs, 1.5 miles. (For further description and map, see *Engineering News-Record*, June 16, 1932.) See AQUEDUCTS.

The last part of the second deep tunnel to carry water for *New York* from the Hill View Reservoir, near Yonkers, beneath the boroughs of the Bronx, Queens, and Brooklyn to Fort Hamilton Park, was holed through early in the year. The tunnel is from 400 to 700 ft. beneath the surface. The contract price for the work is \$43,000,000. Studies for several filtration plants to treat the entire water supply of *Chicago* were continued. Tentative plans include four pumping stations and filtration plants on the lake shore, from which water would be pumped by high-lift pumps. (See *Engineering News-Record*, Aug. 4, 1932.)

**WEATHER.** See METEOROLOGY.

**WEBSTER, HENRY KITCHELL.** An American novelist, died Dec. 8, 1932, in Evanston, Ill., where he was born Sept. 7, 1875. He was graduated from Hamilton College in 1897. After acting as instructor in rhetoric in Union College for a year he returned to Evanston and collaborated with Samuel Merwin in writing a series of business romances. His later novels, some of which enjoyed a wide popularity, include: *The Girl in the Other Seat* (1911); *The Ghost Girl* (1913); *The Butterfly* (1914); *The Real Adventure* (1916); *The Painted Scene* (1916); *The Thoroughbred* (1917); *An American Family* (1918).

**WEEVIL.** See ENTOMOLOGY, ECONOMIC; COTTON.

**WELFARE WORK. EXPENDITURES FOR RELIEF PURPOSES.** Beginning with January, the Federal Children's Bureau undertook the compilation of expenditures for purposes of relief made by public and private bodies for most of the large urban communities of the country. Before the middle of 1932 it was receiving cooperation from more than 900 private agencies and divisions of public departments in at least 120 cities with more than 50,000 population; the aggregate population of these communities was in excess of 38,000,000 or 55 per cent of the total urban dwellers of the country. These compilations showed that relief agencies were dispensing between \$20,000,000 and \$25,000,000 monthly and were reaching fully 1,000,000 families every month. So, in January, 1932, the number of agencies reporting was 917, the number of cities was 124, and the amount of money relief disbursed either outright or in forms of made-work was \$22,302,792, as compared with \$14,097,399 for the same agencies in January, 1931. The relief bill mounted as the winter progressed, for in February, 1932, 976 agencies and divisions of public departments in 123 cities had disbursed \$25,277,952 as compared with \$15,001,186 in February, 1931. In March, 1932, 988 agencies and public departments in 124 cities had expended \$28,274,678; in April, 964 agencies in 125 cities had expended \$23,649,269; in May, 928 agencies in 126 cities had expended \$22,310,417; in June, 991 agencies in 126 cities had expended \$22,960,285; in July, 976 agencies in 125 cities had expended \$21,760,238; in August, 960 agencies in 125 cities had expended \$22,448,743, as compared with \$11,087,793 in August, 1931. It became increasingly apparent that public agencies, despite the heroic efforts of private charity to handle the situation, were increasingly being called upon to furnish the lion's share of the funds necessary. Thus, in February, 1932, \$16,362,941, or 65 per cent of total relief expended, was derived from public sources. Fourteen per cent of all the money expended in the month was made up of wage or made-work relief; 37 per cent was general and veterans' relief; and 14 per cent was special allowances (mothers' aid, old age and aid to the blind). The average grant per family per month during the first seven months of 1932, on the basis of these figures, was in the neighborhood of \$20. The tables on page 841 indicate the number of families reached and the character of the administrative agencies, for July and August, 1932, and August, 1931.

The Children's Bureau was also making an effort to ascertain the number of homeless and transient persons who were receiving attention. From 67 cities for the month of March, the last month of the 1931-32 winter season, it learned

TABLE I—AMOUNTS EXPENDED FOR DIFFERENT TYPES OF RELIEF BY 960 AGENCIES OR DIVISIONS OF DEPARTMENTS IN 125 CITIES AND CITY AREAS IN AUGUST, 1932, AND COMPARISON WITH JULY, 1932, AND AUGUST, 1931

Type of relief and administrative agency	Number of reports	Amounts expended			Per cent increase (+) or decrease (—)	
		August, 1931	July, 1932	August, 1932	July, 1932 to Aug., 1932	August, 1931 to Aug., 1932
Total relief .....	960	\$11,087,793	\$20,758,929	\$22,448,748	+ 8.1	+ 102.5
General relief .....	683	6,269,993	13,989,167	15,478,842	+ 10.6	+ 146.9
General public relief:						
County departments .....	34	712,268	3,228,816	4,140,621	+ 28.2	+ 481.3
City departments .....	80	2,562,103	5,479,451	5,831,072	+ 6.4	+ 128.5
Veterans' relief:						
Public departments .....	39	609,588	975,082	1,002,969	+ 2.9	+ 64.5
Private agencies .....	86	48,125	61,765	57,414	— 7.0	+ 19.3
Emergency-relief committees .....	34	39,514	335,431	384,016	+ 14.5	+ 871.8
Nonsectarian family societies .....	130	1,578,259	3,031,324	3,186,030	+ 5.1	+ 101.9
Jewish agencies .....	64	277,413	365,935	385,852	+ 5.4	+ 39.1
Catholic agencies .....	52	272,614	283,644	270,469	— 4.6	— 0.8
Salvation Army .....	86	100,242	127,111	120,200	— 5.4	+ 19.9
Other .....	78	79,877	100,608	99,699	— 0.9	+ 24.8
Special allowances from public funds ....	174	2,896,917	3,329,890	3,369,406	+ 1.2	+ 16.3
Mothers' aid .....	93	1,822,739	1,893,859	1,901,891	+ 0.4	+ 4.3
Old-age relief .....	34	929,087	1,271,372	1,360,814	+ 2.3	+ 40.0
Aid for the blind .....	47	145,091	164,659	166,701	+ 1.2	+ 14.9
Work relief .....	103	1,920,583	3,439,872	3,600,995	+ 4.7	+ 87.5
Public departments .....	59	1,784,426	2,620,836	2,785,014	+ 6.3	+ 60.6
Private agencies .....	44	186,457	819,036	815,981	— 0.4	+ 337.6

that a total of 1,458,102 meals had been served to transient and homeless persons, while the number of night's lodgings furnished aggregated 486,405. The average daily number of meals served in March was 47,036 as compared with 51,502 for the month preceding, and 28,944 for March, 1931, while the daily average of night's lodgings furnished was 15,690 in March as compared with 16,782 for the month preceding, and 10,547 for March, 1931. By the summer of 1932, the number of meals and night's lodgings furnished had, of course, decreased. In July, 1932, the daily average of night's lodgings furnished was 8588 compared, however, with 4379 in July, 1931; and the daily average of meals was 28,131 in July, 1932, as compared with 11,809 in July, 1931.

THE BUSINESS OF PHILANTHROPY. The charitable trust in the United States has grown so quiet-

ly that the average American is unaware of its enormous proportions. It is astounding to note, according to the Cambridge Associates, Inc., of Boston, that there are 197 such charitable trusts or foundations in the country, which, taken together, constituted the seventh largest business in the United States in point of funds administered. In most cases the funds were being preserved intact, presumably for the purpose of deriving fixed income to furnish salaries and administrative costs. In the single year 1931, these 197 foundations disbursed a total of \$45,488,805.

#### WELLAND CANAL. See CANALS.

WELLESLEY COLLEGE. A nonsectarian institution for the higher education of women in Wellesley, Mass. The enrollment for the academic year 1932-33 was 1530. The teaching staff numbered 173. The current income for the year 1931-32 was \$1,234,984. A new coöperative dormitory

TABLE II—FAMILIES AIDED BY 748 AGENCIES OR DIVISIONS OF DEPARTMENTS IN 125 CITIES AND CITY AREAS IN AUGUST, 1932, AND COMPARISON WITH JULY, 1932, AND AUGUST, 1931

Type of relief and administrative agency	Number of reports	Number of families aided			Per cent increase (+) or decrease (—)	
		August, 1931	July, 1932	August, 1932	July, 1932 to Aug., 1932	August, 1931 to Aug., 1932
Total families .....	748	833,720	702,798	781,894	+ 4.1	+ 119.2
General relief .....	586	263,300	613,913	641,274	+ 4.5	+ 143.6
General public relief:						
County departments .....	21	38,791	114,558	125,503	+ 9.6	+ 228.5
City departments .....	51	60,626	198,948	209,148	+ 5.1	+ 245.0
Veterans' relief:						
Public departments .....	35	20,167	36,426	35,259	— 3.2	+ 74.8
Private agencies .....	82	3,308	5,349	4,937	— 7.7	+ 49.2
Emergency-relief committees .....	20	334	9,994	9,685	— 3.1	+ 2,799.7
Nonsectarian family societies .....	112	80,328	185,840	193,652	+ 4.5	+ 141.1
Jewish agencies .....	62	7,657	11,602	12,067	+ 4.0	+ 57.6
Catholic agencies .....	48	21,660	18,911	19,979	+ 5.6	— 7.8
Salvation Army .....	84	25,400	23,340	21,333	— 8.6	— 16.0
Other .....	71	5,029	9,445	9,711	+ 2.8	+ 93.1
Special allowances from public funds ....	162	70,420	88,885	90,120	+ 1.4	+ 28.0
Mothers' aid .....	89	37,197	40,914	41,168	+ 0.6	+ 10.7
Old-age relief .....	30	28,179	42,607	43,558	+ 2.3	+ 54.6
Aid for the blind .....	43	5,044	5,364	5,394	+ 0.6	+ 6.9

was to be occupied in January, 1933. President, Ellen Fitz Pendleton, Litt.D., LL.D.

**WELLS COLLEGE.** An institution of higher learning for women in Aurora, N. Y., founded in 1868. The enrollment for the autumn of 1932 was 240. The faculty numbered 43 members. The endowment amounted to \$1,500,000, and the income for the year from invested funds, tuition, etc., was \$350,000. There were approximately 72,000 volumes in the library. A new administration building, containing offices, classrooms, departmental rooms, psychological laboratories, and a convocation hall, was under construction during 1932; the total cost was about \$500,000. President, Kerr Duncan Macmillan, S.T.D.

**WESLEYAN METHODIST CHURCH.** See METHODISTS.

**WESLEYAN UNIVERSITY.** An institution for the higher education of men in Middletown, Conn., founded in 1831. The 1932 autumn enrollment was 641. The faculty for 1932-33 numbered 74. The productive funds of the university for 1932 were \$5,108,722, and the income for the year was \$732,145. President, James L. McConaughy, Ph.D.

**WESTERN AUSTRALIA.** A state of the Australian Commonwealth, occupying the western third of the continent. Area, 975,920 square miles; population, estimated at 421,562 (exclusive of full-blooded aborigines) on Mar. 31, 1932, as compared with 332,732 at the census of 1921. Full-blooded aborigines were estimated at 23,119 on June 30, 1931. Perth, the capital, had 209,729 inhabitants on Jan. 1, 1932. Administrator in 1932, J. A. Northmore, appointed June 9, 1931. Premier and Treasurer, Sir James Mitchell. See AUSTRALIA.

**WESTERN RESERVE UNIVERSITY.** A nonsectarian institution for the higher education of men and women in Cleveland, O., chartered in 1826. The enrollment for the autumn of 1932 in the regular day curricula was 4159, including Adelbert College, for men, 1076; Flora Stone Mather College, for women, 833; Cleveland College, 213. The enrollment in Cleveland College, the evening school of the university, was 2286 and the enrollment in the courses for teachers in service was 918. The faculty numbered 629. The endowment amounted to \$11,878,005 and the income for the year was \$2,511,701. President, Robert E. Vinson, D.D., LL.D., L.H.D.

**WESTERN SAMOA.** See SAMOA, WESTERN.

**WEST POINT.** See UNITED STATES MILITARY ACADEMY.

**WEST VIRGINIA.** POPULATION. According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 1,729,205, as against 1,463,701 in 1920. Wheeling had (1930) 61,659 inhabitants; Huntington, 75,572; Charleston, the capital, 60,408.

**AGRICULTURE.** The accompanying table shows the acreage, production, and value of the principal crops for 1932 and 1931.

**MINERAL PRODUCTION.** Production of bituminous coal in the State declined, for 1931, somewhat less sharply as to quantity than did that of Pennsylvania bituminous fields, but somewhat sharper decline occurred in the average price for coal shipments. There were mined in 1931 101,473,172 net tons of coal, as against 121,472,638 in 1930. The value of coal produced was \$132,762,000 for 1931 as against \$181,722,000 for 1930. The number of the coal mines' employees was reduced by not quite 8 per cent, to 97,787

Crop	Year	Acreage	Prod. Bu.	Value
Hay	1932	625,000	562,000*	\$5,666,000
	1931	654,000	556,000*	8,122,000
Corn	1932	446,000	11,150,000	5,018,000
	1931	446,000	12,934,000	6,467,000
Apples	1932	.....	4,917,000	2,950,000
	1931	.....	12,954,000	5,700,000
Potatoes	1932	41,000	3,608,000	2,381,000
	1931	40,000	3,200,000	2,592,000
Oats	1932	188,000	3,036,000	972,000
	1931	148,000	3,552,000	1,814,000
Wheat	1932	116,000	1,276,000	727,000
	1931	113,000	2,373,000	1,448,000

\* Tons.

(1931), from 105,988 (1930). The average number of days of work to the coal-mine employee declined to 176 (1931) from 204 (1930). By quantity the output of coke fell to 1,378,666 short tons (1931) from 1,901,161 (1930); by value, to \$3,204,644 (1931) from \$5,061,759 (1930).

Natural gas was produced in 1930, the latest year for which data were available, to the quantity of 144,180,000 M cubic feet, as against 167,333,000 M for 1929; the values of these products were \$66,553,000 (1930) and \$73,793,000 (1929). Much gasoline was extracted from natural gas: in 1930, 63,328,000 gallons, by value \$4,151,000; the quantity extracted in 1931 was 52,844,000 gallons. The clay products of the State attained the value of \$15,954,195 for 1930, as against \$20,490,255 for 1929. There continued a large industry in the production of pig iron from extraneous ores; the output of pig iron fell, however, to 593,831 long tons (1931) from 704,054 (1930). The quantity of petroleum produced in the State fell to 4,472,000 barrels (1931) from 5,071,000 (1930); the value, more sharply, to \$7,070,000 (1931) from \$11,820,000 (1930). Producers' sales of lime declined to an estimated 152,000 short tons (1931) from 228,230 (1930); by value, to \$883,000 (estimated 1931) from \$1,394,075 (1930). The total value of the mineral product of the State, duplications eliminated, was \$290,118,914 for 1930; for 1929, \$346,504,746.

**FINANCE.** State expenditures in the year ended June 30, 1931, were \$37,920,511 (of which \$17,883,923 was for highways). Revenues were \$24,543,030. Funded debt outstanding on June 30, 1931, totaled \$86,375,800, of which \$81,085,000 was for highways. Net of sinking-fund assets, the debt was \$82,352,904.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 4125.10. In the year previous, 106.33 miles had been put in operation; 27.14 miles abandoned.

**EDUCATION.** A movement, dictated by demands for reduction of expenditure in the schools, was made early in the year to cut the school year to six months, from eight, to lower the basic teaching salary and to diminish distribution from the State's equalization fund. The proposals failed of enactment in the Legislature.

**POLITICAL AND OTHER EVENTS.** A new State Capitol, costing \$10,000,000, was dedicated at Charleston in June. It had been built to take the place of that destroyed by fire in 1921, and was completed early in 1932.

**ELECTIONS.** The vote of November 8 was cast for the Democratic National ticket in the proportion of nearly 5 to 4. The popular vote for President was: Roosevelt (Dem.), 405,124; Hoover (Rep.), 330,731. Six Democrats were elected as the State's Representatives in the Seventy-third Congress; by this overturn the Republicans lost

four seats. A sweeping Democratic success was scored with regard to the State offices. H. G. Kump (Dem.), was elected Governor, defeating Thomas C. Townsend (Rep.), and other State offices passed into Democratic hands. Control of both houses of the Legislature was assured to the Democrats for the first time subsequent to the session of 1893.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, William G. Conley; Secretary of State, George W. Sharp; Treasurer, W. S. Johnson; Auditor, Edgar C. Lawson; Attorney-General, Howard B. Lee; Superintendent of Free Schools, W. C. Cook; Commissioner of Agriculture, Howard M. Gore.

**Supreme Court of Appeals:** President, Frank Lively; Associate Judges, John H. Hatcher, Homer B. Woods, Raymond Maxwell.

**WEST VIRGINIA UNIVERSITY.** An institution for the higher education of men and women in Morgantown, W. Va., founded in 1867. In the autumn of 1932 the enrollment was 2509. The faculty numbered more than 250. President, John Roscoe Turner, Ph.D.

**WHEAT.** The world's wheat situation in 1932 continued to be affected by a poor demand in the importing countries and the consequent low level of world shipments as compared with previous years. The total production for the year of 38 countries reporting to the International Institute of Agriculture, not including Argentina and the Soviet Republics, was estimated at 3,361,127,000 bushels, or slightly above their production in 1931 and 2.3 per cent greater than the average annual yield for the five years 1926-1930. The exportable supplies for the commercial year 1932-1933 were estimated at 1,260,000,000 bushels and the requirements of importing countries at 630,000,000 bushels. In the preceding season 804,000,000 bushels entered into the international trade and of this quantity Europe took 600,000,000 bushels. The crops of the leading countries not including the United States were reported as follows: Canada 431,200,000 bushels, India 336,971,000 bushels, France 331,357,000 bushels, Italy 276,127,000 bushels, and Australia 200,000,000 bushels. The Soviet Republics reported an average annual yield of 840,238,000 bushels and Argentina of 251,255,000 bushels for the five years 1926-1930. The Argentine crop of 1931-1932 was 225,922,000 bushels.

The total wheat production of the United States according to estimates published by the Department of Agriculture was 726,831,000 bushels harvested on 55,177,000 acres, the average yield per acre being 13.2 bushels. In 1931 the total production was 900,219,000 bushels, the area 55,344,000 acres and the average yield per acre 16.3 bushels.

The production of winter wheat in 38 producing States was estimated at 462,151,000 bushels compared with 787,393,000 bushels in 1931, and with an average production of 549,000,000 bushels for the five years 1924 to 1928 inclusive. The acreage harvested in 1932 was reported as 33,656,000 acres, or nearly 20 per cent below the area harvested in 1931 and 6.6 per cent less than the average of the five year period.

The 1932 production of spring wheat, not including durum wheat, in 25 reporting States was estimated at 224,812,000 bushels as compared with 92,114,000 bushels in 1931. The area harvested, 17,658,000 acres, was 6,631,000 acres or 60 per cent greater than the acreage harvested in 1931 when a large acreage was abandoned. The

average yield per acre of 12.7 bushels was 4.3 bushels above the acre yield of the year before.

The durum wheat crop of 1932 was placed at 39,868,000 bushels compared with 20,712,000 bushels in 1931.

During the fiscal year ended June 30, 1932, the United States exported 96,521,000 bushels of wheat, 8,357,000 barrels of flour, and 1,613,000 pounds of breakfast foods and other wheat products for table use. The imports included 12,885,000 bushels of grain, 53,000 pounds of flour, and 159,000 long tons of bran, shorts and other by-products and feeds of wheat of which 87,000 long tons was withdrawn from bonded mills. On Nov. 3, 1932, December futures on the Chicago Board of Trade were quoted as low as 41 $\frac{1}{2}$  cents per bushel, the lowest recorded since 1843 when wheat sold on that market for 30 cents per bushel.

**WHITEHILL, CLARENCE (EUGENE).** An American dramatic baritone, died in New York City, Dec. 18, 1932. He was born in Marengo, Iowa, Nov. 5, 1871. After completing his high school education he went to Chicago where he was employed by the Wells Fargo Express Co. and was engaged as soloist in various church choirs. In 1896, after receiving preliminary lessons with L. A. Phelps of Chicago, he went to Paris where he prepared himself for the stage under Giraudet and Sbriglia. He made his debut as Friar Lawrence in Gounod's *Romeo and Juliet* at the Théâtre de la Monnaie, Brussels, in 1899. His success led to his engagement the following year at the Opéra Comique in Paris, and in 1901 at the Metropolitan Opera House in New York City under Grau & Savage. He enlarged his repertoire through further study of the German operas with Stockhausen in Frankfurt-on-Main, and in 1903 was engaged as leading baritone with the Cologne Stadttheatre. While in Germany he studied the great Wagnerian rôles (Wotan, Amfortas, Hans Sachs, Telramund) under Cosima Wagner and appeared with marked success at the Bayreuth and Munich festivals. He appeared also during 1905-09 at Covent Garden, London. On his return to the United States in 1909 he was engaged for two seasons by the Metropolitan Opera Co. and for four seasons by the Chicago Opera Co. He resumed his connection with the Metropolitan Opera Co. in 1916, and until his resignation in 1932 was one of its most noted Wagnerian interpreters.

**WHITE HOUSE CONFERENCE ON CHILD HEALTH.** See CHILD LABOR; CHILD WELFARE.

**WHITNEY MUSEUM.** See ART EXHIBITIONS.

**WHOOPING COUGH.** See MEDICINE AND SURGERY.

**WIGGINS, (J.) CARLETON.** An American landscape painter, died in Old Lyme, Conn., June 11, 1932. He was born in Turners, Orange Co., N. Y., Mar. 4, 1848, and studied in New York at the National Academy of Design and with George Inness, and in Paris. His paintings were executed in broad, flowing lines, with rich, low-toned color scheme. Good examples are: "A Holstein Bull" (Metropolitan Museum of Art, New York); "Cattle in Pond," "Morning on the Hills," and "Sheep and Landscape" (Brooklyn Museum); "Lake and Mountains" and "Moonrise on the Lake" (Art Institute, Chicago). He was elected an Associate of the National Academy of Design in 1892 and an Academician in 1906.



**WILCZYNSKI, ERNEST JULIUS.** An American mathematician, died in Denver, Colo., Sept. 14, 1932. He was born in Hamburg, Germany, Nov. 13, 1876, but was brought to the United States in childhood, his family settling in Chicago. At the age of 17, however, he returned to Germany and studied at the University of Berlin where he received the Ph.D. degree in 1897. The following year he was appointed assistant professor of mathematics at the University of California. During 1903-05 he was again in Europe as a research associate of the Carnegie Institution of Washington. In 1907 he was called to the University of Illinois as associate professor of mathematics. After 1910 he was a member of the mathematics faculty of the University of Chicago, first as associate professor (1910-14), and then professor (1914-26). He was made professor emeritus in 1926. His principal interest was projective differential geometry, the theory of which, as he formulated it, showed great originality and was further developed by other mathematicians.

**WILDMAN, EDWIN.** An American editor and author, died in New York City Nov. 3, 1932. He was born in Corning, N. Y., May 9, 1867, and attended the General Wesleyan Seminary, Phillips Exeter Academy, and Harvard University. From 1891 to 1896 he was editor and proprietor of the *Elmira* (N. Y.) *Echoes*. He then became a writer and Philippine war correspondent for *Leslie's Weekly*. In 1900, following his appointment as vice and deputy consul-general at Hong Kong, China, he was made special commissioner for the Hearst papers with the allied troops which went to the relief of the legations besieged in Peking during the Boxer Rebellion. He was a special correspondent for the *New York World* during 1903-04 and edited the magazine, *Mainly About People in America*, during 1906-07. Later he became president of the *Wildman Magazine* and *News Service*, editor of the *Forum* (acting also as president during 1908-20 and as vice-president during 1921-23), and president of Edwin Wildman, Inc. During the World War he was in charge of the paper-saving campaign of the War Industries Board. He was also publicity manager for the Republican National Committee during the Hughes, Harding, and Coolidge campaigns.

**WILCOCKS, SIR WILLIAM.** A British engineer, died in Cairo, Egypt, July 28, 1932. Born in 1852, he attended the Thomason Civil Engineering College, Roorkee, India, and was connected with the irrigation department of the Indian Public Works from 1872 to 1883. He was then transferred to Egypt where he later became director-general of reservoirs with the Egyptian Public Works. In 1898 he projected and designed the Aswan Dam and Assuit Barrage across the Nile River. In 1911 he was connected with the irrigation works of the Turkish government in Mesopotamia and devised the Hindiya Barrage whereby the waters of the Euphrates River were diverted for irrigation purposes. After the War he returned to India, where previous to his death he was interested in modernizing the ancient irrigation facilities of Bengal.

**WILLIAM AND MARY, COLLEGE OF.** An institution for the higher education of men and women in Williamsburg, Va., founded in 1693. The enrollment for the autumn of 1932 was 1535, of whom 753 were men and 782 women. The 1932 summer session had an attendance of 772 stu-

dents, of whom 274 were men and 498 women. The faculty numbered 75. The endowment amounted to \$800,000, and the income for the year 1931-32 was \$1,193,705. The library contained 79,870 volumes. President, Julian Alvin Carroll Chandler, Ph.D.

**WILLIAMS, JOHN SHARP.** An American lawyer and legislator, died near Denton, Miss., Sept. 28, 1932. He was born in Memphis, Tenn., July 30, 1854, and attended the Kentucky Military Institute and the Universities of the South, Virginia, and Heidelberg. Admitted to the Tennessee bar in 1877, he practiced after 1878 in Yazoo City, Miss., where during his early career he was associated with D. R. Barnett. He engaged also on an extensive scale in cotton planting. In 1892 he was elected representative to Congress from the fifth Mississippi district, and continued to represent that district until 1902, when he was elected from the eighth Mississippi district. In the House he had a distinguished career both as a parliamentarian and as a minority leader of the Democrats from 1903 to 1909. He served as temporary chairman of the Democratic national convention in 1904. On his election to the Senate in 1910 he promptly became one of the leaders of the Democratic party and during President Wilson's administrations was one of his few consistent supporters. He served as a member of the foreign relations committee and of the finance committee which reported the tariff bill of 1913, and acquired a reputation as the ablest political philosopher in the Senate. He was reelected in 1916 for the term ending Mar. 4, 1923. In 1912 he gave a series of lectures at Columbia University, which were published as *The Permanent Influence of Thomas Jefferson on American Institutions* (1913).

**WILLIAMS COLLEGE.** A nonsectarian college for men in Williamstown, Mass., founded in 1793. The enrollment for the autumn of 1932 totaled 772. There were 81 members on the faculty. The income for the year ending June 30, 1932, was \$810,945. President, Harry Augustus Garfield, LL.D. See **POLITICS, INSTITUTE OF.**

**WILSON, HENRY LANE.** An American lawyer and diplomat, died in Indianapolis, Ind., Dec. 22, 1932. He was born in Crawfordsville, Ind., Nov. 3, 1856, and was graduated from Wabash College in 1879. After acting as editor of the *Lafayette* (Ind.) *Journal* during 1882-85 he removed to Spokane, Wash., where he was engaged in the practice of law and in banking until 1896. From 1897 to 1905 he was Minister to Chile, where he distinguished himself in improving relations between that country and the United States and in preventing a war with Argentina. As Ambassador to Mexico from 1910 to 1913 he had charge of American interests during the turbulent period marking the close of the Diaz régime and the whole Madero administration. His resignation was requested, however, on account of a clash with President Wilson over the recognition of Huerta by the United States. Later he criticized the administration's Mexican policy in *Diplomatic Episodes* (1927).

**WINDWARD ISLANDS.** A group of British possessions in the West Indies, comprising Grenada, St. Lucia, and St. Vincent, together with the Grenadines (which are one-half under Grenada and one-half under St. Vincent); forming the eastern limit of the Caribbean Sea between Martinique and Trinidad. Each of the islands is under its own government, but they are united

for certain common purposes and have a court of appeals. Governor and Commander-in-Chief in 1932, Sir Thomas Vans Best. See **BRITISH WEST INDIES**; **GRENADA**; **ST. LUCIA**; and **ST. VINCENT**.

**WINSLOW**, REAR ADMIRAL CAMERON MCRAE, U. S. N. An American naval officer, died in Boston, Mass., Jan. 2, 1932. He was born in Washington, D. C., July 29, 1854, and was graduated from the U. S. Naval Academy in 1875. During the Spanish-American War he served on the *Nashville* and was advanced five numbers in rank for his extraordinary heroism under fire when he commanded the volunteer expedition that attempted to cut, off Cienfuegos, the three cables between Cuba and Europe.

Promoted to the rank of rear admiral in 1911, he was appointed commander of the second division of the Atlantic Fleet, later assuming command of the third and first divisions. He was stationed at the Naval War College at Newport, R. I., during 1914-15 and served also as commander of the first special service squadron organized for duty in Mexican and Central American waters. Previous to his retirement in 1916 he was commander-in-chief of the Pacific Fleet.

**WINTER OLYMPICS**. See **OLYMPIC GAMES**.

**WISCONSIN**. **POPULATION**. According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 2,939,006, as against 2,632,067 in 1920. Milwaukee, the most populous city, had (1930) 578,249 inhabitants; Madison, the capital, 57,899.

**AGRICULTURE**. The accompanying table shows the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod Bu.	Value
Hay . . .	1932	3,262,000	4,072,000 <sup>a</sup>	\$38,306,000
	1931	3,495,000	4,148,000 <sup>a</sup>	44,978,000
	1932	2,184,000	80,808,000	21,010,000
Corn . . .	1931	2,080,000	58,240,000	24,461,000
	1932	2,538,000	88,655,000	16,844,000
	1931	2,459,000	68,852,000	18,590,000
Potatoes .	1932	260,000	22,620,000	5,203,000
	1931	268,000	24,924,000	8,723,000
	1932	768,000	23,040,000	6,912,000
Barley . . .	1931	731,000	19,006,000	8,173,000
	1932	28,000	36,176,000 <sup>b</sup>	1,556,000
	1931	40,000	48,800,000 <sup>b</sup>	2,635,000
Rye . . . .	1932	236,000	2,832,000	878,000
	1931	175,000	2,188,000	853,000
Wheat . . .	1932	106,000	2,032,000	996,000
	1931	88,000	1,544,000	880,000

<sup>a</sup> Tons. <sup>b</sup> Pounds.

**MINERAL PRODUCTION**. The chief mineral industry of the State, the quarrying of stone, yielded 3,370,750 short tons for 1930, as against 4,004,200 for 1929; by value, \$5,100,266 for 1930 and \$6,166,708 for 1929. Wisconsin was the leading State of the Union in the production of fuel briquets, furnishing for 1930 more than half of the domestic production thereof. The State's output of briquets for 1931, to the quantity of 564,621 short tons for 1930 and 729,159 for 1929, and to the value of \$4,640,722 for 1930 and \$5,949,852 for 1929, was not stated in the Federal Bureau of Mines' tabulation for 1931, but the total production for the Union in 1931 fell short by more than 30 per cent of that for 1930. The total value of the mineral product of the State, duplications eliminated and briquets omitted, was \$17,711,394 for 1930; for 1929, \$24,222,229.

**FINANCE**. State expenditures in the year ended June 30, 1931, were \$57,721,644 (of which \$23,333,845 was for highways). Revenues were \$63,

019,743. Funded debt outstanding on June 30, 1931, totaled \$1,263,700, both gross and net of sinking-fund assets.

**TRANSPORTATION**. The total number of miles of railroad line under operation on Jan. 1, 1932, was 7210.1. In the previous year, 78.03 miles of line had been abandoned.

**EDUCATION**. An agency of the Wisconsin Teachers' Association, the Teachers' Training Council, took a step toward setting levels for teaching, by preparing a programme of educational philosophy and teaching practice, designed to render teachers conscious of the objectives of their work. The number of persons of school age in the State was reckoned as 886,860. There were enrolled in the public schools 548,386 pupils. Of these, 427,291 were in common schools or elementary grades and 121,095 in high schools. The year's expenditures for public-school education totaled \$70,180,513. Salaries of teachers averaged about \$1400, by the year, or some \$50 less than the average for the academic year 1929-1930.

**LEGISLATION**. A special session of the State Legislature was held in January, adjourning on February 5. It passed a measure providing \$8,000,000 for the relief of the needy unemployed. New districts for the election of Federal Representatives were created, 10 in number, in place of the existing 11, in conformity with the Federal reapportionment of 1930. By the terms of the Groves act, a system of compulsory insurance against unemployment was established, coming into effect in January of 1933. See **UNEMPLOYMENT**. A surtax at the rate of 100 per cent of the normal tax on incomes of 1931 was imposed to raise money for the purpose of relief. A special tax on chain stores, for the duration of two years, was laid.

**POLITICAL AND OTHER EVENTS**. The State Public Service Commission set a precedent in the regulation of public utilities for the benefit of their customers by ordering on July 15 that seven companies cease paying dividends upon common stock, on the ground that dividends would drain off companies' resources to the detriment of the consumers. The commission also ordered a reduction of 12½ per cent in the rates of the Wisconsin Telephone Company, by a temporary order, on the ground that the service was of reduced worth to families of impaired income. The State passed through the winter and spring without experiencing the epidemic of bank suspensions common in other parts of the Union. Its success in escaping bank troubles was attributed to the creation by Governor LaFollette of a special banking commission of 15 members, which enlisted the cooperation of depositors in embarrassed banks and thus obtained from depositors grants of time for the banks' repayment of sums due them. Daniel W. Hoan, Socialist Mayor of Milwaukee for 16 years, received a renomination in March. At the State primaries on September 20, ex-Gov. Walter J. Kohler, a conservative, won the Republican nomination for Governor, defeating LaFollette; for the Republican Senatorial nomination, John B. Chapple defeated Sen. John J. Blaine.

**ELECTIONS**. The popular vote of November 8 was cast for the Democratic National ticket by about 2 to 1. For President the officially reported totals were: Roosevelt (Dem.), 707,410; Hoover (Rep.), 347,741. F. Ryan Duffy (Dem.), was elected United States Senator, defeating

John B. Chapple (Rep.). Five Republicans and five Democrats were reported to have been elected Representatives to the Seventy-third Congress. A. G. Schmedeman (Dem.), Mayor of Madison, was elected Governor, defeating Walter J. Kohler (Rep.). The LaFollette group's lack of interest in the conservative Republicans who had won the chief nominations at the primaries had an adverse effect on the Republican vote in the State.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor, Philip F. LaFollette; Lieutenant-Governor, Henry A. Huber; Secretary of State, Theodore Dammann; Treasurer, Solomon Levitan; Attorney-General, John W. Reynolds; State Superintendent of Schools, John Callahan.

**Supreme Court:** Chief Justice, Marvin B. Rosenberry; Associate Justices, Walter C. Owen, Chester A. Fowler, Oscar M. Fritz, Edward T. Fairchild, John D. Wickham, George B. Nelson.

**WISCONSIN, THE UNIVERSITY OF.** A State institution of higher education in Madison, founded in 1848. The enrollment for the autumn term of 1932 was 7833, distributed as follows: Letters and science, 4496; engineering, 1001; agriculture, including home economics, 770; law, 318; medicine, 312; nursing, 126; library school, 42; school of education, 768. In the 1932 summer session the enrollment totaled 3760. The faculty numbered 1328. The endowment as of June 30, 1932, was \$1,365,930, while the net income for 1931-32 was \$8,882,150. Gifts received during the fiscal year amounted to \$179,839. The library contained approximately 899,000 volumes and 422,000 pamphlets. President, Glenn Frank, Litt.D., L.H.D., LL.D.

**WITWATERSRAND.** See SOUTH AFRICA, under *Production*.

**WOLF, MAX FRANZ JOSEPH CORNELIUS.** A German astronomer, died Oct. 3, 1932, in Heidelberg where he was born June 21, 1863. He attended the Universities of Heidelberg and Strassburg, and at Heidelberg rose from instructor in 1890 to professor of astronomy in 1893 and professor of astrophysics and geophysics in 1902. He was also director after 1893 of the Königstuhl Observatory, with which there was affiliated in 1909 the astronomical institute of the Baden State Observatory. His first important discovery was in 1884 of a periodical comet, with a course of seven years, which was named after him. He was especially known for the development of spectrum analysis and of celestial photography which enabled him to discover more than 200 planetoids. The first photographic planetoid was found by him in 1891 and was named Brucia in honor of Katharine W. Bruce, a contributor to the Heidelberg Observatory. Brucia received the number 323 in the list of planetoids.

**WOMAN'S CHRISTIAN TEMPERANCE UNION, NATIONAL.** An all-partisan and all-sectarian movement which has as its purpose the protection of the home through the abolition of the liquor traffic. It is comprised of 10,000 local unions with an approximate membership of 600,000, and is organized in every State, territory, and dependency of the United States. President in 1932-33, Mrs. Ella A. Boole. A legislative headquarters is maintained at the Hotel Driscoll, Washington, D. C.; national headquarters, administrative offices, and a publishing house are in Evanston, Ill. See PROHIBITION.

**WOMEN IN INDUSTRY. STATUS OF UNEMPLOYED WOMEN.** The Women's Bureau, in making an analysis of the occupational status of women from 1910 to 1930, based upon census returns, reported the following interesting changes. First, the total number of employed women increased between 1920 and 1930 from 8,549,511 to 10,752,116, an increase of 25.8 per cent. In 1920, women were 20.5 per cent of all employed persons; in 1930, they were 22 per cent, having comprised 30.5 per cent of the increase between 1920 and 1930 in total persons at work. Women were 47 per cent of the total in professional service in 1920 and 47 per cent of the increase between 1920 and 1930. In clerical work they were 46 per cent of the total in 1920 and 62 per cent of the increase between 1920 and 1930; in the residual public service group, they constituted 1.4 per cent of the total in 1920 and 5.9 per cent of the increase between 1920 and 1930; in agriculture they were 10 per cent of the total in 1920 and 89 per cent of the decrease; in the extraction of minerals, they were 0.3 per cent of the total in 1920 and 2 per cent of the decrease; and in manufacturing and mechanical industries, they were 15 per cent of the total in 1920, but lost 44,000, though men gained 1,333,000 between 1920 and 1930. However, when the figures of the manufacturing and mechanical group are scrutinized closely, there actually appears an increase of about 85,000 women in factories and a decrease of about 129,000 women in occupations not in factories. In 1930, there were practically 78,000 fewer dressmakers and seamstresses, 30,000 fewer milliners and millinery dealers and 10,000 fewer tailoresses. Another interesting contrast is in the group of manufacturers and managers, officials, foremen, etc., in factories, which had an increase of 16.6 per cent in the number of men between 1920 and 1930 but of only 2.7 per cent in the number of women. The figures showed that in 1930, women had 1700 fewer forewomen in overseers' jobs, undoubtedly one of the effects of mechanization. Several of the manufacturing groups showed interesting variations. Thus, cigars and tobacco, in 1930, lost 24 per cent of its women and 40 per cent of its men; iron and steel and other metals lost 8.8 per cent of their men and 0.8 per cent of their women; the leather industry lost 36,000 men and took on more than 8000 women; the textile group lost more than 19,000 women and took on nearly 15,000 men; rayon, in 1930, employed 14,000 men and 11,000 women whereas, in 1920, the industry was so small that it was not classified separately. The gain of 291,000 women in trade was made up of 195,000 saleswomen, 31,000 retail dealers, 22,000 real estate agents and officials, 9000 insurance agents, managers, and officials, and many smaller increases. There were 7000 fewer clerks in stores. The more than half a million increase in the professional group includes 219,000 school teachers and 145,000 trained nurses. The 565,000 increase in clerical occupations includes 210,000 stenographers and typists, 202,000 clerks, and 120,000 bookkeepers and cashiers. Lastly, the important group, domestic and personal service, which declined between 1910 and 1920 by 344,000 women, increased in the next decade by nearly a million women, the figure being 993,569. This increase was made up of 115,000 waitresses, 102,000 cooks, and 520,000 other servants, while smaller numbers were the 80,000 laundry operatives, the

80,000 hairdressers and manicurists, the 32,000 housekeepers and stewards, the 24,000 restaurant, café, and lunch room keepers, the 17,000 workers in cleaning, dyeing, and pressing shops, and the 16,000 charwomen and cleaners. Like the decline in importance of dressmaking and millinery, there was a decrease in number of laundresses not in laundries of 29,000. A preliminary examination of the trends over two census periods, the 20 years 1910 to 1930, indicates that in round numbers women's employment increased as follows: In clerical work, by 1,398,000; in professional, by 792,000; in domestic and personal, by 649,000; in trade, by 490,000; in transportation, by 163,000; in manufacturing and mechanical, by 66,000; and in public service not elsewhere classified, by 15,000. Only in agriculture has there been a decrease of any importance, and there 897,000 fewer women were reported in 1930 than in 1910.

**WOMEN'S BUREAU.** See WOMEN IN INDUSTRY.

**WOMEN'S CLUBS, GENERAL FEDERATION OF.** An organization founded in 1889 and chartered by act of Congress in 1901 for "the promotion of movements looking toward the betterment of life." In 1932 the General Federation was composed of approximately 14,600 clubs in the United States and 70 clubs outside the United States; affiliated with it were 15 national and international organizations. The official publication is *The Clubwoman GFWO*. At the June, 1932, convention in Seattle, Wash., Mrs. Grace Morrison Poole was elected President for the ensuing triennial period. Headquarters are at 1734 N Street, N. W., Washington, D. C.

**WOOD.** See FORESTRY.

**WOOL.** It was expected that world wool production in 1932 would show no marked decrease as compared with production during the last few years, despite unfavorable market conditions which have existed. Preliminary estimates, by the Bureau of Agricultural Economics of the U. S. Department of Agriculture, placed the total production in nineteen countries at 2,793,000,000 lbs. in 1932, a decrease of only 14,000,000 lbs. from the record clip of 1931. These nineteen countries supply about 80 per cent of the world clip, exclusive of Russia and China. Fairly heavy decreases in the United States and New Zealand, and slight decreases in Argentina and the Union of South Africa were almost balanced by increases in Australia and the United Kingdom.

Fleece weights in the United States were generally less than in 1931, but with an increase in the number of sheep of about 200,000 head the estimated amount of wool shorn in 1932 was 342,386,000 lbs. as compared with a wool clip of 369,477,000 lbs. in 1931.

Wool imports of the United States were greatly reduced, there being but 14,375,000 lbs. of combing and clothing, and 40,935,000 lbs. of carpet wool imported during 1932 as contrasted with 37,298,000 lbs. and 120,502,000 lbs., the respective amounts of combing and clothing, and carpet wools, imported in 1931. Supplies of unsold combing and clothing wool held by dealers in the principal wool centres, and by the National Wool Marketing Corporation, as reported to the Boston Wool Trade Association, were about 42,000,000 lbs. smaller on Oct. 15, 1932 than at the same date a year earlier.

**WORCESTER POLYTECHNIC INSTITUTE.** A non-sectarian institution for the tech-

nical education of men in Worcester, Mass., founded in 1865. The enrollment for the autumn semester of 1932 totaled 657. The faculty numbered 74. The productive funds of the institute amounted to \$3,178,758, and the income for the year was \$338,867. There were 23,500 volumes in the library. President, Ralph Earle, D.Sc., D.Eng., LL.D., Rear Admiral, U.S.N., ret.

#### WORKERS IN THE UNITED STATES.

See STATISTICS.

**WORKMEN'S COMPENSATION.** COMPENSATION LEGISLATION IN 1932. In 1932, of the 44 States having workmen's compensation laws, but seven convened in regular session during the year and of these, only four acted on the subject. These four were Massachusetts, New York, New Jersey, and Virginia. Six Canadian legislatures also passed laws relating to workmen's compensation, namely, Alberta, British Columbia, Manitoba, Ontario, Nova Scotia, and New Brunswick. Three acts were passed in *Massachusetts*. One of these provided that more than one agent might be designated to carry out the provisions of the law regarding public employees. Another related to the effect of certain agreements of parties in workmen's compensation cases on the finality of subsequent findings of the board. The third permitted the court to order a case removed to the county court in which the injury occurred. In *New Jersey* the laws enacted also related to minor matters. The legislature repealed an act adopted in 1931 regarding the procedure in appeal cases. The definition of employee was made to exclude persons engaged in the sale of newspapers or acting as distributors. In *New York* a measure was passed whose purpose was to assure employees on construction work that their employers were covered by compensation insurance. The law was also made to include private chauffeurs in New York City and volunteer firemen in counties and municipalities. Another law provided that compensation was to be a lien on the assets of employers, subject, however, to claims on unpaid wages and prior recorded liens. Another enactment liberalized the law in regard to the position of employees totally disabled by two separate accidents. In *Virginia* the workmen's compensation law was amended to exclude horticultural laborers, to increase from \$4500 to \$5000 total amount payable in partial disability cases, and to clarify third party suits.

**ACCIDENTS.** The annual statistical computation of the National Safety Council indicated that in the United States during 1931 accidents were responsible for approximately 97,000 deaths and 9,403,000 non-fatal injuries. The Council estimated that the total cost, including wage loss, medical expense, and overhead insurance of these deaths and injuries amounted to \$2,308,000,000. This was a 2.2 per cent reduction of the number of deaths from the figures of the United States Bureau of the Census for 1930, which had reported these as being 99,300. The Council estimated that the number of deaths attributable to industrial accidents was 17,000, to motor vehicle accidents 33,500, to other public accidents was 20,000, and to home accidents 29,000. In view of the fact that 2500 deaths to persons gainfully employed were also included in the figures for motor vehicle deaths the total eliminates this 2500 as a duplication. Comparison with the 1930 figures shows reductions of 2000 industrial fatalities and 1000 home fatali-

ties, but an increase of about 600 in motor vehicle fatalities. The Bureau of Labor Statistics points out that the accidental death rate in the United States is the highest in the world, having been 80.6 accidental deaths per 100,000 population in 1930 as compared with 24.5 in Denmark (1929), 42.6 in England and Wales (1930), 43.3 in Germany (1929), 54.0 in France (1929), and 63.0 in Canada (1930).

Figures compiled by the Bureau of Labor Statistics for accidents in manufacturing industries from 1926 to 1930 showed that the average frequency rate in all industries for wage earners only dropped from 24.16 in 1926 to 23.08 in 1930. The average severity rate increased from 2.62 in 1926 to 2.82 in 1930.

In New York, for the year ending June 30, 1930, total accidents numbered 109,848, of which 1348, or 1.2 per cent, were fatal and permanent total disability cases. Of this total 8.31 per cent were due to the handling of objects and tools, 24.78 were due to falls suffered by workers, 16.62 per cent were due to mechanical appliances, 24.63 per cent were a result of vehicles, 9.49 per cent were due to falling objects, 12.16 per cent were due to dangerous and harmful substances, 0.67 per cent were because of slipping on and striking objects, and 3.34 per cent were due to other causes.

**UNITED STATES EMPLOYEES.** For the calendar year 1930 the United States Employees' Compensation Commission reported 26,069 new injuries, an increase of 1.48 per cent over the number reported during 1929. The number of claims on account of death or loss of wages was reduced from 9337 in the earlier year to 9283 in 1930. On Dec. 31, 1930, there were 731 cases on the docket, in which compensation was being paid for permanent total disability and for 1134 cases of permanent partial disability. Approximately 30 per cent of the first group and more than 25 per cent of the second were receiving compensation for injuries of more than 10 years duration. Total payments up to Dec. 31, 1930 in these cases amounted to \$3,543,880 for compensation and \$924,303 for medical costs in the total cases and \$2,788,050 for compensation and \$444,175 for medical costs in the partial cases. The board estimated that the total cost would be approximately \$20,000,000 for the total cases and more than \$9,000,000 exclusive of future medical expense for the partial cases. As a result of the act approved Mar. 4, 1927, the United States Employees' Compensation Commission also supervised compensation payments made to longshoremen and harbor workers. During the fiscal year ending June 30, 1931, the Commission received reports of 156 fatal and 28,705 non-fatal injuries, a total of 28,861 cases or 27.6 per cent less than the number reported for the fiscal year. At the close of the fiscal year there were 291 fatal cases on the dockets in which \$508,863 had been paid as compensation and the estimated future cost was \$1,690,813; and 2104 non-fatal cases in which payments of \$1,438,999 had been made as compensation and the estimated future cost was \$1,718,421. Payments for medical care were not included.

**NEW YORK.** In 1931 the number of compensated cases closed in this State was 98,424 and the amount of compensation granted was \$33,702,525. This was an average of \$342 per case. The cost of medical and hospital service, not included in the compensation awards, was esti-

ated by the State Department of Labor to be between \$8,000,000 and \$10,000,000. Actually a total of 419,072 injuries were reported during the year and a total of 188,887 cases were closed.

#### NUMBER OF COMPENSATED CASES CLOSED IN NEW YORK AND COMPENSATION AWARDED, BY EXTENT OF DISABILITY, 1931

Extent of disability	Number of cases	Number of weeks' compensation awarded	Amount of compensation
Death .....	1,177	.....	\$ 7,282,761*
Permanent total .....	68	.....	970,804*
Permanent partial .....	19,805	857,148	15,515,293
Temporary .....	77,374	561,945	9,983,667
Total .....	98,424	1,419,093	33,702,525

\* Estimated present values.

**NEW JERSEY.** In the calendar year 1930 there occurred in the State of New Jersey 27,583 compensated industrial injuries for which there was paid out in compensation \$8,999,784. Of the total number of injuries, 357 were fatal and permanent total disability cases, 8718 were permanent partial disability cases, and 18,508 were temporary disability cases.

**PENNSYLVANIA.** In 1931 there occurred in this State a total of 1485 fatal and 109,976 non-fatal injuries as compared with 1752 fatal and 142,917 non-fatal injuries during 1930, or decreases of 15.2 per cent and 23.1 per cent respectively. The State Department of Labor and Industry pointed out that this remarkable decrease in large measure was due to the continuance of the economic depression though it believed that accident prevention work was also a factor.

**CALIFORNIA.** On June 30, 1930, the State compensation insurance fund of California was covering approximately 30,000 employers, this being one-third of the insurance coverage written in the State.

#### EXPERIENCE OF CALIFORNIA COMPENSATION INSURANCE FUND, 1924 TO 1929

Year	Premiums written	Dividends declared	Total assets
1924 .....	5,807,777	1,649,260	6,517,543
1925 .....	5,811,317	1,664,214	6,779,838
1926 .....	6,012,443	1,694,172	6,900,494
1927 .....	6,471,635	1,821,278	6,911,830
1928 .....	7,008,920	1,764,272	7,382,739
1929 .....	7,654,803	1,794,126	7,979,306

In 1930, 293,821 industrial injuries were reported to the State commission of which 89,949 were compensable. In the latter group 713 were fatal injuries, 941 were permanent injuries, and 88,295 were temporary injuries.

**WORLD ALLIANCE FOR INTERNATIONAL FRIENDSHIP THROUGH THE CHURCHES.** See INTERNATIONALISM.

**WORLD CONFERENCE FOR INTERNATIONAL PEACE THROUGH RELIGION.** See INTERNATIONALISM.

**WORLD COURT.** **POLISH NATIONALS AND THE FREE CITY OF DANZIG.** On Feb. 4, 1932, the Permanent Court of International Justice delivered the Advisory Opinion for which it had been asked by the Council of the League on the following points:

1. Is the question of the treatment of Polish nationals and other persons of Polish origin or speech in the territory of the Free City of Danzig to be decided solely by reference to Article 104 (5) of the Treaty of Versailles

and Article 33, paragraph 1, of the Convention of Paris (and any other treaty provisions in force which may be applicable), or also by reference to the Constitution of the Free City; and is the Polish Government accordingly entitled to submit to the organs of the League of Nations, by the method provided for in Article 103 of the Treaty of Versailles and Article 39 of the Convention of Paris, disputes concerning the application to the above-mentioned persons of the provisions of the Danzig Constitution and other laws of Danzig?

2. What is the exact interpretation of Article 104 (5) of the Treaty of Versailles and of Article 33, paragraph 1, of the Convention of Paris, and, if the reply to question (1) is in the affirmative, of the relevant provisions of the Constitution of the Free City?

The Court's reply to the first of these questions was in the negative. In answer to the second, it explained its interpretation of Article 104 (5) of the Treaty of Versailles and of Article 33 (1) of the Convention of Paris in detail: this interpretation differing from those suggested by the two interested Governments, but it was believed to be nearer to the view of the Free City. As a whole the Opinion was adopted by nine votes to four. It appears, however, from the dissenting opinion signed by the minority (MM. Guerrero, Rostworowski, Fromageot, Urutia) that the Court unanimously approved the reply to the first question, and that the divergence of views was confined to the second.

The Court considered that the two parts of the question constituted only one question, namely, whether the Polish Government was entitled to resort to the procedure provided for in Article 103 of the Treaty of Versailles and Article 39 of the Convention of Paris—that is to the jurisdiction of the High Commissioner of the League of Nations at Danzig—in disputes concerning the application to Polish nationals of the laws of Danzig.

The Court considered that the application of the Danzig Constitution may result in the breach of an international obligation incumbent on Danzig toward Poland and that, in such case, Poland may resort to the international procedure provided for in Article 39. On the basis of the circumstances attendant on the establishment of the Free City, the Court declared that Article 104 of the Treaty of Versailles contains a mandate given to the Principal Powers to negotiate a convention between Poland and Danzig, designed to fulfill certain objects specified in the Treaty, which Convention was to secure to Poland the advantages guaranteed her by the Treaty.

The object of paragraph 5 of Article 104 is to prevent any discrimination to the detriment of Polish nationals. The Court considered that the clause is intended to prohibit any discrimination on the ground of the Polish character of the persons in question. Observing that in this connection the question had been raised whether the Articles of the Treaty of Versailles concerning Danzig had become binding on the Free City, the Court said that the contents of Article 104 (5) of the Treaty have undoubtedly become a rule of law binding on the Free City in relation to Poland, but only because they have been reproduced in the Convention of Paris. Moreover, this provision is only enforceable in respect of Danzig in that it is an authentic expression of the mandate conferred on the Principal Powers.

Proceeding to the interpretation of Article 33 of the Convention, the Court took the view that Danzig, by accepting the article in question, assumed two undertakings: to apply to minorities in her territory the system laid down for

minorities in Poland; and also to prevent any discrimination to the detriment of Polish nationals by reason of their Polish character. The latter undertaking, which according to the Court is new, may be considered as a guarantee also to grant to Polish nationals any rights, more extensive than those ensuing from the minority system, which the Free City may accord to minorities or foreigners not belonging to a minority in her territory.

Finally the Court observed on the one hand, that the minority system, as always only represents the minimum guarantees imposed on the State concerned, which remains at liberty to grant more extensive rights, and, on the other hand, that the free and secure access to the sea guaranteed to Poland by provisions of the Convention of Paris, other than Article 33, is irreconcilable with a system under which the territory of Danzig would be closed to Poles (see *DANZIG under History*).

**MEMEL CONTROVERSY.** In the Memel controversy (see *MEMEL; LITHUANIA*) the German government promptly requested the League Council to protect the Memel Statute. On Apr. 11, 1932, Great Britain, France, Italy, and Japan, as guarantors of this Statute, brought suit against Lithuania before the Permanent Court in accordance with Article 17 of the Statute. The World Court took jurisdiction and handed down a decision on August 11 and while it was primarily favorable to Lithuania, it was believed that it would improve Lithuanian-German relations by clarifying and defining the rights of Lithuania in Memel. The Court ruled by 10 votes to five:

1. That the Governor of Memel was entitled, for the protection of the interests of the Territory, to dismiss the President of the local Directorate but that such dismissal did not involve the other members of the Directorate.

2. That Herr Boettcher had violated the Memel Statute in negotiating in Berlin concerning the foreign affairs of Memel, which are reserved exclusively to the Lithuanian government.

3. That the Governor was not justified in dissolving the Memel Diet after his appointment of a new Directorate before the latter had been accorded a vote of confidence.

**FRANCE AND SWITZERLAND.** The thirteen-year-old dispute between France and Switzerland over the free zone of Upper Savoy and the district of Gex near Geneva was ended on June 7, 1932, when the Court delivered a six-to-five verdict in favor of Switzerland. The court decided that the free zones, which had been created in 1815 and 1816, and were abolished in 1923 by France, should be maintained. Accordingly, France will have to withdraw its customs lines by Jan. 1, 1934 in conformity with the provisions of 116 years ago.

**UNITED STATES AND THE WORLD COURT.** No action was taken by the United States Senate on the ratification of the protocols to the Court statutes. Nevertheless following hearings in the House Foreign Affairs Committee, on the Linthicum resolution authorizing an appropriation of \$53,000 for the expenses of the World Court, the Senate Foreign Relations Committee, by a vote of 11 to 9, adopted on May 12, 1932, a report favoring ratification of the World Court protocols. This action was taken, however, only after the committee had amended the original Walsh resolution of ratification by adopting two resolutions, one sponsored by Senator Vandenberg and the other by Senator Moses.

The Vandenberg resolution repeated two reservations made by the Senate in 1926, providing that recourse to the Court can be had only by agreement "through general or special treaties," and that in joining the court the United States shall not be required to depart from its "traditional policy of not . . . entangling itself in the political questions of policy or internal administration of any foreign state. . . ." The Moses amendment provided that the adherence of the United States to the World Court shall not become effective until the other governments have accepted, by an exchange of notes, the Senate's original fifth reservation, providing that the Court shall not entertain the request for an advisory opinion touching any dispute or question in which the United States claims an interest.

Although the Vandenberg amendments are unobjectionable, the Moses amendment seemed likely to be opposed by friends of the Court. Of the 55 governments belonging to the Court 53 had already accepted the Root protocol of 1929 as adequately covering the original Senate reservation concerning advisory opinions. The Walsh resolution proposes that the United States ratify the Root protocol. Nevertheless, according to the Moses amendment, the 55 governments members of the Court must first formally accept not the Root protocol, but the original reservation.

Secretary Stimson, in reply to a request by the Foreign Relations Committee for his opinion as to whether the first protocol fully accepts the five reservations contained in the Senate resolution of 1926, addressed a letter to Mr. Borah on March 22, in which he stated emphatically that he was in complete agreement with the view of Elihu Root, the author of the protocol, that the interest of the United States is protected. See LAW IN 1932.

**WORLD'S FAIR.** See CENTURY OF PROGRESS INTERNATIONAL EXPOSITION.

**WORLD LEAGUE AGAINST ALCOHOLISM.** The official league membership in 1932 comprised 61 national temperance organizations in 35 of the leading countries of the world. The work is carried on by executive, legal, publicity, and service departments, with offices in Westerville, Ohio; the research department in New York City; the Scientific Temperance Federation in Boston; and the Intercollegiate Prohibition Association in Washington. A branch office is maintained in London, England. In 1932 the presidents of the league were: Robert Hercod, Lausanne, Switzerland; Lief Jones, London, England; and Howard H. Russell, Westerville, O. The general secretary was Ernest H. Cherrington.

**WRECKS.** See SAFETY AT SEA.

**WREN, SIR CHRISTOPHER,** TERCENTENARY OF DEATH. See CELEBRATIONS.

**WRESTLING.** After almost two years of unprecedented prosperity, professional wrestling declined in public interest in the latter part of 1932. At the close of 1932 there were still three "champions of the world." Ed Strangler Lewis was recognized as such by the New York State Commission; Henri De Glane was considered champion in Canada; and Jim London, burly Greek, was the king outside of New York. London was the recognized champion in New York until the last day of October, after which date the Commission refused to recognize him because he had failed to accept Lewis' suc-

cive challenges. The Commission ruled that Lewis would be considered champion if he wrestled worthy opponents. He thereupon threw Jack Sherry, and later won again when Ray Steele was disqualified at Madison Square Garden for punching Lewis.

Amateur wrestling reached a new level in the United States in the Olympic year, the Americans winning three Olympic championships. The national A.A.U. championships were held in the new Madison Square Garden Bowl in Long Island City in June. Louis Conti won the 115-pound championship, and Joe Sapora of the New York Athletic Club repeated his 1931 triumph in the 125-pound class. Joe Fickel of Kansas State College took the laurels in the 135-pound class and Jen Bishop of Manheim, Pa., won at 145 pounds. Jack Vanbeber of the Los Angeles A.C. repeated in the 165-pound class. Joe Schutt won at 175 pounds, and the heavyweight title went to Louis Hammack of the United States Army.

Lehigh retained its title in the Eastern intercollegiate championships, winning for the fourth time in five years. Syracuse and Cornell tied for second place.

Indiana University captured the National Collegiate A.A. title, succeeding Oklahoma A. and M. to the championship—which the latter had won four successive years. Eddie Belshaw, of Indiana University, winner of the 135-pound class, was awarded the N.C.A.A. cup for the outstanding wrestler.

**WURTS, ALEXANDER JAY.** An American electrical engineer, died in Pittsburgh, Pa., Jan. 21, 1932. He was born in Carbondale, Pa., Mar. 3, 1862, and was graduated from the Sheffield Scientific School at Yale University in 1883 and from the Stevens Institute of Technology in 1884. In 1905 he was made professor of applied electricity and head of the electrical department at the Carnegie Technical School, later the Carnegie Institute of Technology. After 1921 he was professor of engineering research at that institution. For his invention of lightning arresters he was awarded the John Scott medal by the Franklin Institute in 1894. He was also the discoverer of five non-arcing metals.

**WÜRTEMBERG.** See GERMANY.

**WYOMING. POPULATION.** According to the Fifteenth Census the population of the State on Apr. 1, 1930, was 225,565, as against 194,402 in 1920. Cheyenne, the capital, had (1930) 17,361 inhabitants.

**AGRICULTURE.** The accompanying table shows the acreage, production, and value of the principal crops for 1932 and 1931:

Crop	Year	Acreage	Prod. Bu.	Value
Hay	1932	1,105,000	1,201,000*	\$7,164,000
	1931	1,029,000	920,000*	8,491,000
Sugar beets	1932	40,000	512,000*	(b)
	1931	49,000	552,000*	3,158,000
Potatoes	1932	83,000	1,650,000	495,000
	1931	31,000	2,945,000	1,443,000
Wheat	1932	232,000	2,442,000	659,000
	1931	240,000	2,192,000	964,000
Corn	1932	213,000	2,024,000	526,000
	1931	190,000	1,900,000	874,000
Barley	1932	127,000	2,413,000	603,000
	1931	98,000	1,715,000	686,000

\* Tons. † Not available.

**MINERAL PRODUCTION.** The production of petroleum declined further, to 14,834,000 barrels (1931), from 17,868,000 (1930); in value by one-half, to \$11,120,000 (1921), from \$22,350,-



000 (1930). That of coal, to 5,006,000 short tons (estimated, 1931), from 6,088,133 (1930); it also declined in value from the \$15,133,000 of 1930. The output of natural gas was 43,219,000 M cubic feet for 1930 (the latest year in the Federal Bureau of Mines' tabulation) as against 44,648,000 M for 1929; by value, \$4,277,000 for 1930 and \$3,850,000 for 1929. Production of gasoline from natural gas was well sustained at 51,523,000 gallons (1931) as against 51,132,000 (1930); the yearly value, not stated for 1931, was \$3,338,000 for 1930. The total value of the State's entire mineral product was \$46,735,184 for 1930; for 1929, \$51,237,407.

**FINANCE.** State expenditure for the fiscal year ended Sept. 30, 1931, totaled \$10,877,876. Payments for operation and maintenance of the general departments were \$5,626,709 (including \$1,376,514 apportioned for education); for interest on the State debt, \$113,921; and for permanent improvements, \$5,137,246. Total revenue receipts were \$10,487,372. The net State indebtedness on Sept. 30, 1931, was \$4,216,356.

**TRANSPORTATION.** The total number of miles of railroad line under operation on Jan. 1, 1932, was 2037.06. During the year previous, 4.44 miles of line had been put in operation; 3.12 miles abandoned.

**EDUCATION.** The number of the State's inhabitants of school age was reported as being 70,862 on Apr. 1, 1930. In the academic year 1931-1932 there were enrolled in the public schools 56,670 pupils. Of these, 14,309 were in the rural schools. As to grade, 43,188 were in the elementary group and 13,482 in high schools. Expenditure for public-school education totaled \$5,660,450 for the year. The teachers employed numbered 2907. Their annual salaries averaged \$1292.

**ELECTIONS.** The popular vote of November 8 was cast for the Democratic National ticket in the proportion of 4 to 3 approximately. For President the totals as officially reported were: Roosevelt (Dem.), 54,370; Hoover (Rep.), 39,583. Leslie A. Miller (Dem.), was reported to have been elected Governor for the unexpired remainder of the term of the late Governor Emerson, lasting until January, 1935, and to have defeated Harry R. Weston (Rep.). Vincent Carter (Rep.) was reelected Representative to the Seventy-third Congress. The popular vote approved a proposal that the State petition Congress to repeal the Eighteenth Amendment.

**OFFICERS.** The chief officers of the State, serving in 1932, were: Governor (acting, to fill vacancy until the inauguration, on Jan. 1, 1933, of an elected successor to the late Governor Emerson), A. M. Clark, who was also Secretary of State; Treasurer, H. R. Weston; Auditor, Roscoe Alcorn; Attorney-General, James A. Greenwood; Superintendent of Public Instruction, Katharine A. Morton.

**Supreme Court:** Chief Justice, Ralph Kimball; Associate Justices, Fred H. Blume, W. A. Riner.

**WYOMING, UNIVERSITY OF.** A State institution of higher education in Laramie, founded in 1886. The enrollment for the autumn term of 1932 was 1402. The faculty numbered 209. The income for the year from State and local funds was \$1,245,429, and from Federal and State grants for agricultural extension, \$132,659. President, Arthur Griswold Crane, Ph.D.

**YACHTING.** In the face of economic depression, yachting in 1932 enjoyed a really remark-

able season, and the lack of larger craft under sail was amply made up for by the amazing number of smaller boats constantly sailing in competition. It was a Bermuda race year and the race from Montauk Point, L. I., to St. David's Head will long be remembered for the records established and for the exciting incidents attendant. Twenty-seven boats started in the race over the wind-swept ocean and twenty-one of them followed Frank Paine's big sloop *Highland Light* into Bermuda. *Highland Light*, although she lost the race on corrected time to smaller yachts, thrashed the 620 miles in less than three days. Robert L. Gale's schooner *Malabar X*, which John Alden sailed, won on corrected time when she finished only four hours behind *Highland Light*, and just ahead of the second and third place winners, Henry Moras's *Grenadier* and Bill Macmillan's *Water Gypsy*. *Dorade*, Olin Stephens's famous yawl which won the trans-Atlantic race and the Fastnet race in 1931, won in Class B.

In international races, the United States won handily. Four American 6-meter yachts, *Jill*, *Nancy*, *Luce*, and *Bob-Kat II*, were sent to English waters and captured the British-American cup series on the Solent. *Jill* later was taken to Scotland where she recaptured the Seawanhaka Cup, by winning three straight races from the *Maida* of Scotland. The Rochester Yacht Club's *Conewago* took three out of four races to defend successfully the Canada's Cup, prize trophy of fresh water yachting, from the Canadian challenger, *Invader II*.

**YAKUTSK REPUBLIC.** See SIBERIA.

**YALE UNIVERSITY.** A nonsectarian institution of higher education in New Haven, Conn., founded in 1701. The enrollment for the autumn of 1932 was 5631. Of those working for degrees or certificates, 882 were in the graduate school, 1556 in Yale College, 430 in the Sheffield Scientific School, and 201 in the School of Engineering. The faculty numbered 1492.

The total endowment amounted to \$95,328,170, and the income for the year was \$7,706,467. The permanent endowment funds were increased by \$1,532,619 during the year, and \$8,336,793 was received for buildings and income for special purposes. The university completed and occupied during the year the dormitory section of Calhoun College, the Payne Whitney Gymnasium, the Hall of Graduate Studies, the Sterling Divinity Quadrangle, and the Sheffield Administration buildings, Sheffield Hall, Sterling Tower, and Strathcona Hall. President, James Rowland Angell, Ph.D., Litt.D., LL.D.

**YANAON.** See FRENCH INDIA.

**YAP.** See CAROLINE ISLANDS.

**YARROW, SIR ALFRED (FERNANDEZ).** A British marine engineer and shipbuilder, died in London, Jan. 24, 1932. Born Jan. 13, 1842, he attended University College School, London, and in 1861 commenced his engineering career in Poplar where he was apprenticed to a firm of marine engineers. Later he founded there the firm of Yarrow & Co., Ltd., which in 1906 was removed to Scotstown on the Clyde. Yarrow & Co. became a pioneer in the design and construction of ships. Sir Alfred invented the Yarrow boiler, which has been adopted by the majority of the navies in the world. He was created a baronet in 1916.

**YEMEN.** See ARABIA.

**YESHIVA COLLEGE.** A college of liberal arts and science for men, under Jewish auspices, in New York City. The enrollment for the autumn of 1932 totaled 588. The faculty numbered 74. The income for the year was \$170,000. President, Bernard Revel.

**YI (YEHONALA).** Dowager Empress of China, widow of the Manchu Emperor Kwang-sü, died in Peiping Feb. 5, 1932, aged 76. A member of the Manchu family named Hweicheng, she was a daughter of the Duke Knei Hsiang and the favorite niece of the Great Empress Dowager Tze-Hsi, who during her three regencies held absolute power for almost half a century. In 1889 Yi was married to Kwang-sü, who had been selected as Emperor by Tze-Hsi on the death of her son, Emperor Tung-chih, in 1875. Kwang-sü was permitted to assume the reins of government shortly after his marriage, but he was dominated by the Tze-Hsi. The Emperor died Nov. 14, 1908, and the Great Empress Dowager the following day. Kwang-sü's widow continued to live in the Forbidden City until 1924, when she was driven out by hostile forces.

**YOUNG, JOHN WESLEY.** An American mathematician, died in Hanover, N. H., Feb. 17, 1932. He was born in Columbus, O., Nov. 17, 1879, and was graduated from Ohio State University in 1899 and with the Ph.D. degree from Cornell University in 1904. After teaching at Northwestern and Princeton universities he was appointed in 1908 assistant professor of mathematics at the University of Illinois and in 1910 professor and head of the department of mathematics at the University of Kansas. In 1911 he was called to Dartmouth College, where he remained until his death.

**YOUNG MEN'S CHRISTIAN ASSOCIATION.** An educational, social, physical, and spiritual movement for men and boys, which originated in London in 1844 under the leadership of George Williams. In 1932 there were in 54 countries of the world 10,651 local associations, unions, or fellowships with a membership of 1,606,376. These associations employed 6516 officers and owned and occupied 2272 buildings, the net property value of which was \$208,384,093. The largest number of Y.M.C.A.'s were found in Germany, where there were more than 3600 associations. The United States, however, had the largest membership (847,155) and the largest number of Y.M.C.A. buildings, representing a net property value of \$208,692,300. Local associations numbered 1191, with 4002 employed officers and 79,353 directors and committee men.

The general board of the associations in the United States is the National Council of the Young Men's Christian Associations, with headquarters at 347 Madison Avenue, New York City. The Rev. George B. Cutten, president of Colgate University, was president in 1932; John E. Manley, the general secretary-elect, was to take office Jan. 1, 1933. The National Council is one of 36 national movements of federated local associations which constitute the World Alliance of Young Men's Christian Associations, with headquarters at 2 Rue de Montchoisy, Geneva, Switzerland. Dr. John R. Mott, of New York City, was president in 1932; W. W. Gethman, of Geneva, was general secretary.

**YOUNG PLAN.** See GERMANY; REPARATIONS AND WAR DEBTS.

**YOUNG WOMEN'S CHRISTIAN ASSOCIATION.** The national Young Women's Chris-

tian Association is made up of affiliated local associations. Its legislative body is the biennial convention to which are accredited delegates from all the local associations. The last convention was held in Minneapolis, Minn., May 5-11, 1932. The active body of the national organization is the National Board of the Young Women's Christian Associations. To it is entrusted the work of the national body during the interim of conventions. In 1932 there were about 1100 associations in the United States. Of these, 260 were in cities, 136 in towns, and 48 in rural districts, while 605 were student associations on college and university campuses. There were also 64 branches for colored girls and women and 56 International Institutes or centres for work among foreign-born girls and women. The total Y.W.C.A. membership in the United States was 613,957, of whom about 100,000 were student members.

The value of real estate owned by the Y.W.C.A. in the United States was \$79,100,545. There were 2989 professional workers employed in the movement, of whom 2782 were in local work, 148 were on the national staff, and 59 were American secretaries serving in foreign countries. Working as volunteers, as Board and committee members, and as advisers in local associations were more than 62,000 women. The National Board received in 1931 from contribution sources and quota payments, \$904,305; from income on endowment, \$248,493; and from income-producing sources, \$787,753. Gross expenditures were \$2,037,148. The endowment fund as of Dec. 31, 1931, amounted to \$4,634,181; the approximate cost value of the National Board's property was given as \$4,352,590.

The officers of the National Board are: Mrs. Frederic M. Paist, Wayne, Pa., president; Mrs. Robert E. Speer, New York City, honorary president; Mrs. John French, Greenwich, Conn., first vice-president; Mrs. Harold Hatch, New York City, second vice-president; Mrs. Arthur Curtiss James, New York City, third vice-president; Mrs. E. C. Carter, New York City, chairman, executive committee; Miss Margaret T. Applegarth, New York City, secretary; Mrs. Samuel Murtland, New York City, treasurer; Miss May B. Van Arsdale, New York City, assistant treasurer. Headquarters are at 600 Lexington Avenue, New York City, with Miss Anna V. Rice as general secretary and Miss Emma P. Hirth, associate secretary.

**YUGOSLAVIA.** A Balkan state formerly known as the *Kingdom of the Serbs, Croats, and Slovenes*. Bounded by the Adriatic Sea on the west, its land frontiers are contentious with those of Italy, Austria, Hungary, Rumania, Bulgaria, Greece, and Albania. Capital, Belgrade; reigning sovereign in 1932, King Alexander I.

**AREA AND POPULATION.** With an area of 96,010 square miles, Yugoslavia had a population at the census of 1931 of 13,913,918 (6,894,561 males and 7,036,357 females), as compared with 12,017,323 at the census of 1921. The density was 145 per square mile. The population of the chief cities in 1931, with 1921 figures in parentheses, was: Belgrade (Beograd), 241,542 (111,740); Zagreb (Agram), 185,581 (108,338); Subotica, 100,058 (101,857); Sarajevo, 78,182 (66,317); Skoplje, 64,807 (41,066); Novi Sad, 63,966 (39,147); Ljubljana, 59,768 (53,306).

**PRODUCTION.** Approximately 85 per cent of the population are engaged in agriculture. Manufac-

turing, lumbering, and cattle raising are other important occupations. Arable land in 1930 totaled 17,486,000 acres, or 28 per cent of the total area; orchards, shrubs, and bushes, 1,396,000 acres; meadow and pasture, 14,617,000 acres; forests, 18,624,000 acres. An effort to stabilize grain prices, inaugurated by the government in 1931, was abandoned in March, 1932. The 1932 crops, in 1000 bushels, were: corn, 177,948; wheat, 53,438; oats, 18,545; barley, 17,982; and rye, 8350.

The value of mineral production in 1930 was \$33,500,000 (\$35,686,000 in 1929.) The 1931 output, in metric tons, included, lignite, 4,945,000; smelter copper, 24,301; smelter lead, 7931; smelter zinc, 4463; bauxite, 62,018; and iron ore, 133,111. There are large undeveloped mineral resources. Industrial enterprises in 1932, exclusive of those based on agriculture, numbered about 2500, with an annual production valued at about \$150,000,000. In addition, the annual production of household industries was about \$60,000,000.

COMMERCE. Imports for consumption in 1931 were valued at \$84,965,000, as compared with \$123,194,000 in 1930, a decrease of 31 per cent. Exports were valued at \$84,977,000, as against \$120,007,000 in 1930, a 29 per cent decline. The 1931 export balance of \$12,000 contrasted with an excess of imports amounting to \$3,187,000 in 1930. In 1932, imports totaled 2,776,200,000 dinars (\$48,861,120 at par) and exports 3,055,500,000 dinars (\$53,776,800).

FINANCE. Budget estimates for the fiscal year ended Mar. 31, 1932, balanced at 13,210,000,000 dinars (about \$232,000,000). According to preliminary returns, closed accounts showed an actual deficit of about 210,000,000 dinars (\$3,712,800 at the 1931 exchange rate). The budget for 1932-33, as passed by Parliament, balanced at 11,323,200,000 dinars; revenues up to the end of 1932 were below the budget estimates and another deficit was anticipated. The chief expenditure items for the year were: War and Navy, 2,132,293,863 dinars; State debts, 1,558,711,039 dinars; pensions and invalid relief, 873,158,755 dinars; education, 815,228,649 dinars. The foreign debt at the end of 1932, including war debts, was equivalent to \$619,362,538 and the internal debt to \$80,672,221. For the default on service of part of the foreign debt in 1932, see *History*. The unit of currency is the dinar, stabilized on June 28, 1931, at \$0.01761 U. S. currency. The exchange value declined from an average of \$0.01768 in 1931 to \$0.0135 for November, 1932.

COMMUNICATIONS. Yugoslav railways, practically all of which are under state administration, reported 6296 miles of line in 1930 (5680 miles in 1928). In 1930, the railways carried 47,643,000 passengers and 21,683,000 metric tons of freight, earning gross receipts equivalent to \$47,000,000 at par. At the beginning of 1932 there were 24,695 miles of highways, roads, and paved streets.

GOVERNMENT. According to the Constitution proclaimed Sept. 3, 1931, Yugoslavia is a hereditary and constitutional monarchy, in which legislative power is exercised conjointly by the King and the National Congress (*Skupshtina*) and executive power by the King through his responsible ministers. The National Congress consists of the Senate of 120 members, half of whom are appointed by the King and half

elected, and the Chamber of Deputies of 305 members elected by universal suffrage for four years. The term of Senators is six years. The King was empowered to dissolve the Congress at will and to issue emergency decrees without parliamentary sanction. Political parties based on racial, rather than national, interests and sports organizations such as the *sokols* were prohibited. At the elections to the Chamber of Deputies held Nov. 8, 1931, only one list, that of the National party, was presented to the voters. Premier at the beginning of 1932, Gen. Pera Zivkovitch (National party), heading a cabinet composed of seven Serbs, four Croats, and two Slovenes.

## HISTORY

INTERNAL DEVELOPMENTS. The end of 1932 found the dictatorship established by King Alexander on Jan. 4, 1929, on the verge of collapse. Half-hearted steps to terminate it were taken during the year, but efforts at liquidation appeared slowed by the fear that the dynasty would be swept away along with the dictatorship. The four-year attempt to unite the diverse elements of the nation by force and repression had proved a complete failure. At the end of the year, only the conflicting interests of the various national groups and the fear of Italy made possible the maintenance of a unitary state.

The movement for the establishment of a federal state, in which Serbs, Croats, Slovenes and other minority groups would exercise substantial autonomy, made great headway during 1932. Among the Serbs, as well as among the other groups, there was a growing demand for the restoration of representative government. This political unrest was evidenced by a series of demonstrations, riots, and disorders. In January, following student riots at Zagreb and other university towns and outbreaks among Bosnian and Dalmatian peasants, the Zivkovitch Cabinet was reorganized. The new list consisted of Parliamentary deputies, with the exception of the Ministers of Finance and War. The new ministry was not accepted as representative, however, because of the Opposition boycott of the elections of 1931 and popular dissatisfaction with the Constitution put into effect by royal decree in September, 1931 (see 1931 YEAR BOOK). On April 4, General Zivkovitch, who had served as Premier since the establishment of the dictatorship, resigned with his entire cabinet.

A new ministry was formed the same day by Dr. Voyislav Marinkovitch, who served as Premier and Foreign Minister. Most of the other members were holdovers. The Marinkovitch Cabinet held power only until June 29, when it resigned because of disagreement over policy. On July 2 Dr. Milan Srskitch, former Minister of Interior, formed a new cabinet including nine Serbs, four Croats, and three Slovenes. The new Premier had been a leading supporter of the dictatorship and his ministry seemed to represent a shift to the Right. A reorganization of the Srskitch Ministry became necessary on November 3. His new ministry was regarded as a stop-gap affair; it was still in existence at the end of the year.

Meanwhile there had been a steady growth of unrest and of defiance toward the régime, accompanied by terrorist attacks upon Croatian nationalist leaders. On May 30 the King's palace and five other points in Belgrade were bombed.

In the autumn, armed bands of Croat nationalists took to the mountains and waged a guerrilla warfare against the Serbian authorities. Dr. Pernar, former Assistant Secretary of State, and seven other Croat leaders were arrested October 8 on charges of conducting propaganda against the state. The Croatian insurrection reached such proportions that several thousand extra troops were sent into the Lika region and the Adriatic coast was blockaded to prevent the receipt of arms and ammunition. Government sources reported that the guerrillas had been suppressed by the end of October.

The Croat leaders in November discussed with representatives of other Opposition parties the principles which should underlie a new Yugoslav Constitution. On November 14, the executive committee of the Peasant-Democrat coalition issued a bold defiance of the dictatorship, declaring that Serbian hegemony, through violence and inefficiency, had virtually ruined all the territories north of the Save and Drina Rivers.

Communist agitation added to the unrest among the peasants produced by the increasingly acute economic situation. During 1932, foreign trade continued to decline, import restrictions became more drastic, internal financial reverses added to the difficulty of meeting government payrolls, industry showed a decided recession, and the farmers were discouraged by a poor wheat crop. On Nov. 1, 1932, Yugoslavia defaulted on its 8 per cent and 7 per cent dollar bonds due in 1962 and on October 1 coupons of the Yugoslav State Mortgage Bank dollar bonds due 1957 were paid only in part. Non-payment was attributed to exchange difficulties. On November 17, Professor Davitscho and 15 Bosnian intellectuals received prison sentences ranging from six months to five years for spreading Communist propaganda.

**EXTERNAL RELATIONS.** In its foreign relations, Yugoslavia was no more fortunate than in its internal policies. In December, hostility between Yugoslavia and Italy was aroused by a series of incidents in Dalmatia, including the destruction by Yugoslavs at Trau of a number of carved stone Lions of Saint Mark, historical evidence that the town once belonged to Venice. This incident followed charges by the English journalist, Wickham Steed, that Italy, Germany, and Hungary had formed a secret alliance with the aim of dividing Yugoslavia and Rumania. Later Paris reports of a projected customs union between Italy and Albania caused great excitement in Belgrade. It was widely feared that the tension between Yugoslavia and Italy might lead to another European war (see ITALY and FRANCE under History).

The drive for revision of the peace treaties caused the Foreign Ministers of the Little Entente—Yugoslavia, Rumania, and Czechoslovakia—to confer at Belgrade December 18 and 19. They announced the appointment of a permanent council, consisting of the three Foreign Ministers, to meet three times a year, and of a permanent secretariat.

Renewed activity of Bulgarian revolutionaries in raiding the Yugoslav frontier during November led to the cancellation by Yugoslavia on December 5 of the Pirot agreement of 1930. See RUMANIA, CZECHOSLOVAKIA, UNITED STATES OF EUROPE.

**YUKON, yoo'kón.** A territory of the Dominion of Canada; bounded on the west by Alaska,

south by British Columbia, north by the Arctic Ocean, and east by the District of Mackenzie. Yukon was constituted a separate political unit in 1898. Area, 207,075 square miles; population (1931 census), 4230 compared with 4157 in 1921. Dawson, the capital and largest town, had 819 inhabitants (1931 census). Mining of gold, copper, silver, lead, and coal is the principal industry, the total mineral production being valued at \$2,141,986 for 1931, of which gold production was valued at \$654,895. Revenue for 1930-31 was \$254,015; expenditure, \$262,409. At the head of the government is a gold commissioner and a territorial council of three elected members. Yukon is represented by one member in the House of Commons at Ottawa. Gold Commissioner in 1932, G. I. MacLean.

**ZANZIBAR PROTECTORATE.** A British protectorate off the coast of Tanganyika in East Africa, consisting of the islands of Zanzibar, Pemba, and adjacent smaller islands. The area of the island of Zanzibar is 640 square miles and that of Pemba 380 square miles. Their respective populations (1931 census) were 137,741 and 97,687 including 278 Europeans, chiefly English, 14,000 British Indian subjects, and 33,400 Arabs. Zanzibar, the capital, had 45,270 inhabitants in 1931.

**ZIEGFELD, FLORENZ.** An American theatrical producer, died in Hollywood, Calif., July 22, 1932. He was born in Chicago, Mar. 21, 1869, and at the age of 23 entered the theatrical business. During the World's Columbian Exposition in 1892 he brought military bands from Europe for that enterprise and managed the Chicago Trocadero. He then became manager and lessee of theatres in New York and Boston. From 1907 to 1927, and again in 1930, he produced the *Ziegfeld Follies*, that became the last word in extravaganza in their "glorification of the American girl." In 1914 Ziegfeld married Billie Burke, the actress.

**ZINC.** A preliminary estimate of the production of zinc throughout the world in 1932, as made by the American Bureau of Metal Statistics, placed it at 871,321 short tons with a daily average of 2381 tons as against 1,116,273 tons in 1931 and averaging 3086 tons daily. Of the total amount, 213,247 tons, or almost one fourth, were produced in the United States (300,738 tons in 1931); Belgium was second with 109,104 tons (152,602 in 1931); followed by Poland with 98,020 tons (143,960 in 1931); Canada, 85,870 tons; Australia, 85,842 tons; France, 53,133 tons; Germany, 46,248 tons; Mexico, 33,454 tons; Italy, 18,300 tons; Netherlands, 17,222 tons; and Spain, 10,475 tons.

The output of primary metallic zinc from domestic ores in 1932, amounted to 221,866 short tons, valued at \$13,312,000, a decrease of 29 per cent from the 291,997 tons produced in 1931. No zinc was produced from foreign ores in either year. In addition to the output of primary zinc, about 15,000 tons of redistilled secondary zinc was produced, as compared with 21,625 tons in 1931. Thus the total supply of distilled and electrolytic zinc in 1932 was about 220,000 tons, composed of 45,000 tons of high grade, 13,000 tons of intermediate, 66,000 tons of select and brass special, and 98,000 tons of prime western zinc. Of the total output of primary material in 1932, 23,208 tons was electrolytic zinc.

The average monthly price of prime western zinc at St. Louis was 3.02 cents a pound in January. From this figure the average declined to

2.53 cents a pound in May, the lowest monthly average for the year, fluctuated for the next three months and then rose rapidly to 3.30 cents a pound in September, the highest monthly average for the year. From this level the price receded to close the year at 3.125 cents.

**ZIONISM.** See PALESTINE; JEWS.

**ZONING.** See CITY AND REGIONAL PLANNING.

**ZOOLOGY.** As has been the custom in recent years the various Biological Societies of the country met in affiliation with the American Association for the Advancement of Science at its annual meeting held during the Christmas holidays, the American Society of Zoologists meeting from Dec. 28-30. The 1932 meetings were held at Atlantic City, N. J. A newly formed Genetics Society of America has taken the place of the genetics section of the Botany and Zoology Societies. International Congresses held during the year were the Eugenics in New York City and the Genetics in Ithaca, both in August. The latter under the presidency of T. H. Morgan covered the whole field of plant and animal genetics. An International Congress of Entomology was held in Paris in July, the occasion being the centennial of the Paris Society of Entomologists.

The Templeton Crocker Expedition of the California Academy of Sciences spent from March to September in zoological and botanical investigations from San Francisco to the Galapagos Islands. Their report (*Science* 76, p. 375), showed extensive collections in a number of groups the most important being the fishes. What may be classed as a zoological expedition was a descent by Beebe in his bathysphere (see YEAR BOOK for 1930), to a depth of 2200 feet. He reported (*Science* 76, p. 344), that below 1700 feet no trace of light could be detected by either the spectroscope or photometer. Between 1700 and 2200 feet there was a surprising abundance of fish and crustacea, many of both kinds being visible by their own lights. The Marshal Field Expedition to China reported (*Science* 76, p. 340), a successful completion of two years' work in China and the collection of a large number of mammals, birds, fishes, and reptiles.

**GENERAL.** That inbreeding *per se* results in degeneracy of the race is denied by most students of heredity. Eaton (*Jour. Exp. Zool.* 63, p. 261), reported on the results of inbreeding in five lines of guinea pigs for twenty-five years. A decline was noted in all measures of vigor, that of fertility being greatest and growth the least; but, since a parallel decline appeared in the control series, it must be attributed to other causes than inbreeding. At the rate of decline noted the inbred stock would last for 55 years while the control would become extinct in 49.5 years.

Pearl (*Jour. Exp. Zool.*, 63, p. 57), continued his experiments on the influence of crowding on the birth rate, using the fruit fly as a test. Above a certain degree of density the rate of egg production decreases with the increase of population. Pearl showed that this change conforms to the mathematical equation which relates the mean free paths of molecules to density in a gas, and his conclusion was that crowding in large part affects the rate of egg laying because collisions and general mechanical interference of the flies with one another upset their normal physiological rhythms.

**SEX DETERMINATION.** The work done immediately after the discovery of the sex or X chromosome seemed to prove that this chromosome alone

is the sex determiner, but later investigations indicate that the process is not so simple as this, the X chromosome seeming to be the determiner under normal conditions but its influence may be affected or overthrown by interfering factors. Witschi, speaking at a symposium on the Biology of Sex at the December 1931 meeting of the Am. Soc. of Naturalists (*Am. Nat.*, 66, p. 108), stated that he found in amphibians a female determining gene in the X chromosome but that male determiners lie in the autosomes. A chromosomal mechanism distributes these in such a fashion that one half of the zygotes receive more male and one half more female determiners. In the amphibia the medullary cords of the gonads give rise to the spermatogonia and the cortex to the ova. Male and female determiners control the activation of these two parts of the gonad and the sex is determined by the more potent one.

**GENETICS.** In his address as President of the International Genetics Congress held at Ithaca in August, T. H. Morgan (*Science*, 76, p. 261), called attention to the fact that although we date the beginning of our modern study of heredity at the rediscovery of Mendel's work in 1900, Mendel had been preceded by about a century of experimentation in plant and animal hybridization, in which some of the mendelian results were foreshadowed. In the work of the last 30 years, Mendel's law of independent assortment has been shown to apply only if the genes are equal in number to the chromosomes. Its place must be taken by the concepts of "linkage" which locates many genes on a single chromosome; and of "crossing over" which is the mutual interchange of single genes or of gene groups between the two members of a pair of homologous chromosomes. There is cytological evidence that blocks of genes cross over in this fashion. It has also been shown that the frequency of crossing over may be very different in different parts of the same chromosome. Chromosomes may be broken into fragments by external agencies such as X-rays and the broken pieces reunite with other, even non-homologous chromosomes. Polyploidy, or the doubling of the number of chromosomes is at present an obscure phenomenon, but is of great interest because of the possible relation to the origin of new structures.

**EUGENICS.** As a Vice-Presidential address before the International Congress of Eugenics held in New York City in August, H. F. Osborn spoke on "Birth Selection versus Birth Control" (*Science*, 76, p. 173). He defined Birth Selection as positive eugenics which encourages the multiplication of the fittest and is in direct line with the natural selection work of Darwin and Spencer, while according to his definition Birth Control is negative eugenics having as its object a decrease in the number of the unfit. He argued that the agitation for birth control with its advocacy of contraceptive technique tends to a decrease in the fittest as well as in the unfit and thus defeats its own object which is to raise the level of the population. He evidently thought that the use of contraceptives is on the whole, undesirable and that when active measures are called for, sterilization is the better method. No improvement, however, is possible without birth selection. By implication, Osborn criticized the eugenicists who devote their time to considerations concerning the reduction of the numbers of the unfit instead of campaigning for the develop-

ment of a social conscience which shall stimulate the fittest to have larger families.

**EVOLUTION.** In the sixth of a series of papers discussing the causes of Evolution, H. F. Osborn (*Am. Nat.*, 66, p. 1, see YEAR BOOK for 1931) reiterated his belief that Paleontology alone can answer the problem of evolution. Paleontology eliminates all vitalistic theories and establishes a new "tetraplastic" principle of four inseparable factors: (1) physical environment; (2) ontogeny including habit; (3) living environment; (4) germ plasm. This theory discards all of the habit-inheritance of Lamarck as well as Darwin's belief of the origin of adaptations through the survival of fortuitous adaptive variations and establishes a belief in "ariatogenesis" which to the reviewer seems much the same as creative evolution. No fewer than twenty co-operative principles of bio-mechanical adaptation are involved in this process. His conclusion was that while we have discovered these important principles we are "more than ever at a loss to understand the causes of evolution."

**PROTECTIVE MIMICRY.** All expositions of Natural Selection lay much stress on the phenomena of animal coloration especially in those forms where the coloration has some definite relation to the background either as contrasting to or as resembling it. Recently much doubt has been expressed as to whether these phenomena have the protective significance attributed to them by Wallace, and especially by the English Zoölogist Poulton. Brüel (*Biol. Zent.*, 52, p. 13), in a discussion of the evidence concluded that in general it is favorable to the theory that resemblances which certainly exist may have arisen through selection, though he thought no one explanation answers for all cases. In his opinion mimicry is especially apt to occur where main lines of descent have happened to come together. Accidental resemblances arise through separate mutations in each group and thus coöperate to produce mimicry. On the other hand McAtee (*Smith. Misc. Coll.*, 85, No. 7), held that it is extremely doubtful if these phenomena grouped under the heads of protective mimicry, concealing and warning coloration, etc., are really protective to their possessors.

**INSECTA.** Opfinger (*Zeit. f. Wiss. Biol.*, 15, p. 431), experimented to determine whether when a bee has learned to come to a certain place to feed, the visual image which it forms and which it uses in returning to this locality is impressed on the insect while approaching the feeding place; during the feeding act; or the so to speak, final memory of the place which it acquires after feeding and before it flies away. To test this point, the experimenter arranged food over a paper of a certain color, the paper being so situated that it could be slipped out leaving in its place a paper of a different color, and this in turn could in the same fashion be replaced by a third color. As the bee approaches the first paper is in position, as it begins to feed the first paper is removed, so that the color of the second is in front of the insect while feeding and at the instant it finishes the second paper is removed exposing the third, which is in front of the bee during the interval before it takes flight. It was

found that in the recognition of the feeding place as well as in all orientation recognition, the bee reacts to the impressions it got while approaching the food and that later stimuli do not affect its actions. She found that bees learn the structure and form of the feeding place with astonishing rapidity.

Minnich, who has studied the distribution of sensory organs in the bodies of a large number of insects, continued these investigations (*Jour. Exp. Zool.*, 61, p. 375), on the honey bee. His results showed that bees can discriminate between equimolecular solutions of lactose and of sucrose using for this purpose sensory organs which are located on the antennæ and the first pair of legs. To what extent the third pair of legs coöperate in this discrimination was not clear. His summary of the whole subject stated that in bees, butterflies, and flies, contact chemoreceptors can be found on all of the head and thoracic appendages. Anderson (*Jour. Exp. Zool.*, 63, p. 235), tested the sensitivity of butterflies' legs, using the methods developed by Minnich.

**AMPHIBIA.** Adams, Kudor, and Richards (*Jour. Exp. Zool.*, 63, p. 1), reported on the relation between moulting or the casting off of the outer portion of the skin in amphibians and the endocrine secretions of the animals. Removal of the thyroid or pituitary body inhibits moulting, but the process can be restored on an operated animal by administering either thyroid hormone or iodine crystals. Apparently in the normal metabolism the thyroid stores the iodine necessary for regulatory functions, but its release is under the control of the anterior lobe of the pituitary.

**BIRDS.** Bent (*U. S. Nat. Museum Bull.*, 162), published an elaborately illustrated monograph on the "Life Histories of North American Gallinaceous Birds" this being the ninth of a series of these studies which have been published since 1919. Friedmann (*Proc. U. S. Nat. Mus.*, 80, Art. 18), described the Argentine Black Headed Duck as completely parasitic in its egg laying, never building a nest of its own but always using the nest of another bird. This is possibly correlated with the fact that some duck eggs, after a few days of incubation, either store or generate enough heat to carry them through the rest of the process in the absence of the brooding parent. In this species the loss of the nest building instinct is atoned for by these two factors.

**MAMMALS.** Corey (*Jour. Exp. Zool.*, 61, p. 1), after a study of the beginning of respiration in rat fetuses, came to the conclusion that when the allantois separates from the uterine wall the resulting hindrance to respiration is the immediate stimulus for the beginning of the adult respiratory process.

**ZUIDER ZEE.** See NETHERLANDS, THE; RECLAMATION.

**ZULULAND,** 250'160-land. The northeastern portion of the Province of Natal, in the Union of South Africa, to which it was annexed Dec. 30, 1897. Area, 10,427 square miles; population, 1921 census, 3985 Europeans and 254,371 non-Europeans. The European population at the 1931 census was 5790.

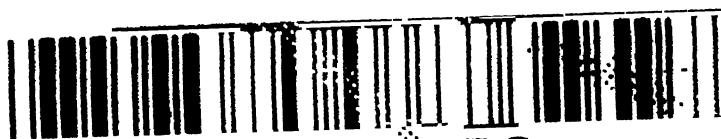








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